# 图书馆学科服务专题

## 高被引论文

## 计算机科学

## （2014）

*聚焦研究前沿*

*深化自主创新*

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2015 年 3 月

# 前 言

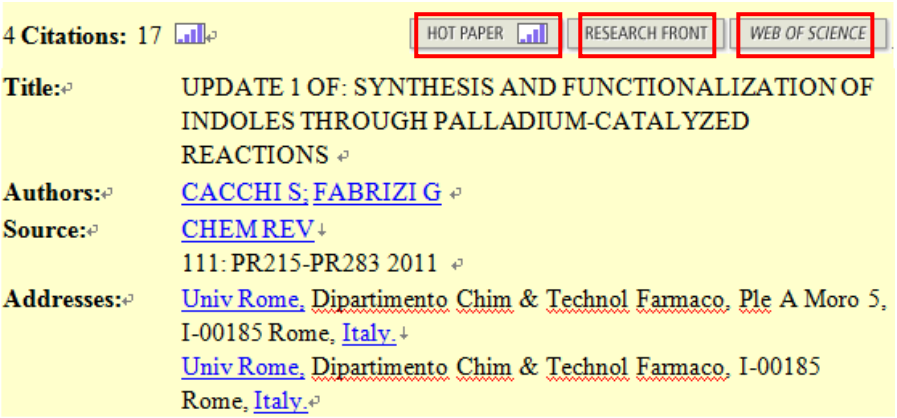
该专题的宗旨是为教学科研提供学科热点和前沿情报等学术资讯，由浙江工业大学图书馆信息咨询部整理编制。数据来源为我校购买的各类数字资源，通过分析整理，编写了人文社会科学领域相关的最新热点论文、最新研究前沿等信息，以期为开展科学研究、申报课题基金项目等学术活动提供帮助。

本期为**计算机科学专辑**，整理了从汤森路透（Thomson Reuters）公司的 Web of Science 和 ESI 数据库中摘选的计算机科学有关的高被引论文。

ESI 针对 22 个专业领域，通过论文数、论文被引频次、论文篇均被引频次、高被引论文、热点论文和前沿论文等 6 大指标，从各个角度对国家/地区科研水平、机构学术声誉、科学家学术影响力以及期刊学术水平进行全面衡量。

**高被引论文（Highly Cited Paper(last 10 years)）**，即刊载于 ESI 收录期刊中最近 10 年间各研究领域中被引频次排名位于全球前 1%的论文。这些论文是由汤森路透公司统计的 10 年内被频繁引用，引用次数位居同领域前列的论文。

本专题所列内容涉及的有关图示说明：




**热点论文（HOT PAPER）**是由汤森路透每两个月根据引文数量统计的 22 个学科的热点论文。这些论文是最近两年内发表且被引频次在最近两个月内的排名达到各学科领域的前 0.1%。由 HOT PAPER 标记代表该文为热点论文，点击图标 HOT PAPER 链接可跳转至该热点论文的详细页面（链接有效期为 2 个月）。

此学科服务专题系列由“浙江工业大学文理学科发展基金项目：人文社科学科文献资料服务体系平台建设研究”资助。

**研究前沿（RESEARCH FRONT）**包含一组高被引论文，这些论文是在其发表年份和领域按被引次数都位于前 1% 的论文。点击图标 RESEARCH FRONT 链接可跳转至该研究前沿的说明页面（链接有效期为 2 个月）。

**WEB OF SCIENCE：**由 WEB OF SCIENCE 标记代表该论文为被 Web of Science 收录。点击链接可直接跳转至该论文被 Web of Science 收录的详细记录页面。

本期数据来源自 ESI 基本科学指标数据库（Essential Science Indicators）。

ESI 基本科学指标数据库（Essential Science Indicators）是汤森路透在汇集和分析 Web of Science® (SCIE/SSCI)所收录的学术文献及其所引用的参考文献的基础上建立起来的分析型数据库。ESI 提供十年滚动数据，每两个月更新一次，最近一次更新为 2015 年 3 月 5 日（本期 ESI 数据涉及两个时间跨度： 2014 年 1 月 1 日至 2014 年 12 月 31 日）。

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# 计算机科学 ESI 高被引论文（2014 年）

**第 1 条，共 395 条**

**标题:** Categorizing users in behavior change support systems based on cognitive dissonance

**作者:** Wiafe, I (Wiafe, Isaac); Nakata, K (Nakata, Keiichi); Gulliver, S (Gulliver, Stephen)

**来源出版物:** PERSONAL AND UBIQUITOUS COMPUTING **卷:** 18 **期:** 7 **特刊:** SI **页:** 1677-1687 **DOI:** 10.1007/s00779-014-0782-3 **出版年:** OCT 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Most developers of behavior change support systems (BCSS) employ ad hoc procedures in their designs. This paper presents a novel discussion concerning how analyzing the relationship between attitude toward target behavior, current behavior, and attitude toward change or maintaining behavior can facilitate the design of BCSS. We describe the three-dimensional relationships between attitude and behavior (3D-RAB) model and demonstrate how it can be used to categorize users, based on variations in levels of cognitive dissonance. The proposed model seeks to provide a method for analyzing the user context on the persuasive systems design model, and it is evaluated using existing BCSS. We identified that although designers seem to address the various cognitive states, this is not done purposefully, or in a methodical fashion, which implies that many existing applications are targeting users not considered at the design phase. As a result of this work, it is suggested that designers apply the 3D-RAB model in order to design solutions for targeted users.

**文献类型:** Article

**作者关键词:** Behavior change support systems; Persuasive technology; Persuasive systems design; Cognitive dissonance; Behavior change

**KeyWords Plus:** PERSUASIVE TECHNOLOGY; FRAMEWORK; HEALTH

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**第 2 条，共 395 条**

**标题:** Automated modeling of random inclusion composites

**作者:** Bailakanavar, M (Bailakanavar, M.); Liu, Y (Liu, Y.); Fish, J (Fish, J.); Zheng, Y (Zheng, Y.)

**来源出版物:** ENGINEERING WITH COMPUTERS **卷:** 30 **期:** 4 **特刊:** SI **页:** 609-625 **DOI:** 10.1007/s00366-012-0310-x **出版年:** OCT 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** We present a parametric model for generating unit cells with randomly distributed inclusions. The proposed algorithm possesses (1) robustness by yielding unit cells with fiber volume fraction of up to 45 % for aspect ratios as high as 20, (2) computationally efficiency accomplished through a hierarchy of algorithms with increasing computational complexity, and (3) versatility by generating unit cells with different inclusion shapes. A statistical study aimed at determining the effective size of the unit cell is conducted. The method has been applied to various random inclusion microstructure composites, including: (1) two-dimensional chopped tow composites employed in automotive applications, (2) polyurea or polyethene coating consisting of hard and soft domains (segments) employed for energy absorption in military and industrial applications, and (3) fiber framework called fiberform embedded in or free from an amorphous matrix used as heat shield on space crafts to prevent structural damage during reentry into the atmosphere.

**文献类型:** Article

**作者关键词:** Composite materials; Random sequential adsorption; Chopped fibers; Spheroids; Packing algorithms; Homogenization

**KeyWords Plus:** REPRESENTATIVE VOLUME ELEMENT; RANDOM SEQUENTIAL ADDITION; SHORT-FIBER COMPOSITES; HETEROGENEOUS MATERIALS; ELASTIC COMPOSITES; 3 DIMENSIONS; UNIT-CELL; PACKING; SIZE; HOMOGENIZATION

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**第 3 条，共 395 条**

**标题:** A distance-based statistical analysis of fuzzy number-valued data

**作者:** Blanco-Fernandez, A (Blanco-Fernandez, A.); Casals, MR (Casals, M. R.); Colubi, A (Colubi, A.); Corral, N (Corral, N.); Garcia-Barzana, M (Garcia-Barzana, M.); Gil, MA (Gil, M. A.); Gonzalez-Rodriguez, G (Gonzalez-Rodriguez, G.); Lopez, MT (Lopez, M. T.); Lubiano, MA (Lubiano, M. A.); Montenegro, M (Montenegro, M.); Ramos-Guajardo, AB (Ramos-Guajardo, A. B.); de Saa, SD (de la Rosa de Saa, S.); Sinova, B (Sinova, B.)

**团体作者:** Univ Oviedo

**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 7 **特刊:** SI **页:** 1487-1501 **DOI:** 10.1016/j.ijar.2013.09.020 **出版年:** OCT 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** Real-life data associated with experimental outcomes are not always real-valued. In particular, opinions, perceptions, ratings, etc., are often assumed to be vague in nature, especially when they come from human valuations. Fuzzy numbers have extensively been considered to provide us with a convenient tool to express these vague data. In analyzing fuzzy data from a statistical perspective one finds two key obstacles, namely, the nonlinearity associated with the usual arithmetic with fuzzy data and the lack of suitable models and limit results for the distribution of fuzzy-valued statistics. These obstacles can be frequently bypassed by using an appropriate metric between fuzzy data, the notion of random fuzzy set and a bootstrapped central limit theorem for general space-valued random elements. This paper aims to review these ideas and a methodology for the statistical analysis of fuzzy number data which has been developed along the last years. (C) 2013 Published by Elsevier Inc.

**文献类型:** Article

**作者关键词:** Fuzzy data; Random experiments; Distance between fuzzy data; Statistics

**KeyWords Plus:** RANDOM-VARIABLES; BOOTSTRAP TECHNIQUES; IMPRECISE DATA; SETS; TESTS; TOOL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Spanish Ministry of Education and Science | MTM2009-09440-C02-01 |
| Principality of Asturias | SV-PA-13-ECOEMP-66 |
| Integrated Action Spain-Germany | PRI-AIBDE-2011-1197 |
| FPU (Sinova) | AP2009-1197 |
| FPI (Garcia-Barzana) | BES-2010-032172 |
| Severo Ochoa-Principality of Asturias | BP12012 |

The research in this communication has been partially supported by the Grants from the Spanish Ministry of Education and Science MTM2009-09440-C02-01, the Principality of Asturias Grant SV-PA-13-ECOEMP-66, the Integrated Action Spain-Germany PRI-AIBDE-2011-1197, as well as the FPU Grant AP2009-1197 (Sinova), the FPI Grant BES-2010-032172 (Garcia-Barzana) and the Severo Ochoa-Principality of Asturias Grant BP12012 (de la Rosa de Saa). Their financial support is gratefully acknowledged. The authors wish to thank the Guest Editors of the Special Issue for giving them the opportunity of attending to and participating (Ana Colubi) in the Workshop on Harnessing the Information contained in low-quality data sources, as well as to prepare this review for the International Journal of Approximate Reasoning. Some comments and remarks in this paper are in fact the answer to some insightful questions posed along the Workshop. Thanks should also be given to the four reviewers of the manuscript and 1st revision for their valuable comments and suggestions.

**第 4 条，共 395 条**

**标题:** Statistical reasoning with set-valued information: Ontic vs. epistemic views

**作者:** Couso, I (Couso, Ines); Dubois, D (Dubois, Didier)

**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 7 **特刊:** SI **页:** 1502-1518 **DOI:** 10.1016/j.ijar.2013.07.002 **出版年:** OCT 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** In information processing tasks, sets may have a conjunctive or a disjunctive reading. In the conjunctive

reading, a set represents an object of interest and its elements are subparts of the object, forming a composite description. In the disjunctive reading, a set contains mutually exclusive elements and refers to the representation of incomplete knowledge. It does not model an actual object or quantity, but partial information about an underlying object or a precise quantity. This distinction between what we call ontic vs. epistemic sets remains valid for fuzzy sets, whose membership functions, in the disjunctive reading are possibility distributions, over deterministic or random values. This paper examines the impact of this distinction in statistics. We show its importance because there is a risk of misusing basic notions and tools, such as conditioning, distance between sets, variance, regression, etc. when data are set-valued. We discuss several examples where the ontic and epistemic points of view yield different approaches to these concepts. (C) 2013 Published by Elsevier Inc.

**文献类型:** Article

**作者关键词:** Incomplete information; Random sets; Fuzzy sets; Evidence theory; Imprecise probability; Possibility theory

**KeyWords Plus:** FUZZY RANDOM-VARIABLES; DEMPSTER-SHAFER THEORY; BELIEF FUNCTIONS; PROBABILITY; UNCERTAINTY; ALGORITHMS; VARIANCE; REPRESENTATION; LANGUAGES; SYSTEMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Spanish Ministry of Education and Science | |
| European Regional Development Fund (FEDER) | TIN2011-24302 |

This work has been partially supported by the Spanish Ministry of Education and Science and the European Regional Development Fund (FEDER), under project TIN2011-24302.

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**第 5 条，共 395 条**

**标题:** Learning from imprecise and fuzzy observations: Data disambiguation through generalized loss minimization

**作者:** Hullermeier, E (Huellermeier, Eyke)

**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 7 **特刊:** SI **页:** 1519-1534 **DOI:** 10.1016/j.ijar.2013.09.003 **出版年:** OCT 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Methods for analyzing or learning from "fuzzy data" have attracted increasing attention in recent years. In many cases, however, existing methods (for precise, non-fuzzy data) are extended to the fuzzy case in an ad-hoc manner, and without carefully considering the interpretation of a fuzzy set when being used for modeling data. Distinguishing between an ontic and an epistemic interpretation of fuzzy set-valued data, and focusing on the latter, we argue that a "fuzzification" of learning algorithms based on an, application of the generic extension principle is not appropriate. In fact, the extension principle fails to properly exploit the inductive bias underlying statistical and machine learning methods, although this bias, at least in principle, offers a means for "disambiguating" the fuzzy data. Alternatively, we therefore propose a method which is based on the generalization of loss functions in empirical risk minimization, and which performs model identification and data disambiguation simultaneously. Elaborating on the fuzzification of specific types of losses, we establish connections to well-known loss functions in regression and classification. We compare our approach with related methods and illustrate its use in logistic regression for binary classification. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Imprecise data; Fuzzy sets; Machine learning; Extension principle; Data disambiguation; Loss function

**KeyWords Plus:** RANDOM-VARIABLES; REGRESSION; EXAMPLES

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**第 6 条，共 395 条**

**标题:** Imprecise probability models for learning multinomial distributions from data. Applications to learning credal networks

**作者:** Masegosa, AR (Masegosa, Andres R.); Moral, S (Moral, Serafin)

**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 7 **特刊:** SI **页:** 1548-1569 **DOI:** 10.1016/j.ijar.2013.09.019 **出版年:** OCT 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** This paper considers the problem of learning multinomial distributions from a sample of independent observations. The Bayesian approach usually assumes a prior Dirichlet distribution about the probabilities of the different possible values. However, there is no consensus on the parameters of this Dirichlet distribution. Here, it will be shown that this is not a simple problem, providing examples in which different selection criteria are reasonable. To solve it the Imprecise Dirichlet Model (IDM) was introduced. But this model has important drawbacks, as the problems associated to learning from indirect observations. As an alternative approach, the Imprecise Sample Size Dirichlet Model (ISSDM) is introduced and its properties are studied. The prior distribution over the parameters of a multinomial distribution is the basis to learn Bayesian networks using Bayesian scores. Here, we will show that the ISSDM can be used to learn imprecise Bayesian networks, also called credal networks when all the distributions share a common graphical structure. Some experiments are reported on the use of the ISSDM to learn the structure of a graphical model and to build supervised classifiers. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Imprecise probability; Learning; Ignorance; Imprecise prior models; Credal networks

**KeyWords Plus:** DIRICHLET MODEL; BAYESIAN NETWORKS; FAILURE DATA; CLASSIFIERS; CLASSIFICATION; ALGORITHMS; INDUCTION; INFERENCE; SETS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Spanish Ministry of Education and Science | TIN2010-20900-C04-01<br>TIN2010-20900-C04-02 |
| European Regional Development Fund (FEDER) | |
| Andalusian Research Program | P08-TIC-03717<br>P10-TIC-6016 |

This research was jointly supported by the Spanish Ministry of Education and Science under projects TIN2010-20900-C04-01, TIN2010-20900-C04-02, the European Regional Development Fund (FEDER), and the Andalusian Research Program under projects P08-TIC-03717 and P10-TIC-6016. We are truly grateful to the reviewers that made very useful comments and corrected an earlier version of this paper.

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**第 7 条，共 395 条**

**标题:** On various ways of tackling incomplete information in statistics

**作者:** Dubois, D (Dubois, Didier)

**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 7 **特刊:** SI **页:** 1570-1574 **DOI:** 10.1016/j.ijar.2014.04.002 **出版年:** OCT 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** This short paper discusses the contributions made to the featured section on Low Quality Data. We further refine the distinction between the ontic and epistemic views of imprecise data in statistics. We also question the extent to which likelihood functions can be viewed as belief functions. Finally we comment on the data disambiguation effect of learning methods, relating it to data reconciliation problems. (C) 2014 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Incomplete information; Random sets; Fuzzy sets; Evidence theory; Imprecise probability; Possibility theory

**KeyWords Plus:** BELIEF FUNCTIONS

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**第 8 条，共 395 条**

**标题:** Delay-dependent robust H-infinity control for 2-D discrete nonlinear systems with state delays

**作者:** Huang, SP (Huang, Shipei); Xiang, ZR (Xiang, Zhengrong)

**来源出版物:** MULTIDIMENSIONAL SYSTEMS AND SIGNAL PROCESSING **卷:** 25 **期:** 4 **页:** 775-794 **DOI:** 10.1007/s11045-013-0230-y **出版年:** OCT 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** This paper investigates the problem of robust control for a class of 2-D (two-dimensional) discrete state delayed systems with sector nonlinearity described by a model of Roesser type. Firstly, a delay-dependent sufficient condition of robust exponential stability for such 2-D discrete systems is derived in linear matrix inequalities (LMIs) form. Secondly, a delay-dependent exponential stability criterion with performance for the considered systems is also proposed. Then a state feedback controller is constructed based on the above results. Finally, numerical examples are given to illustrate the effectiveness of the proposed method.

**文献类型:** Article

**作者关键词:** 2D discrete systems; State delays; Exponential stability; H-infinity performance

**KeyWords Plus:** MARKOVIAN JUMP SYSTEMS; SHIFT-VARIANT SYSTEMS; EXPONENTIAL STABILITY; ROESSER MODEL; 2-DIMENSIONAL SYSTEMS; 2D SYSTEMS; 2ND MODEL; STABILIZATION; SATURATION; UNCERTAINTY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 60974027<br>61273120 |

This work was supported by the National Natural Science Foundation of China under Grant Nos. 60974027 and 61273120.

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**第 9 条，共 395 条**

**标题:** On a Unified Definition of the Service System: What is its Identity?

**作者:** Wang, JW (Wang, J. W.); Wang, HF (Wang, H. F.); Zhang, WJ (Zhang, W. J.); Ip, WH (Ip, W. H.); Furuta, K (Furuta, K.)

**来源出版物:** IEEE SYSTEMS JOURNAL **卷:** 8 **期:** 3 **页:** 821-826 **DOI:** 10.1109/JSYST.2013.2260623 **出版年:** SEP 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** In this paper, a unified definition of the service system is proposed. The motivation of this research effort is based on our observation that there are diverse definitions or descriptions of the service system in the literature and they have not provided an identity of the service system. Our goal to define the service system is thus to establish its identity. The most salient feature in our definition is the introduction of three subsystems in a service system: infrastructure, substance, and management. The substance flows over the infrastructure under the constraints of management. A service is established at the moment when the substance interacts with the human to cause a change in the human's status or state under a protocol, which further meets the human's request and need. With this new definition, a service system can be distinguished from other systems, such as manufacturing system, agricultural system, and product system. The new definition will be useful to classification of various service systems and various theories for service systems, which is the key to knowledge management for service systems and to optimization of design and management of service systems.

**文献类型:** Article

**作者关键词:** Function-behavior-structure; network; service system

**KeyWords Plus:** ENTERPRISE INFORMATION-SYSTEMS; INNOVATION; FRAMEWORK; SCIENCE; DESIGN; TIME

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
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| NSERC | |
| East China University of Science and Technology-a program of the Fundamental Research Funds for the Central Universities | |
| National Natural Science Foundation of China | 71001018 |
| Department of Industrial and Systems Engineering of the Hong Kong Polytechnic University | H-ZJE5 |

This work was supported in part by NSERC through a strategic project grant on resilience engineering and a grant of East China University of Science and Technology-a program of the Fundamental Research Funds for the Central Universities to W. J. Zhang, in part by the National Natural Science Foundation of China under (Grant 71001018) to H. F. Wang, and in part by the Department of Industrial and Systems Engineering of the Hong Kong Polytechnic University (H-ZJE5) to W. H. Ip.

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**第 10 条，共 395 条**

**标题:** Analysis of Architecturally Significant Requirements for Enterprise Systems

**作者:** Niu, N (Niu, Nan); Xu, LD (Xu, Li Da); Cheng, JRC (Cheng, Jing-Ru C.); Niu, ZD (Niu, Zhendong)

**来源出版物:** IEEE SYSTEMS JOURNAL **卷:** 8 **期:** 3 **页:** 850-857 **DOI:** 10.1109/JSYST.2013.2249892 **出版年:** SEP 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4

**摘要:** In designing and developing enterprise systems, systems engineers must consider the requirements that drive the important architecture decisions. Architecturally significant requirements tend to have a global impact on the underlying software infrastructure, and therefore need to be thoroughly examined. Despite the increasing effort in engineering enterprise systems' requirements, little is known about the analysis of architecture interactions and tradeoffs. In this paper, we propose a framework consisting of an integrated set of activities to help tackle requirements analysis in practice. Specifically, we leverage the quality attribute scenarios to elicit implicit yet significant requirements, to model requirements interplays, to manage terminological interferences, and to determine change impacts. We apply the proposed framework to a customer relationship management software system. The results show that the framework offers concrete insights and can be incorporated into an organization's systems practice with a moderate cost.

**文献类型:** Article
**作者关键词:** Enterprise systems; requirements engineering; software architecture; systems engineering
**KeyWords Plus:** DESIGN; TECHNOLOGY; INTEGRATION; FRAMEWORK; NETWORKS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| U.S. Army Engineer Research and Development Center Award | W912HZ-10-C-0101 |
| U.S. National Science Foundation | CCF-1238336 1044845 |
| National Natural Science Foundation of China | 71132008 |
| Changjiang Scholar Program of the Ministry of Education of China | |

The work of N. Niu was supported by the U.S. Army Engineer Research and Development Center Award W912HZ-10-C-0101 and the U.S. National Science Foundation Award CCF-1238336. The work of L. Da Xu was supported in part by the National Natural Science Foundation of China Award 71132008, the Changjiang Scholar

Program of the Ministry of Education of China, and the U.S. National Science Foundation Award 1044845.

**第 11 条，共 395 条**

**标题:** Target speech feature extraction using non-parametric correlation coefficient

**作者:** Oh, SY (Oh, Sang Yeob); Chung, KY (Chung, Kyung-Yong)

**来源出版物:** CLUSTER COMPUTING-THE JOURNAL OF NETWORKS SOFTWARE TOOLS AND APPLICATIONS **卷:** 17 **期:** 3 **页:** 893-899 **DOI:** 10.1007/s10586-013-0284-5 **出版年:** SEP 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** Speech recognition systems for the automobile have a few weaknesses, including failure to recognize speech due to the mixing of environment noise from inside and outside the car and from other voices. Therefore, this paper features a technique for extracting only the selected target voice from input sound that is a mixture of voices and noises. The feature for selective speech extraction composes a correlation map of auditory elements by using similarity between channels and continuity of time, and utilizes a method of extracting speech features by using a non-parametric correlation coefficient. This proposed method was validated by showing that the average distortion of separation of the technique decreased by 0.8630 dB. It was shown that the performance of the selective feature extraction utilizing a cross correlation is good, but overall, the selective feature extraction utilizing a non-parametric correlation is better.

**文献类型:** Article

**作者关键词:** AELMS filter; Clustering model; Kendall's tau; Speech recognition system; HCI

**KeyWords Plus:** RECOGNITION; MODEL; PERCEPTION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Gachon University research fund | GCU-2013-R107 |

This work was supported by the Gachon University research fund of 2013 (GCU-2013-R107).

**第 12 条，共 395 条**

**标题:** Hierarchical estimation algorithms for multivariable systems using measurement information

**作者:** Ding, F (Ding, Feng)

**来源出版物:** INFORMATION SCIENCES **卷:** 277 **页:** 396-405 **DOI:** 10.1016/j.ins.2014.02.103 **出版年:** SEP 1 2014

**Web of Science 核心合集中的 "被引频次":** 20

**被引频次合计:** 20

**摘要:** With the development of industry information technology, many modelling methods have been focusing on the estimation problems of multivariable systems, especially for the multivariable systems with output error autoregressive noises, from input-output measurement information. Since such a system includes both a parameter vector and a parameter matrix, the conventional methods cannot be applied to parameter estimation and modelling. In order to solve this difficulty, a hierarchical least squares based iterative identification algorithm and a hierarchical generalized least squares identification algorithm are proposed. The basic idea is to decompose the system into two fictitious subsystems, to estimate the parameters of each subsystem, and to coordinate the associated items between the two subsystems. The simulation results indicate that the proposed algorithm is effective. (C) 2014 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Measurement information; System modelling; Hierarchical identification; Multivariable system; Iterative estimation; Generalized least square

**KeyWords Plus:** LEAST-SQUARES IDENTIFICATION; PARAMETER-ESTIMATION; ARMAX SYSTEMS; CONTROLLER; DESIGN; MODELS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61273194 |
| Natural Science Foundation of Jiangsu Province (China) | BK2012549 |
| 111 Project | B12018 |
| PAPD of Jiangsu Higher Education Institutions | |

This work was supported by the National Natural Science Foundation of China (No. 61273194), the Natural Science Foundation of Jiangsu Province (China, BK2012549), the 111 Project (B12018) and the PAPD of Jiangsu Higher Education Institutions.

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**第 13 条，共 395 条**

**标题:** Multi-modal medical image fusion using the inter-scale and intra-scale dependencies between image shift-invariant shearlet coefficients

**作者:** Wang, L (Wang, Lei); Li, B (Li, Bin); Tian, LF (Tian, Lian-Fang)

**来源出版物:** INFORMATION FUSION **卷:** 19 **特刊:** SI **页:** 20-28 **DOI:** 10.1016/j.inffus.2012.03.002 **出版年:** SEP 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** For the quality of the fused outcome is determined by the amount of the information captured from the source images, thus, a multi-modal medical image fusion method is developed in the shift-invariant shearlet transform (SIST) domain. The two-state Hidden Markov Tree (HMT) model is extended into the SIST domain to describe the dependent relationships of the SIST coefficients of the cross-scale and inter-subbands. Base on the model, we explain why the conventional Average-Maximum fusion scheme is not the best rule for medical image fusion, and therefore a new scheme is developed, where the probability density function and standard deviation of the SIST coefficients are employed to calculate the fused coefficients. Finally, the fused image is obtained by directly applying the inverse SIST. Integrating the SIST and the HMT model, more spatial feature information of the singularities and more functional information contents can be preserved and transferred into the fused results. Visual and statistical analyses demonstrate that the fusion quality can be significantly improved over that of five typical methods in terms of entropy and mutual information, edge information, standard deviation, peak signal to noise and structural similarity. Besides, color distortion can be suppressed to a great extent, providing a better visual sense. (C) 2012 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Medical image; Image fusion; Hidden Markov Tree model; Shift-invariance; Shearlet transform

**KeyWords Plus:** CONTOURLET TRANSFORM; MR; INFORMATION; WAVELETS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Engineering Research Center for Human Tissue Restoration Reconstruction | |
| Guangdong Key Lab for Biomedical Engineering | |
| Guangdong-Hong Kong Technology Cooperation Funding | 2010Z11 |
| Cooperation project of Industry, Education and Academy | |
| Guangdong province government | |
| Education Department of Chinese government | 2009B090300057 |
| Fundamental Research Funds for the Central Universities, SCUT | 2011ZM0021 |

This work is supported by National Engineering Research Center for Human Tissue Restoration & Reconstruction, Guangdong Key Lab for Biomedical Engineering, Guangdong-Hong Kong Technology Cooperation Funding under Grant (No. 2010Z11), Cooperation project of Industry, Education and Academy, sponsored by Guangdong province government and Education Department of Chinese government (No. 2009B090300057), the Fundamental Research Funds for the Central Universities, SCUT (No. 2011ZM0021).

**第 14 条，共 395 条**

**标题:** Fusion of multimodal medical images using Daubechies complex wavelet transform - A multiresolution approach

**作者:** Singh, R (Singh, Rajiv); Khare, A (Khare, Ashish)

**来源出版物:** INFORMATION FUSION **卷:** 19 **特刊:** SI **页:** 49-60 **DOI:** 10.1016/j.inffus.2012.09.005 **出版年:** SEP 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** Multimodal medical image fusion is an important task for the retrieval of complementary information from medical images. Shift sensitivity, lack of phase information and poor directionality of real valued wavelet transforms motivated us to use complex wavelet transform for fusion. We have used Daubechies complex wavelet transform (DCxWT) for image fusion which is approximately shift invariant and provides phase information. In the present work, we have proposed a new multimodal medical image fusion using DCxWT at multiple levels which is based on multiresolution principle. The proposed method fuses the complex wavelet coefficients of source images using maximum selection rule. Experiments have been performed over three different sets of multimodal medical images. The proposed fusion method is visually and quantitatively compared with wavelet domain (Dual tree complex wavelet transform (DTCWT), Lifting wavelet transform (LWT), Multiwavelet transform (MWT), Stationary wavelet transform (SWT)) and spatial domain (Principal component analysis (PCA), linear and sharp) image fusion methods. The proposed method is further compared with Contourlet transform (CT) and Nonsubsampled contourlet transform (NSCT) based image fusion methods. For comparison of the proposed method, we have used five fusion metrics, namely entropy, edge strength, standard deviation, fusion factor and fusion symmetry. Comparison results prove that performance of the proposed fusion method is better than any of the above existing fusion methods. Robustness of the proposed method is tested against Gaussian, salt & pepper and speckle noise and the plots of fusion metrics for different noise cases established the superiority of the proposed fusion method. (C) 2012 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Wavelet transform; Multimodal medical image fusion; Medical imaging; Daubechies complex wavelet transform; Fusion metrics; Phase information

**KeyWords Plus:** DECOMPOSITION; SHRINKAGE; MRI; PET

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Department of Science and Technology, New Delhi, India | SR/FTP/ETA-023/2009 |
| University Grants Commission, New Delhi, India | 36-246/2008(SR) |

This work was supported in part by the Department of Science and Technology, New Delhi, India, under Grant No. SR/FTP/ETA-023/2009 and the University Grants Commission, New Delhi, India, under Grant No. 36-246/2008(SR). The authors are thankful to Dr. J. Tian for his fruitful discussions during revision of the manuscript.

**第 15 条，共 395 条**

**标题:** An augmented Lagrangian finite element formulation for 3D contact of biphasic tissues

**作者:** Guo, HQ (Guo, Hongqiang); Spilker, RL (Spilker, Robert L.)

**来源出版物:** COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING **卷:** 17 **期:** 11 **页:** 1206-1216 **DOI:** 10.1080/10255842.2012.739166 **出版年:** AUG 18 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** Biphasic contact analysis is essential to obtain a complete understanding of soft tissue biomechanics, and the importance of physiological structure on the joint biomechanics has long been recognised; however, up to date, there are no successful developments of biphasic finite element contact analysis for three-dimensional (3D) geometries of physiological joints. The aim of this study was to develop a finite element formulation for biphasic contact of 3D physiological joints. The augmented Lagrangian method was used to enforce the continuity of contact traction and fluid pressure across the contact interface. The biphasic contact method was implemented in the commercial software

COMSOL Multiphysics 4.2(R) (COMSOL, Inc., Burlington, MA). The accuracy of the implementation was verified using 3D biphasic contact problems, including indentation with a flat-ended indenter and contact of glenohumeral cartilage layers. The ability of the method to model multibody biphasic contact of physiological joints was proved by a 3D knee model. The 3D biphasic finite element contact method developed in this study can be used to study the biphasic behaviours of the physiological joints.

**文献类型:** Article

**作者关键词:** biphasic contact; augmented Lagrangian method; finite element method; articular cartilage; knee joint

**KeyWords Plus:** ARTICULAR-CARTILAGE; BOUNDARY-CONDITIONS; STRESS-RELAXATION; LAYERS; INDENTATION; MECHANICS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Institute of Arthritis and Musculoskeletal and Skin Diseases of U.S. National Institutes of Health | R01 AR057343-01A2 |

This study was supported by a grant from the National Institute of Arthritis and Musculoskeletal and Skin Diseases of U.S. National Institutes of Health (R01 AR057343-01A2).

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**第 16 条，共 395 条**

**标题:** Evaluation of clustering algorithms for financial risk analysis using MCDM methods

**作者:** Kou, G (Kou, Gang); Peng, Y (Peng, Yi); Wang, GX (Wang, Guoxun)

**来源出版物:** INFORMATION SCIENCES **卷:** 275 **页:** 1-12 **DOI:** 10.1016/j.ins.2014.02.137 **出版年:** AUG 10 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** The evaluation of clustering algorithms is intrinsically difficult because of the lack of objective measures. Since the evaluation of clustering algorithms normally involves multiple criteria, it can be modeled as a multiple criteria decision making (MCDM) problem. This paper presents an MCDM-based approach to rank a selection of popular clustering algorithms in the domain of financial risk analysis. An experimental study is designed to validate the proposed approach using three MCDM methods, six clustering algorithms, and eleven cluster validity indices over three real-life credit risk and bankruptcy risk data sets. The results demonstrate the effectiveness of MCDM methods in evaluating clustering algorithms and indicate that the repeated-bisection method leads to good 2-way clustering solutions on the selected financial risk data sets. (C) 2014 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Clustering; Multiple criteria decision making (MCDM); Financial risk analysis

**KeyWords Plus:** DATA ENVELOPMENT ANALYSIS; PERFORMANCE EVALUATION; MODELS; FUZZY; BANKRUPTCY; PREDICTION; EFFICIENCY; RATIOS; TOPSIS; UNITS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 71222108<br>71173028<br>71325001 |

The authors are grateful to the editor in chief and the anonymous reviewers for their valuable suggestions which helped in improving the quality of this paper. This research has been partially supported by grants from the National Natural Science Foundation of China (#71222108, #71173028 and #71325001).

**第 17 条，共 395 条**

**标题:** Trimmomatic: a flexible trimmer for Illumina sequence data

**作者:** Bolger, AM (Bolger, Anthony M.); Lohse, M (Lohse, Marc); Usadel, B (Usadel, Bjoern)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 15 **页:** 2114-2120 **DOI:** 10.1093/bioinformatics/btu170 **出版年:** AUG 1 2014

**Web of Science 核心合集中的 "被引频次":** 40

**被引频次合计:** 41

**摘要:** Motivation: Although many next-generation sequencing (NGS) read preprocessing tools already existed, we could not find any tool or combination of tools that met our requirements in terms of flexibility, correct handling of paired-end data and high performance. We have developed Trimmomatic as a more flexible and efficient preprocessing tool, which could correctly handle paired-end data.
Results: The value of NGS read preprocessing is demonstrated for both reference-based and reference-free tasks. Trimmomatic is shown to produce output that is at least competitive with, and in many cases superior to, that produced by other tools, in all scenarios tested.

**文献类型:** Article

**KeyWords Plus:** READ ALIGNMENT; ALGORITHMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| BMBF | 0315702F<br>0315961<br>0315049A |
| BLE/BMELV | G 127/10 IF |

We want to thank the BMBF for funding through grants 0315702F, 0315961 and 0315049A and BLE/BMELV Verbundprojekt: G 127/10 IF.

**第 18 条，共 395 条**

**标题:** On the Numerical Stability of Fourier Extensions

**作者:** Adcock, B (Adcock, Ben); Huybrechs, D (Huybrechs, Daan); Martin-Vaquero, J (Martin-Vaquero, Jesus)

**来源出版物:** FOUNDATIONS OF COMPUTATIONAL MATHEMATICS **卷:** 14 **期:** 4 **页:** 635-687 **DOI:** 10.1007/s10208-013-9158-8 **出版年:** AUG 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** An effective means to approximate an analytic, nonperiodic function on a bounded interval is by using a Fourier series on a larger domain. When constructed appropriately, this so-called Fourier extension is known to converge geometrically fast in the truncation parameter. Unfortunately, computing a Fourier extension requires solving an ill-conditioned linear system, and hence one might expect such rapid convergence to be destroyed when carrying out computations in finite precision. The purpose of this paper is to show that this is not the case. Specifically, we show that Fourier extensions are actually numerically stable when implemented in finite arithmetic, and achieve a convergence rate that is at least superalgebraic. Thus, in this instance, ill-conditioning of the linear system does not prohibit a good approximation.
In the second part of this paper we consider the issue of computing Fourier extensions from equispaced data. A result of Platte et al. (SIAM Rev. 53(2):308-318, 2011) states that no method for this problem can be both numerically stable and exponentially convergent. We explain how Fourier extensions relate to this theoretical barrier, and demonstrate that they are particularly well suited for this problem: namely, they obtain at least superalgebraic convergence in a numerically stable manner.

**文献类型:** Article

**作者关键词:** Fourier series; Fourier extension; Convergence; Stability; Equispaced data

**KeyWords Plus:** HIGH-ORDER; NONPERIODIC FUNCTIONS; GIBBS PHENOMENON; RUNGE PHENOMENON; APPROXIMATION

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**第 19 条，共 395 条**

**标题:** Toward accurate localization and high recognition performance for noisy iris images

**作者:** Wang, N (Wang, Ning); Li, Q (Li, Qiong); Abd El-Latif, AA (Abd El-Latif, Ahmed A.); Zhang, TJ (Zhang, Tiejun); Niu, XM (Niu, Xiamu)

**来源出版物:** MULTIMEDIA TOOLS AND APPLICATIONS **卷:** 71 **期:** 3 **页:** 1411-1430 **DOI:** 10.1007/s11042-012-1278-7 **出版年:** AUG 2014
**Web of Science 核心合集中的 "被引频次":** 6
**被引频次合计:** 6

**摘要:** Iris recognition plays an important role in biometrics. Until now, many scholars have made different efforts in this field. However, the recognition performances of most proposed methods degrade dramatically when the image contains some noise, which inevitably occurs during image acquisition such as reflection spots, inconsistent illumination, eyelid, eyelash, hair, etc. In this paper, an accurate iris localization and high recognition performance approach for noisy iris images is presented. After filling the reflection spots using the inpainting method which is based on Navier-Stokes (NS) equations, the Probable boundary (Pb) edge detection operator is used to detect pupil edge initially, which can eliminate the interference of inconsistent illumination, eyelid, eyelash and hair. Besides, the accurate circle parameters are obtained in delicately to reduce the input space of Hough transforms. The iris feature code is constructed based on 1D Log-Gabor filter. Our thorough experimental results on the challenging iris image database CASIA-Iris-Thousand achieve an EER of 1.8272 %, which outperforms the state-of-the-art methods.

**文献类型:** Article
**作者关键词:** Iris recognition; Iris localization; Navier-Stokes(NS); Pb edge detection; Hough transforms; 1D Log-Gabor

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 60832010<br>61100187 |
| Fundamental Research Funds for the Central Universities | HIT. NSRIF. 2010046<br>HIT. NSRIF. 2013061 |

The authors would like to thank the reviewers for their valuable comments which are greatly helpful to improve the clarity and quality of this work. This work is supported by the National Natural Science Foundation of China (Grant Number: 60832010, 61100187) and the Fundamental Research Funds for the Central Universities (Grant Number: HIT. NSRIF. 2010046, HIT. NSRIF. 2013061).

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**第 20 条，共 395 条**

**标题:** A simple, sensitive and secure image encryption algorithm based on hyper-chaotic system with only one round diffusion process

**作者:** Norouzi, B (Norouzi, Benyamin); Mirzakuchaki, S (Mirzakuchaki, Sattar); Seyedzadeh, S (Seyedzadeh, Seyed); Mosavi, MR (Mosavi, Mohammad Reza)

**来源出版物:** MULTIMEDIA TOOLS AND APPLICATIONS **卷:** 71 **期:** 3 **页:** 1469-1497 **DOI:** 10.1007/s11042-012-1292-9 **出版年:** AUG 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5

**摘要:** Based on hyper-chaotic systems, a novel image encryption algorithm is introduced in this paper. The advantages of our proposed approach are that it can be realized easily in one round diffusion process and is computationally very simple while attaining high security level, high key sensitivity, high plaintext sensitivity and other properties simultaneously. The key stream generated by hyper-chaotic system is related to the original image. Moreover, to encrypt each pixel, we use the sum of pixels which are located after that pixel. The algorithm uses

different summations when encrypting different input images (even with the same sequence based on hyper-chaotic system). This, in turn, will considerably enhance the cryptosystem resistance against known/chosen-plaintext and differential attacks. The change rate of the number of pixels in the cipher-image when only one pixel of the original image is modified (NPCR) and the Unified Average Changing Intensity (UACI) are already very high (NPCR > 99.80233 % and UACI > 33.55484 %). Also, experimental results such as key space analysis, histograms, correlation coefficients, information entropy, peak signal-to-noise ratio, key sensitivity analysis, differential analysis and decryption quality, show that the proposed image encryption algorithm is secure and reliable, with high potential to be adopted for the secure image communication applications.

**文献类型:** Article

**作者关键词:** Image encryption; Diffusion process; Security; Sensitivity; NPCR; UACI

**KeyWords Plus:** FRACTIONAL FOURIER-TRANSFORM; STANDARD MAP; DIGITAL SIGNATURE; LOGISTIC MAPS; SCHEME; CRYPTANALYSIS; TRANSMISSION; CRYPTOSYSTEM; CRYPTOGRAPHY

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**第 21 条，共 395 条**

**标题:** Neural networks for document image preprocessing: state of the art

**作者:** Rehman, A (Rehman, Amjad); Saba, T (Saba, Tanzila)

**来源出版物:** ARTIFICIAL INTELLIGENCE REVIEW **卷:** 42 **期:** 2 **页:** 253-273 **DOI:** 10.1007/s10462-012-9337-z **出版年:** AUG 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** Neural network are most popular in the research community due to its generalization abilities. Additionally, it has been successfully implemented in biometrics, features selection, object tracking, document image preprocessing and classification. This paper specifically, clusters, summarize, interpret and evaluate neural networks in document Image preprocessing. The importance of the learning algorithms in neural networks training and testing for preprocessing is also highlighted. Finally, a critical analysis on the reviewed approaches and the future research guidelines in the field are suggested.

**文献类型:** Article

**作者关键词:** Learning algorithms; Preprocessing; Features selection; Slant correction; Line removal; Text differentiation

**KeyWords Plus:** CURSIVE CHARACTER-RECOGNITION; HANDWRITTEN WORD RECOGNITION; MODIFIED DIRECTION FEATURE; SCRIPT IDENTIFICATION; SEGMENTATION; ALGORITHM; TEXT; DISTINCTION; EXTRACTION; SYSTEM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| TWAS fellowship cycle | |
| Higher Education Commission of Pakistan | |

This research work is partially supported by TWAS fellowship cycle (2010) and Higher Education Commission of Pakistan (partial support scheme). The authors are sincerely thankful to colleagues for guidance about the material and organization of this research work.

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**第 22 条，共 395 条**

**标题:** FEYNRULES 2.0-A complete toolbox for tree-level phenomenology

**作者:** Alloul, A (Alloul, Adam); Christensen, ND (Christensen, Neil D.); Degrande, C (Degrande, Celine); Duhr, C (Duhr, Claude); Fuks, B (Fuks, Benjamin)

**来源出版物:** COMPUTER PHYSICS COMMUNICATIONS **卷:** 185 **期:** 8 **页:** 2250-2300 **DOI:** 10.1016/j.cpc.2014.04.012 **出版年:** AUG 2014

**Web of Science 核心合集中的 "被引频次":** 44
**被引频次合计:** 44
**摘要:** FEYNRULES is a MATHEmAncA-based package which addresses the implementation of particle physics models, which are given in the form of a list of fields, parameters and a Lagrangian, into high-energy physics tools. It calculates the underlying Feynman rules and outputs them to a form appropriate for various programs such as CALCHEP, FEYNARTS, MADGRAPH, SHERPA and WHIZARD. Since the original version, many new features have been added: support for two-component fermions, spin-3/2 and spin-2 fields, superspace notation and calculations, automatic mass diagonalization, completely general FEYNARTS output, a new universal FEYNRULES output interface, a new WHIZARD interface, automatic 1 --> 2 decay width calculation, improved speed and efficiency, new guidelines for validation and a new webbased validation package. With this feature set, FEYNRULES enables models to go from theory to simulation and comparison with experiment quickly, efficiently and accurately.
Program summary
Program title: FeynRules 2.0
Catalogue identifier: AEDI_v2_0
Program summary URL: http://cpc.cs.qub.ac.uk/summaries/AEDI_v2_0.html
Program obtainable from: CPC Program Library, Queen's University, Belfast, N. Ireland
Licensing provisions: Standard CPC licence, http://cpc.cs.qub.ac.uk/licence/licence.html
No. of lines in distributed program, including test data, etc.: 51324
No. of bytes in distributed program, including test data, etc.: 455219
Distribution format: tar.gz
Programming language: Mathematica.
Computer: Platforms on which Mathematica is available.
Operating system: Operating systems on which Mathematica is available.
Classification: 11.1, 11.6.
Does the new version supersede the previous version?: Yes
Catalogue identifier of previous version: AEDI_v1_1
Journal reference of previous version: Comput. Phys. Comm. 182 (2011) 2404
Nature of problem:
The program computes the Feynman rules of any quantum field theory, expressed in four-dimensional space-time, directly from the Lagrangian of the model. Various interfaces to Feynman diagram calculators are included that allow the exportation of the interaction vertices in a format readable by different Monte Carlo event generators or symbolic calculation tools.
Solution method:
FeynRules works in three steps:
1. If necessary, the model Lagrangian is written in terms of four-component fermions and the usual fields of particle physics, instead of Weyl fermions or superfields.
2. Derivation of the Feynman rules directly form the Lagrangian using canonical commutation relations among fields and creation operators.
3. Implementation of the new physics model into FeynArts as well as into various Monte Carlo programs via dedicated interfaces.
Reasons for new version:
Bug fixes.
Summary of revisions:
cleaning of unnecessary files
bug related to epsilon tensors
bug with multiple interaction order fixed
bug when we have one mass parameter for several
particles in the UFO
Restrictions:
Mathematica version 7.0 or higher. The Lagrangian must fulfill basic quantum field theory requirements, such as locality and Lorentz and gauge invariance. Fields with spin 0, 1/2, 1, 3/2 and 2 are supported.
Unusual features:
Translation interfaces to various Feynman diagram generators exist. Superfields are also supported and can be expanded in terms of their component fields, which allows the performance of various sets of superspace computations.
Running time:
The computation of the Feynman rules from a Lagrangian varies with the complexity of the model, and runs from a few seconds to several minutes. See Section 7 of the present manuscript for more information. 
**文献类型:** Article

**作者关键词:** Model building; Feynman rules; Monte Carlo programs
**KeyWords Plus:** ONE-LOOP CALCULATIONS; HELICITY AMPLITUDES; AUTOMATIC-GENERATION; PHYSICS; PACKAGE; COMPUTATIONS; INTERFACE; HELAC
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| FEYNRULES team | |
| Research Executive Agency (REA) of the European Union | PITN-GA-2010-264564 |
| MCnetITN FP7 Marie Curie Initial Training Network | PITN-GA-2012-315877 |
| French ministry for education and research | |
| French ANR | 12 JS05 002 01<br>CNRS/IN2P3 |
| US Department of Energy | DE-FG02-13ER42001<br>DE-FG02-95ER40896 |
| NSF | PHY-0757889 |
| LHC-TI under US National Science Foundation | NSF-PHY-0705682 |
| ERC | |

We are grateful to Johan Alwall, Priscila de Aquino, Karen de Causmaecker, Nicolas Deutschmann, Jorgen D'Hondt, Camilo GarciaCely, David Grellscheid, Thomas Hahn, Valentin Hirschi, Fabio Maltoni, Olivier Mattelaer, Kentarou Mawatari, Bettina Oexl, Gizem Oztfirk, Michel Rausch de Traubenberg, Thomas Reiter, Jurgen Reuter, Christian Speckner, Tim Stelzer and Yoshitaro Takaesu for discussion and collaborations on the different interfaces. We acknowledge the support of the IT team at UCLouvain (Vincent Boucher, Jerome de Favereau, Pavel Demin). The FEYNRULES team is grateful to the IPHC laboratory for support in organizing the 2010 and 2012 FEYNRULES meetings at Mont Sainte-Odile. This work was supported in part by the Research Executive Agency (REA) of the European Union under the Grant Agreement number PITN-GA-2010-264564 (LHCPhenoNet) and MCnetITN FP7 Marie Curie Initial Training Network PITN-GA-2012-315877. A.A. acknowledges partial support of a Ph.D. fellowship of the French ministry for education and research. A.A. and B.F. were supported in part by the French ANR 12 JS05 002 01 BATS@LHC and by the Theory-LHC-France initiative of the CNRS/IN2P3. Ce. D. was supported in part by the US Department of Energy under Contract No. DE-FG02-13ER42001 and by the NSF grant PHY-0757889. N.D.C. was supported in part by the LHC-TI under US National Science Foundation, grant NSF-PHY-0705682, by PITT PACC, and by the US Department of Energy under grant No. DE-FG02-95ER40896 and C.D. was supported by the ERC grant" IterQCD".

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**第 23 条，共 395 条**
**标题:** Chaotic Krill Herd algorithm
**作者:** Wang, GG (Wang, Gai-Ge); Guo, LH (Guo, Lihong); Gandomi, AH (Gandomi, Amir H.); Hao, GS (Hao, Guo-Sheng); Wang, HQ (Wang, Heqi)
**来源出版物:** INFORMATION SCIENCES **卷:** 274 **页:** 17-34 **DOI:** 10.1016/j.ins.2014.02.123 **出版年:** AUG 1 2014
**Web of Science 核心合集中的 "被引频次":** 7
**被引频次合计:** 7
**摘要:** Recently, Gandomi and Alavi proposed a meta-heuristic optimization algorithm, called Krill Herd (KH). This paper introduces the chaos theory into the KH optimization process with the aim of accelerating its global convergence speed. Various chaotic maps are considered in the proposed chaotic KH (CKH) method to adjust the three main movements of the krill in the optimization process. Several test problems are utilized to evaluate the performance of CKH. The results show that the performance of CKH, with an appropriate chaotic map, is better than

or comparable with the KH and other robust optimization approaches. (C) 2014 Elsevier Inc. All rights reserved.
**文献类型:** Article
**作者关键词:** Global optimization problem; Krill Herd; Chaotic maps; Multimodal function
**KeyWords Plus:** DIFFERENTIAL EVOLUTION ALGORITHM; GLOBAL OPTIMIZATION; DESIGN OPTIMIZATION; FIREFLY ALGORITHM; HARMONY SEARCH; BAT ALGORITHM; STRATEGY
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**第 24 条，共 395 条**
**标题:** Method of multi-criteria group decision-making based on cloud aggregation operators with linguistic information
**作者:** Wang, JQ (Wang Jian-qiang); Lu, P (Lu Peng); Zhang, HY (Zhang Hong-yu); Chen, XH (Chen Xiao-hong)
**来源出版物:** INFORMATION SCIENCES **卷:** 274 **页:** 177-191 **DOI:** 10.1016/j.ins.2014.02.130 **出版年:** AUG 1 2014
**Web of Science 核心合集中的 "被引频次":** 7
**被引频次合计:** 7
**摘要:** The cloud model, which can synthetically describe the randomness and fuzziness of qualitative concepts and implement uncertain transformations between a qualitative concept and its quantitative instantiations, has attracted considerable attention from researchers studying multi-criteria group decision-making problems involving linguistic information. In this paper, some operations of clouds and several new aggregation operators are proposed. These include the cloud weighted arithmetic averaging (CWAA) operator, cloud-ordered weighted arithmetic averaging (COWA) operator, and cloud hybrid arithmetic (CHA) operator. The conversion between linguistic variables and clouds is introduced. Based on this conversion, a linguistic multi-criteria group decision-making method is developed. In this method, linguistic variables are first converted into clouds and then aggregated using cloud aggregation operators. The proposed method is then compared to the existing methods to confirm its feasibility and rationality. (C) 2014 Elsevier Inc. All rights reserved.
**文献类型:** Article
**作者关键词:** Linguistic group decision-making; Cloud model; Aggregation operator
**KeyWords Plus:** OWA OPERATORS; UNCERTAIN-INFORMATION; MODEL; REPRESENTATION; MANAGEMENT; CONSENSUS; WEIGHTS; WORDS
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 71271218<br>71221061 |

The authors would like to thank the editors and anonymous reviewers for their helpful comments and suggestions. This work was supported by the National Natural Science Foundation of China (Nos. 71271218 and 71221061).

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**第 25 条，共 395 条**
**标题:** Prokka: rapid prokaryotic genome annotation
**作者:** Seemann, T (Seemann, Torsten)
**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 14 **页:** 2068-2069 **DOI:** 10.1093/bioinformatics/btu153 **出版年:** JUL 15 2014
**Web of Science 核心合集中的 "被引频次":** 15
**被引频次合计:** 15
**摘要:** .Summary: The multiplex capability and high yield of current day DNA-sequencing instruments has made

bacterial whole genome sequencing a routine affair. The subsequent de novo assembly of reads into contigs has been well addressed. The final step of annotating all relevant genomic features on those contigs can be achieved slowly using existing web- and email-based systems, but these are not applicable for sensitive data or integrating into computational pipelines. Here we introduce Prokka, a command line software tool to fully annotate a draft bacterial genome in about 10 min on a typical desktop computer. It produces standards-compliant output files for further analysis or viewing in genome browsers.

**文献类型:** Article

**KeyWords Plus:** RNA GENES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Victorian Life Sciences Computation Initiative, an initiative of the Victorian Government | |

This research was supported in part by the Victorian Life Sciences Computation Initiative, an initiative of the Victorian Government hosted by the University of Melbourne, Australia.

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**第 26 条，共 395 条**

**标题:** Colliding bodies optimization: A novel meta-heuristic method

**作者:** Kaveh, A (Kaveh, A.); Mandavi, VR (Mandavi, V. R.)

**来源出版物:** COMPUTERS & STRUCTURES **卷:** 139 **页:** 18-27 **DOI:** 10.1016/j.compstruc.2014.04.005 **出版年:** JUL 15 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** This paper presents a novel efficient meta-heuristic optimization algorithm called Colliding Bodies Optimization (CBO). This algorithm is based on one-dimensional collisions between bodies, with each agent solution being considered as an object or body with mass. After a collision of two moving bodies having specified masses and velocities, these bodies are separated with new velocities. This collision causes the agents to move toward better positions in the search space. CBO utilizes simple formulation to find minimum or maximum of functions and does not depend on any internal parameter. Numerical results show that CBO is competitive with other meta-heuristics. (C) 2014 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Colliding bodies optimization; Meta-heuristic algorithm; Optimal design

**KeyWords Plus:** TRUSS STRUCTURES; GENETIC ALGORITHM; RAY OPTIMIZATION; OPTIMAL-DESIGN; SEARCH; COLONY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Iran National Science Foundation | |

The first author is grateful to Iran National Science Foundation for the support.

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**第 27 条，共 395 条**

**标题:** Biomass-to-bioenergy and biofuel supply chain optimization: Overview, key issues and challenges

**作者:** Yue, DJ (Yue, Dajun); You, FQ (You, Fengqi); Snyder, SW (Snyder, Seth W.)

**来源出版物:** COMPUTERS & CHEMICAL ENGINEERING **卷:** 66 **页:** 36-56 **DOI:** 10.1016/j.compchemeng.2013.11.016 **出版年:** JUL 4 2014

**Web of Science 核心合集中的 "被引频次":** 17

**被引频次合计:** 17

**摘要:** This article describes the key challenges and opportunities in modeling and optimization of biomass-tobioenergy supply chains. It reviews the major energy pathways from terrestrial and aquatic biomass to bioenergy/biofuel products as well as power and heat with an emphasis on "drop-in" liquid hydrocarbon fuels. Key components of the bioenergy supply chains are then presented, along with a comprehensive overview and classification of the existing contributions on biofuel/bioenergy supply chain optimization. This paper identifies fertile avenues for future research that focuses on multi-scale modeling and optimization, which allows the integration across spatial scales from unit operations to biorefinery processes and to biofuel value chains, as well as across temporal scales from operational level to strategic level. Perspectives on future biofuel supply chains that integrate with petroleum refinery supply chains and/or carbon capture and sequestration systems are presented. Issues on modeling of sustainability and the treatment of uncertainties in bioenergy supply chain optimization are also discussed. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article; Proceedings Paper

**作者关键词:** Supply chain modeling; Biofuels; Bioenergy; Mathematical programming; Multi-scale modeling

**KeyWords Plus:** LIFE-CYCLE ASSESSMENT; MULTIOBJECTIVE OPTIMIZATION; STOCHASTIC INVENTORY; SUSTAINABLE DESIGN; MIXED-INTEGER; SUPERSTRUCTURE OPTIMIZATION; HYDROCARBON BIOREFINERY; TECHNOECONOMIC ANALYSIS; PROGRAMMING TECHNIQUES; ECONOMIC OPTIMIZATION

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**第 28 条，共 395 条**

**标题:** IB-LBM simulation of the haemocyte dynamics in a stenotic capillary

**作者:** Xu, YQ (Xu Yuan-Qing); Tang, XY (Tang Xiao-Ying); Tian, FB (Tian Fang-Bao); Peng, YH (Peng Yu-Hua); Xu, Y (Xu Yong); Zeng, YJ (Zeng Yan-Jun)

**来源出版物:** COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING **卷:** 17 **期:** 9 **页:** 978-985 **DOI:** 10.1080/10255842.2012.729581 **出版年:** JUL 4 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 4

**摘要:** To study the behaviour of a haemocyte when crossing a stenotic capillary, the immersed boundary-lattice Boltzmann method was used to establish a quantitative analysis model. The haemocyte was assumed to be spherical and to have an elastic cell membrane, which can be driven by blood flow to adopt a highly deformable character. In the stenotic capillary, the spherical blood cell was stressed both by the flow and the wall dimension, and the cell shape was forced to be stretched to cross the stenosis. Our simulation investigated the haemocyte crossing process in detail. The velocity and pressure were anatomised to obtain information on how blood flows through a capillary and to estimate the degree of cell damage caused by excessive pressure. Quantitative velocity analysis results demonstrated that a large haemocyte crossing a small stenosis would have a noticeable effect on blood flow, while quantitative pressure distribution analysis results indicated that the crossing process would produce a special pressure distribution in the cell interior and to some extent a sudden change between the cell interior and the surrounding plasma.

**文献类型:** Article

**作者关键词:** haemocyte; immersed boundary; partial-stenosis capillary; lattice Boltzmann method

**KeyWords Plus:** RED-BLOOD-CELL; LATTICE-BOLTZMANN METHOD; IMMERSED BOUNDARY METHOD; FLOWS; MOTION; DEFORMATION; MODEL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Beijing Institute of Technology | 3160012211 104 31600 12261001 |
| NSFC | 81271568 |

We thank Michael Schlappi (Marquette University, Milwaukee, WI) for language editing of this manuscript. This work was supported by the Excellent Young Teachers Program (No. 31600 12261001) and the Fund for Basic Research (No. 3160012211 104) of the Beijing Institute of Technology and NSFC 81271568.

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**第 29 条，共 395 条**

**标题:** Fuzzy Sampled-Data Control for Uncertain Vehicle Suspension Systems

**作者:** Li, HY (Li, Hongyi); Jing, XJ (Jing, Xingjian); Lam, HK (Lam, Hak-Keung); Shi, P (Shi, Peng)

**来源出版物:** IEEE TRANSACTIONS ON CYBERNETICS **卷:** 44 **期:** 7 **页:** 1111-1126 **DOI:** 10.1109/TCYB.2013.2279534 **出版年:** JUL 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** This paper investigates the problem of sampled-data H-infinity control of uncertain active suspension systems via fuzzy control approach. Our work focuses on designing state-feedback and output-feedback sampled-data controllers to guarantee the resulting closed-loop dynamical systems to be asymptotically stable and satisfy H-infinity disturbance attenuation level and suspension performance constraints. Using Takagi-Sugeno (T-S) fuzzy model control method, T-S fuzzy models are established for uncertain vehicle active suspension systems considering the desired suspension performances. Based on Lyapunov stability theory, the existence conditions of state-feedback and output-feedback sampled-data controllers are obtained by solving an optimization problem. Simulation results for active vehicle suspension systems with uncertainty are provided to demonstrate the effectiveness of the proposed method.

**文献类型:** Article

**作者关键词:** Active suspension system; H-infinity control; sampled-data control; T-S fuzzy model

**KeyWords Plus:** H-INFINITY CONTROL; NETWORKED CONTROL-SYSTEMS; OUTPUT-FEEDBACK CONTROL; GUARANTEED COST CONTROL; INPUT DELAY APPROACH; NONLINEAR-SYSTEMS; TIME-DELAY; LMI APPROACH; ACTIVE SUSPENSIONS; STABILITY ANALYSIS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61203002<br>61333012 |
| Program for New Century Excellent Talents in University | NCET-13-0696 |
| Program for Liaoning Innovative Research Team in University | LT2013023 |
| Program for Liaoning Excellent Talents in University | LR2013053 |
| GRF project of H.K. RGC | 517810 |
| Hong Kong Polytechnic Universities | |
| National Key Basic Research Program, China | 2012CB215202 |
| 111 Project | B12018 |

This work was partially supported by the National Natural Science Foundation of China (61203002, 61333012), the Program for New Century Excellent Talents in University (NCET-13-0696), the Program for Liaoning Innovative Research Team in University (LT2013023), the Program for Liaoning Excellent Talents in University (LR2013053), a GRF project (ref. 517810) of H. K. RGC, internal research funds of Hong Kong Polytechnic Universities, the National Key Basic Research Program, China (2012CB215202) and the 111 Project (B12018). This paper was recommended by Associate Editor T. S. Li.

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**第 30 条，共 395 条**

**标题:** Gait variability and stability measures: Minimum number of strides and within-session reliability

**作者:** Riva, F (Riva, F.); Bisi, MC (Bisi, M. C.); Stagni, R (Stagni, R.)

**来源出版物:** COMPUTERS IN BIOLOGY AND MEDICINE **卷:** 50 **页:** 9-13 **DOI:** 10.1016/j.compbiomed.2014.04.001 **出版年:** JUL 1 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Background: Several methods are proposed in the literature for the quantification of gait variability/stability from trunk accelerations. Since outputs can be influenced by implementation differences, reliability assessment and standardization of implementation parameters are still an issue. The aim of this study is to assess the minimum number of required strides and the within-session reliability of 11 variability/stability measures.
Method: Ten healthy participants walked in a straight line at self-selected speed wearing two synchronized tri-axial Inertial Measurement Units. Five variability measures were calculated based on stride times namely Standard deviation, Coefficient of variation, Inconsistency of variance, Nonstationary index and Poincare plot. Six stability measures were calculated based on trunk accelerations namely Maximum Floquet multipliers, Short term/long term Lyapunov exponents, Recurrence quantification analysis, Multiscale entropy, Harmonic ratio and Index of harmonicity. The required minimum number of strides and the within-session reliability for each measure were obtained based on the interquartile range/mean ratio. Measures were classified in five categories (namely excellent, good, average, poor, and very poor) based on their reliability.
Results: The number of strides required to obtain a reliable measure was generally larger than those conventionally used. Variability measures showed average to poor reliability, while stability measures ranged from excellent to very poor reliability.
Conclusion: Recurrence quantification analysis and multiscale entropy of trunk accelerations showed excellent reliability and a reasonable number of required strides. Based on these results, these measures should be taken into consideration in the assessment of fall risk. (C) 2014 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Within-session reliability; Stride number; Gait stability; Gait variability; Inertial sensors

**KeyWords Plus:** LOCAL DYNAMIC STABILITY; RECURRENCE QUANTIFICATION ANALYSIS; TIME-SERIES ANALYSIS; OLDER-ADULTS; SPATIOTEMPORAL PARAMETERS; TREADMILL WALKING; FALL RISK; INSTABILITY; ENTROPY; PELVIS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Project "Fall risk estimation and prevention in the elderly using a quantitative multifactorial approach" - Italian Ministry of Education, University and Research (Ministero dell'Istruzione, dell'Universita e della Ricerca) | 2010R277FT |

This research was funded by the Project "Fall risk estimation and prevention in the elderly using a quantitative multifactorial approach" (Project ID number 2010R277FT) awarded by the Italian Ministry of Education, University and Research (Ministero dell'Istruzione, dell'Universita e della Ricerca).

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**第 31 条，共 395 条**

**标题:** Evaluation on crowdsourcing research: Current status and future direction

**作者:** Zhao, YX (Zhao, Yuxiang); Zhu, QH (Zhu, Qinghua)

**来源出版物:** INFORMATION SYSTEMS FRONTIERS **卷:** 16 **期:** 3 **页:** 417-434 **DOI:** 10.1007/s10796-012-9350-4 **出版年:** JUL 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Crowdsourcing is one of the emerging Web 2.0 based phenomenon and has attracted great attention from both practitioners and scholars over the years. It can facilitate the connectivity and collaboration of people, organizations, and societies. We believe that Information Systems scholars are in a unique position to make significant contributions to this emerging research area and consider it as a new research frontier. However, so far, few studies have elaborated what have been achieved and what should be done. This paper seeks to present a critical examination of the substrate of crowdsourcing research by surveying the landscape of existing studies, including theoretical foundations, research methods, and research foci, and identifies several important research directions for IS scholars from three perspectives-the participant, organization, and system-and which warrant further study. This research contributes to the IS literature and provides insights for researchers, designers, policy-makers, and managers to better understand various issues in crowdsourcing systems and projects.

**文献类型:** Article

**作者关键词:** Crowdsourcing; Web 2.0; Socio-technical systems; Collective intelligence; Mass collaboration;

Problem-solving; Research progress

**KeyWords Plus:** INFORMATION-SYSTEMS RESEARCH; OPEN-SOURCE PROJECTS; COLLECTIVE INTELLIGENCE; SOFTWARE DEVELOPERS; IDENTITY CRISIS; CITIZEN SCIENCE; MOTIVATIONS; PARTICIPATION; COMMUNITIES; VALIDATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
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| National Social Science Foundation in China | 10ATQ004 |
| Ministry of Education, Humanities and Social Sciences Council in China | 09YJA870014 |

This work is jointly supported by the National Social Science Foundation in China (Grand No. 10ATQ004), and the Ministry of Education, Humanities and Social Sciences Council in China (Grand No. 09YJA870014). Firstly, the authors sincerely appreciate two anonymous reviewers' thoughtful comments and suggestions. Secondly, the authors would like to thank Prof. Ping Zhang from Syracuse University for her insightful and constructive suggestions on this paper. Thirdly, the authors thank Xu Meng from Syracuse University for his contribution during the coding stage. Finally, the authors thank the editors and publishers for their support to this article.

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**第 32 条，共 395 条**

**标题:** Interactive middleware architecture for lifelog based context awareness

**作者:** Song, CW (Song, Chang-Woo); Lee, D (Lee, Daesung); Chung, KY (Chung, Kyung-Yong); Rim, KW (Rim, Kee-Wook); Lee, JH (Lee, Jung-Hyun)

**来源出版物:** MULTIMEDIA TOOLS AND APPLICATIONS **卷:** 71 **期:** 2 **页:** 813-826 **DOI:** 10.1007/s11042-013-1362-7 **出版年:** JUL 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** Due to the development of IT convergence, a wide variety of information is being produced and distributed rapidly in digital form. Lifelog based context awareness is a technology that provides a service automatically based on perceived situational information in ubiquitous environments. To offer customized services to users, the technology of acquiring lifelog based context information in real time is the most important consideration. We propose the interactive middleware architecture for lifelog based context awareness in distributed and ubiquitous environments. Conventional middleware to support ubiquitous environments stores and manages the situational information and service content acquired by centralized storage or a DBMS. Centralized situational information and service content management may impede the autonomy of mobile nodes and the interoperation between different middle software. The proposed method designs a system that can distribute and manage situational information in mobile nodes using mobile devices in distributed and ubiquitous environments and share the service content between interactive middleware through publication. The application system designed in this study was used in a scenario providing situational perception based mobile service and proved to be useful.

**文献类型:** Article

**作者关键词:** Context Awareness; Distributed System; Middleware; Ubiquitous Computing

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Basic Science Research Program through the National Research Foundation of Korea - Ministry of Education, Science and Technology | 2012-0004478 |

This research was supported by Basic Science Research Program through the National Research Foundation of Korea funded by the Ministry of Education, Science and Technology (No. 2012-0004478).

**第 33 条，共 395 条**

**标题:** Ontology driven interactive healthcare with wearable sensors

**作者:** Kim, J (Kim, Jonghun); Kim, J (Kim, Jaekwon); Lee, D (Lee, Daesung); Chung, KY (Chung, Kyung-Yong)

**来源出版物:** MULTIMEDIA TOOLS AND APPLICATIONS **卷:** 71 **期:** 2 **页:** 827-841 **DOI:** 10.1007/s11042-012-1195-9 **出版年:** JUL 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** Ubiquitous healthcare is the service that offers health-related information and contents to users without any limitations of time and space. Especially, to offer customized services to users, the technology of acquiring context information of users in real time is the most important consideration. In this paper, we researched wearable sensors. We proposed the ontology driven interactive healthcare with wearable sensors (OdIH_WS) to achieve customized healthcare service. For this purpose, wearable-sensor-based smart-wear and methods of data acquisition and processing are being developed. The proposed system has potential value in healthcare. A smart wear using wearable sensors is fabricated as a way of non-tight and comfortable style fitting for the curves of the human body based on clothes to wear in daily life. The design sample of the smart wear uses basic stretch materials and is designed to sustain its wearable property. To offer related information, it establishes an environment-information-based healthcare ontology model needed for inference, and it is composed of inside-outside context information models depending on the users' context. The modeling of the proposed system involved combinations of information streams, focusing on service context information. With the proposed service inference rules, customized information and contents could be drawn by the inference engine. In the established OdIH_WS, real-time health information monitoring was achieved. The results of system performance and users' satisfaction evaluations confirmed that the proposed system is superior to other existing systems.

**文献类型:** Article

**作者关键词:** Interactive health; Wearable sensors; Ontology; u-Healthcare Service

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Basic Science Research Program through the National Research Foundation of Korea - Ministry of Education, Science and Technology | 2012-0004478 |

This research was supported by Basic Science Research Program through the National Research Foundation of Korea funded by the Ministry of Education, Science and Technology (No. 2012-0004478). Sincere thanks go to Prof. Joong-Kyung Ryu who provided the idea for this thesis.

**第 34 条，共 395 条**

**标题:** Effect of facial makeup style recommendation on visual sensibility

**作者:** Chung, KY (Chung, Kyung-Yong)

**来源出版物:** MULTIMEDIA TOOLS AND APPLICATIONS **卷:** 71 **期:** 2 **页:** 843-853 **DOI:** 10.1007/s11042-013-1355-6 **出版年:** JUL 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** As ubiquitous commerce using IT convergence technologies is coming, it is important for the strategy of cosmetic sales to investigate the sensibility and the degree of preference in the environment for which the makeup style has changed focusing on being consumer centric. The users caused the diversification of the facial makeup styles, because they seek makeup and individuality to satisfy their needs. In this paper, we proposed the effect of the facial makeup style recommendation on visual sensibility. Development of the facial makeup style recommendation system used a user interface, sensibility analysis, weather forecast, and collaborative filtering for the facial makeup styles to satisfy the user's needs in the cosmetic industry. Collaborative filtering was adopted to recommend facial makeup style of interest for users based on the predictive relationship discovered between the current user and other previous users. We used makeup styles in the survey questionnaire. The pictures of makeup style details, such as foundation, color lens, eye shadow, blusher, eyelash, lipstick, hairstyle, hairpin, necklace, earring, and hair length were evaluated in terms of sensibility. The data were analyzed by SPSS using ANOVA and factor analysis to

discover the most effective types of details from the consumer's sensibility viewpoint. Sensibility was composed of three concepts: contemporary, mature, and individual. The details of facial makeup styles were positioned in 3D-concept space to relate each type of detail to the makeup concept regarding a woman's cosmetics. Ultimately, this paper suggests empirical applications to verify the adequacy and the validity of this system.

**文献类型:** Article

**作者关键词:** Makeup styles; Collaborative filtering; Cosmetic; Sensibility

**KeyWords Plus:** ALGORITHM; SYSTEMS; MODEL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
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| Sangji University | |

This research was supported by Sangji University that allowed Prof. K. Y. Chung to have the sabbatical year, 2012. Sincere thanks go to Prof. Y. J. Na who provided the idea for 3D-concept space.

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**第 35 条，共 395 条**

**标题:** Item recommendation based on context-aware model for personalized u-healthcare service

**作者:** Kim, J (Kim, Jonghun); Lee, D (Lee, Daesung); Chung, KY (Chung, Kyung-Yong)

**来源出版物:** MULTIMEDIA TOOLS AND APPLICATIONS **卷:** 71 **期:** 2 **页:** 855-872 **DOI:** 10.1007/s11042-011-0920-0 **出版年:** JUL 2014

**Web of Science 核心合集中的 "被引频次":** 13

**被引频次合计:** 13

**摘要:** A personalized service in the ubiquitous environment is to provide services or items, which reflect personal tastes, attitudes, and contexts. It is impossible to reflect the context information generated in u-healthcare environments due to the existing recommendation system performing the recommendation using the information directly input by users and application usage record only. This study develops a context-aware model using the context information provided by the context information model. The study applies it to the extraction of the missing value in a collaborative filtering process. The context-aware model reflects the information that selects items by users according to the appropriate context using the C-HMM and provides it to users. The solution of the missing value in the preference significantly affects the recommendation accuracy in a preference based item supply method. Thus, this study developed a new collaborative filtering for ubiquitous environments by reflecting the missing preference value and reflecting it to the collaborative filtering using the context-aware model. Also, the validity of this method will be evaluated by applying it to menu services in u-healthcare services.

**文献类型:** Article

**作者关键词:** Context-aware; Collaborative filtering; Item recommendation; Personalized service; U-healthcare service

**KeyWords Plus:** SYSTEM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Basic Science Research Program through the National Research Foundation of Korea - Ministry of Education, Science and Technology | 2011-0008934 |

This research was supported by Basic Science Research Program through the National Research Foundation of Korea funded by the Ministry of Education, Science and Technology. (No. 2011-0008934).

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**第 36 条，共 395 条**

**标题:** Ontology-based healthcare context information model to implement ubiquitous environment

**作者:** Kim, J (Kim, Jonghun); Chung, KY (Chung, Kyung-Yong)

**来源出版物:** MULTIMEDIA TOOLS AND

APPLICATIONS 卷: 71 期: 2 页: 873-888 DOI: 10.1007/s11042-011-0919-6 出版年: JUL 2014
Web of Science 核心合集中的 "被引频次": 22
被引频次合计: 22

摘要: To establish real u-healthcare environments, it is necessary to receive the context information obtained from various platforms at the proper time in portable devices which operate using both wired and wireless communication. Moreover, a knowledge model is required that reflects the information and characteristics needed for such services while remaining appropriate for medical reference. This paper develops an ontology-based healthcare context information model to implement a ubiquitous environment. Contextual information will be extracted and classified to implement the healthcare services using the context information model. The healthcare context information model can be defined using the ontology, and a common healthcare model will be developed by considering medical references and service environments. Application and healthcare service developers can use the sensed information in various environments by authoring device- and space-specific ontologies based on this common ontology. In addition, this paper designs a personalized u-healthcare service system. The validity of the model used in this study is evaluated for the food and exercise recommendation in u-healthcare services.

文献类型: Article
作者关键词: Context information model; Ontology; Healthcare service; Personalized ubiquitous service

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基金资助致谢:

| 基金资助机构 | 授权号 |
| --- | --- |
| Basic Science Research Program through the National Research Foundation of Korea - Ministry of Education, Science and Technology | 2011-0008934 |

This research was supported by Basic Science Research Program through the National Research Foundation of Korea funded by the Ministry of Education, Science and Technology. (No. 2011-0008934)

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**第 37 条，共 395 条**

标题: Effect of magnetic field on Cu-water nanofluid heat transfer using GMDH-type neural network

作者: Sheikholeslami, M (Sheikholeslami, M.); Sheykholeslami, FB (Sheykholeslami, F. Bani); Khoshhal, S (Khoshhal, S.); Mola-Abasia, H (Mola-Abasia, H.); Ganji, DD (Ganji, D. D.); Rokni, HB (Rokni, Houman B.)

来源出版物: NEURAL COMPUTING &
APPLICATIONS 卷: 25 期: 1 页: 171-178 DOI: 10.1007/s00521-013-1459-y 出版年: JUL 2014
Web of Science 核心合集中的 "被引频次": 15
被引频次合计: 15

摘要: Heat transfer of Cu-water nanofluid over a stretching cylinder in the presence of magnetic field has been investigated. The group method of data handling (GMDH) type neural networks (NNs) is used to calculate Nusselt number formulation. Results indicate that GMDH-type NN in comparison with fourth-order Runge-Kutta integration scheme provides an effective means of efficiently recognizing the patterns in data and accurately predicting a performance. The effects of nanoparticle volume fraction, magnetic parameter and Reynolds number on Nusselt number are studied by sensitivity analyses. The results show that Nusselt number is an increasing function of Reynolds number and volume fraction of nanoparticles while it is a decreasing function of magnetic parameter. As volume fraction of nanoparticles increases, the effect of this parameter on Nusselt number also increases, but opposite behavior is obtained for magnetic parameter and Reynolds number.

文献类型: Article
作者关键词: GMDH; Magnetohydrodynamic; Stretching cylinder; Nanofluid; Heat transfer
KeyWords Plus: NATURAL-CONVECTION; FLOW; ENCLOSURE; DECOMPOSITION; PREDICTION; CYLINDER; DESIGN

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**第 38 条，共 395 条**

**标题:** Delay-Dependent Stability Criteria for Generalized Neural Networks With Two Delay Components
**作者:** Zhang, CK (Zhang, Chuan-Ke); He, Y (He, Yong); Jiang, L (Jiang, L.); Wu, QH (Wu, Q. H.); Wu, M (Wu, Min)
**来源出版物:** IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS **卷:** 25 **期:** 7 **页:** 1263-1276 **DOI:** 10.1109/TNNLS.2013.2284968 **出版年:** JUL 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5
**摘要:** This paper investigates the delay-dependent stability for generalized continuous neural networks with time-varying delays. A novel Lyapunov-Krasovskii functional (LKF) that considers more information on activation functions of delayed neural networks and delay upper bounds is developed. Simultaneously, most commonly used techniques for treating the derivative of the LKF are reviewed and compared with each other. With the way of introducing slack matrices, those techniques are classified into two categories, including free-weighting matrix (FWM)-based techniques and reciprocally convex combination-based techniques. It is found that the introduced slack matrices play an important role in conservatism reducing and those four types of FWM-based methods lead to same results and are equivalent. Moreover, the obtained criteria are extended to the system with a single time-varying delay. Two numerical examples are given to verify the effectiveness of the proposed method.
**文献类型:** Article
**作者关键词:** Generalized neural networks; linear matrix inequality (LMI); Lyapunov-Krasovskii functional (LKF); stability analysis; time-varying delays
**KeyWords Plus:** TIME-VARYING DELAYS; GLOBAL ASYMPTOTIC STABILITY; LOAD FREQUENCY CONTROL; AUGMENTED LKF APPROACH; EXPONENTIAL STABILITY; DISTRIBUTED DELAY; LINEAR-SYSTEMS; DISCRETE; STATE
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61125301<br>61210011 |

This work was supported by the National Natural Science Foundation of China under Grant 61125301 and Grant 61210011.

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**第 39 条，共 395 条**

**标题:** Routing and spectrum allocation algorithms for elastic optical networks with dedicated path protection
**作者:** Walkowiak, K (Walkowiak, Krzysztof); Klinkowski, M (Klinkowski, Miroslaw); Rabiega, B (Rabiega, Bartosz); Goscien, R (Goscien, Roza)
**来源出版物:** OPTICAL SWITCHING AND NETWORKING **卷:** 13 **页:** 63-75 **DOI:** 10.1016/j.osn.2014.02.002 **出版年:** JUL 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4
**摘要:** Elastic optical network (EON) architectures have been recently proposed as a candidate solution for provisioning of both huge bandwidth and flexible connections in next generation optical networks. In this paper, we focus on survivable EON scenarios and, in particular, we address an offline problem of routing and spectrum allocation (RSA) with dedicated path protection (DPP) in EON. We formulate RSA/DPP as an Integer Linear Programming (ILP) problem. Since RSA is a difficult problem itself, we propose to apply a metaheuristic approach to provide near-optimal solutions to RSA/DPP. Namely, we develop a Tabu Search-based algorithm (TS), and a hybrid Adaptive Frequency Assignment-TS (AFA/TS) algorithm. We investigate the efficiency of the algorithms for a set of network and DPP scenarios and we show that the proposed algorithms outperform other reference algorithms. Eventually, we present some comparative results for different path protection scenarios. (C) 2014 Elsevier B.V. All rights reserved.
**文献类型:** Article
**作者关键词:** Elastic optical network; Routing and spectrum allocation; Dedicated path protection; Optimization

algorithm

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Polish National Science Centre (NCN) | DEC-2012/07/B/ST7/01215 |
| NCN | DEC-2011/01/D/ST7/05884 |
| European Commission (EC) under the 7th Framework Programme (FP7) project IDEALIST | 317999 |

This work was supported in part by the Polish National Science Centre (NCN) under Grant DEC-2012/07/B/ST7/01215. In addition, the work of Miroslaw Klinkowski and Roza Goscien was supported in part by NCN under Grant DEC-2011/01/D/ST7/05884 and by the European Commission (EC) under the 7th Framework Programme (FP7) project IDEALIST, Grant Agreement Number 317999.

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**第 40 条，共 395 条**

**标题:** Anonymous authentication protocol based on elliptic curve Diffie-Hellman for wireless access networks

**作者:** Hsieh, WB (Hsieh, Wen-Bin); Leu, JS (Leu, Jenq-Shiou)

**来源出版物:** WIRELESS COMMUNICATIONS & MOBILE COMPUTING **卷:** 14 **期:** 10 **页:** 995-1006 **DOI:** 10.1002/wcm.2252 **出版年:** JUL 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** Anonymous channel tickets have been proposed as a way to provide user anonymity and to reduce the overhead of re-authentication for authentication in wireless environments. Chen etal. proposed a secure and efficient protocol, based on a protocol proposed by Yang etal., which is resistant to guessing attacks on networks from which users' secret keys are easy to obtain. However, their scheme is time-consuming in the phases of ticket issuing and authentication. Furthermore, a malicious attacker can utilize the expired time, Texp, to launch a denial of authentication (DoA) attack, which is a type of denial of service attack. Because Texp is exposed to any user, it would be easy to launch a DoA attack that could make the scheme impractical. To resist against DoAs that the scheme of Chen etal. might suffer, we propose an improved scheme based on elliptic curve cryptography in this paper. Our scheme not only reduces time cost but also enhances security. The basis of the proposed scheme is the elliptic curve discrete logarithm problem. The operations of points of an elliptic curve are faster and use fewer bits to achieve the same level of security. Therefore, our scheme is more suitable for mobile devices, which have limited computing power and storage. Copyright (c) 2012 John Wiley & Sons, Ltd.

**文献类型:** Article

**作者关键词:** anonymous authentication; denial of authentication; elliptic curve Diffie-Hellman

**KeyWords Plus:** SCHEME; CHANNEL; COMMUNICATION; ENVIRONMENTS; SECURITY; PRIVACY

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**第 41 条，共 395 条**

**标题:** Fast and accurate near-duplicate image search with affinity propagation on the ImageWeb

**作者:** Xie, LX (Xie, Lingxi); Tian, Q (Tian, Qi); Zhou, WA (Zhou, Wengang); Zhang, B (Zhang, Bo)

**来源出版物:** COMPUTER VISION AND IMAGE UNDERSTANDING **卷:** 124 **特刊:** SI **页:** 31-41 **DOI:** 10.1016/j.cviu.2013.12.011 **出版年:** JUL 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Near-duplicate image search in very large Web databases has been a hot topic in recent years. In the traditional methods, the Bag-of-Visual-Words (BoVW) model and the inverted index structure are very widely adopted. Despite the simplicity, efficiency and scalability, these algorithms highly depends on the accurate matching of local features. However, there are many reasons in real applications that limit the descriptive power of low-level features, and therefore cause the search results suffer from unsatisfied precision and recall. To overcome these shortcomings, it is reasonable to re-rank the initial search results using some post-processing approaches, such as spatial verification, query expansion and diffusion-based algorithms.

In this paper, we investigate the re-ranking problem from a graph-based perspective. We construct ImageWeb, a

sparse graph consisting of all the images in the database, in which two images are connected if and only if one is ranked among the top of another's initial search result. Based on the ImageWeb, we use HITS, a query-dependent algorithm to re-rank the images according to the affinity values. We verify that it is possible to discover the nature of image relationships for search result refinement without using any handcrafted methods such as spatial verification. We also consider some tradeoff strategies to intuitively guide the selection of searching parameters. Experiments are conducted on the large-scale image datasets with more than one million images. Our algorithm achieves the state-of-the-art search performance with very fast speed at the online stages. (C) 2014 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Large-scale image search; ImageWeb; Graph propagation; Search process tradeoff

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Basic Research Program (973 Program) of China | 2013CB329403<br>2012CB316301 |
| National Natural Science Foundation of China | 61332007<br>61273023<br>91120011 |
| Beijing Natural Science Foundation | 4132046 |
| Tsinghua University Initiative Scientific Research Program | 20121088071 |
| ARO | W911NF-12-1-0057 |
| NEC Laboratories of America | |
| UTSA START-R Research | |
| National Science Foundation of China (NSFC) | 61128007 |
| Central Universities | |
| University of Science and Technology of China | |

This work was supported by the National Basic Research Program (973 Program) of China (Grant Nos. 2013CB329403 and 2012CB316301), the National Natural Science Foundation of China (Grant No. 61332007, 61273023 and 91120011), the Beijing Natural Science Foundation (Grant No. 4132046), and the Tsinghua University Initiative Scientific Research Program (Grant No. 20121088071). This work was also supported in part to Dr. Qi Tian by ARO grant W911NF-12-1-0057, Faculty Research Awards by NEC Laboratories of America, and 2012 UTSA START-R Research Award respectively. This work was also supported in part by National Science Foundation of China (NSFC) 61128007. This work was also supported in part to Dr. Zhou by the Fundamental Research Funds for the Central Universities and the start-up funding from the University of Science and Technology of China.

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**第 42 条，共 395 条**

**标题:** Trends in big data analytics

**作者:** Kambatla, K (Kambatla, Karthik); Kollias, G (Kollias, Giorgos); Kumar, V (Kumar, Vipin); Grama, A (Grama, Ananth)

**来源出版物:** JOURNAL OF PARALLEL AND DISTRIBUTED COMPUTING **卷:** 74 **期:** 7 **页:** 2561-2573 **DOI:** 10.1016/j.jpdc.2014.01.003 **出版年:** JUL 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** One of the major applications of future generation parallel and distributed systems is in big-data analytics. Data repositories for such applications currently exceed exabytes and are rapidly increasing in size. Beyond their sheer magnitude, these datasets and associated applications' considerations pose significant challenges for method and software development. Datasets are often distributed and their size and privacy considerations warrant distributed

techniques. Data often resides on platforms with widely varying computational and network capabilities. Considerations of fault-tolerance, security, and access control are critical in many applications (Dean and Ghemawat, 2004; Apache hadoop). Analysis tasks often have hard deadlines, and data quality is a major concern in yet other applications. For most emerging applications, data-driven models and methods, capable of operating at scale, are as-yet unknown. Even when known methods can be scaled, validation of results is a major issue. Characteristics of hardware platforms and the software stack fundamentally impact data analytics. In this article, we provide an overview of the state-of-the-art and focus on emerging trends to highlight the hardware, software, and application landscape of big-data analytics. 

**文献类型:** Article

**作者关键词:** Big-data; Analytics; Data centers; Distributed systems

**KeyWords Plus:** SYSTEMS; MODEL

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**第 43 条，共 395 条**

**标题:** A secure ECC-based RFID authentication scheme integrated with ID-verifier transfer protocol

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**来源出版物:** AD HOC NETWORKS **卷:** 18 **特刊:** SI **页:** 133-146 **DOI:** 10.1016/j.adhoc.2013.02.004 **出版年:** JUL 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** IoT (Internet of Things) is a type of network where ICT (Information and Communication Technology) links any physical objects to the internet to perform information exchange. Owing to the congenital advantages RFID is expected to play a key role as enabling identification technology in IoT. At the same time, its integration with sensing technologies brings wide applicability in many productive sectors. On the other hand, security appears to be one of the most challenging areas about designing the RFID system. The problems of authentication and privacy are fundamental to RFID security. It is well known that elliptic curve cryptosystem (ECC) based algorithms would be best choice among PKC algorithms due to their small key sizes and efficient computations. In this paper, we proposed a secure ECC-based RFID authentication scheme integrated with ID-verifier transfer protocol. The proposed scheme can achieve mutual authentication and satisfy the essential requirements of RFID system. Performance evolution and function comparison demonstrate that the proposed scheme is well suited for RFID tags with the scarceness of resources. 

**文献类型:** Article

**作者关键词:** Internet-of-Things (IoT); RFID; Public-key cryptographic (PKC); Elliptic curve cryptosystem (ECC); ID-verifier

**KeyWords Plus:** WIRELESS SENSOR NETWORKS; QUADRATIC RESIDUES; PRIVACY; SYSTEMS; TAGS

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**第 44 条，共 395 条**

**标题:** Distance and similarity measures for hesitant fuzzy linguistic term sets and their application in multi-criteria decision making

**作者:** Liao, HC (Liao, Huchang); Xu, ZS (Xu, Zeshui); Zeng, XJ (Zeng, Xiao-Jun)

**来源出版物:** INFORMATION SCIENCES **卷:** 271 **页:** 125-142 **DOI:** 10.1016/j.ins.2014.02.125 **出版年:** JUL 1 2014

**Web of Science 核心合集中的 "被引频次":** 13

**被引频次合计:** 13

**摘要:** The hesitant fuzzy linguistic term sets (HFLTSs), which can be used to represent an expert's hesitant preferences when assessing a linguistic variable, increase the flexibility of eliciting and representing linguistic information. The HFLTSs have attracted a lot of attention recently due to their distinguished power and efficiency in representing uncertainty and vagueness within the process of decision making. To enhance and extend the applicability of HFLTSs, this paper investigates and develops different types of distance and similarity measures for HFLTSs. The paper first proposes a family of distance and similarity measures between two HFLTSs. Then a variety of weighted or ordered weighted distance and similarity measures between two collections of HFLTSs are proposed

and analyzed for discrete and continuous cases respectively. After that, the application of these measures to multi-criteria decision making problems is given. Based on the proposed distance and similarity measures, the satisfaction degrees for different alternatives are established and are then used to rank alternatives in multi-criteria decision making. Finally a practical example concerning the evaluation of the quality of movies is given to illustrate the applicability and advantage of the proposed approach and the differences between the proposed distance and similarity measures. (C) 2014 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Hesitant fuzzy linguistic term set; Distance measure; Similarity measure; Multi-criteria decision making

**KeyWords Plus:** REPRESENTATION MODEL; PREFERENCE RELATIONS; INFORMATION; AGGREGATION; CONSISTENCY; OPERATORS; WORDS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61273209 |
| Excellent Ph.D. Thesis Foundation of Shanghai Jiao Tong University | 20131216 |
| Scholarship from China Scholarship Council | 201306230047 |

The authors would like to thank the editors and the anonymous referees for their insightful and constructive comments and suggestions that have led to this improved version of the paper. The work was supported in part by the National Natural Science Foundation of China (No. 61273209), the Excellent Ph.D. Thesis Foundation of Shanghai Jiao Tong University (No. 20131216), and the Scholarship from China Scholarship Council (No. 201306230047).

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**第 45 条，共 395 条**

**标题:** SOAPdenovo-Trans: de novo transcriptome assembly with short RNA-Seq reads

**作者:** Xie, YL (Xie, Yinlong); Wu, GX (Wu, Gengxiong); Tang, JB (Tang, Jingbo); Luo, RB (Luo, Ruibang); Patterson, J (Patterson, Jordan); Liu, SL (Liu, Shanlin); Huang, WH (Huang, Weihua); He, GZ (He, Guangzhu); Gu, SC (Gu, Shengchang); Li, SK (Li, Shengkang); Zhou, X (Zhou, Xin); Lam, TW (Lam, Tak-Wah); Li, YR (Li, Yingrui); Xu, X (Xu, Xun); Wong, GKS (Wong, Gane Ka-Shu); Wang, J (Wang, Jun)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 12 **页:** 1660-1666 **DOI:** 10.1093/bioinformatics/btu077 **出版年:** JUN 15 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** Motivation: Transcriptome sequencing has long been the favored method for quickly and inexpensively obtaining a large number of gene sequences from an organism with no reference genome. Owing to the rapid increase in throughputs and decrease in costs of next- generation sequencing, RNA-Seq in particular has become the method of choice. However, the very short reads (e.g. 2 x 90 bp paired ends) from next generation sequencing makes de novo assembly to recover complete or full-length transcript sequences an algorithmic challenge.
Results: Here, we present SOAPdenovo-Trans, a de novo transcriptome assembler designed specifically for RNA-Seq. We evaluated its performance on transcriptome datasets from rice and mouse. Using as our benchmarks the known transcripts from these well-annotated genomes (sequenced a decade ago), we assessed how SOAPdenovo-Trans and two other popular transcriptome assemblers handled such practical issues as alternative splicing and variable expression levels. Our conclusion is that SOAPdenovo-Trans provides higher contiguity, lower redundancy and faster execution.

**文献类型:** Article

**KeyWords Plus:** RECONSTRUCTION; REVEALS; GENOME

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| State Key Development Program for Basic Research of China-973 Program | 2011CB809202 |
| Shenzhen Key Laboratory of Transomics Biotechnologies | CXB201108250096A |
| China National GeneBank | |
| 1000 plants (1KP) initiative - Alberta Ministry of Enterprise and Advanced Education | |
| Alberta Innovates Technology Futures (AITF) Innovates Centre of Research Excellence: (iCORE) | |
| Musea Ventures | |

The State Key Development Program for Basic Research of China-973 Program (NO. 2011CB809202); Shenzhen Key Laboratory of Transomics Biotechnologies (CXB201108250096A); China National GeneBank; and the 1000 plants (1KP) initiative, which is led by G.K.S.W. and funded by the Alberta Ministry of Enterprise and Advanced Education, Alberta Innovates Technology Futures (AITF) Innovates Centre of Research Excellence: (iCORE), and Musea Ventures.

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**第 46 条，共 395 条**

**标题:** ZDOCK server: interactive docking prediction of protein-protein complexes and symmetric multimers

**作者:** Pierce, BG (Pierce, Brian G.); Wiehe, K (Wiehe, Kevin); Hwang, H (Hwang, Howook); Kim, BH (Kim, Bong-Hyun); Vreven, T (Vreven, Thom); Weng, ZP (Weng, Zhiping)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 12 **页:** 1771-1773 **DOI:** 10.1093/bioinformatics/btu097 **出版年:** JUN 15 2014

**Web of Science 核心合集中的 "被引频次":** 11

**被引频次合计:** 11

**摘要:** Protein-protein interactions are essential to cellular and immune function, and in many cases, because of the absence of an experimentally determined structure of the complex, these interactions must be modeled to obtain an understanding of their molecular basis. We present a user-friendly protein docking server, based on the rigidbody docking programs ZDOCK and M-ZDOCK, to predict structures of protein-protein complexes and symmetric multimers. With a goal of providing an accessible and intuitive interface, we provide options for users to guide the scoring and the selection of output models, in addition to dynamic visualization of input structures and output docking models. This server enables the research community to easily and quickly produce structural models of protein-protein complexes and symmetric multimers for their own analysis.

**文献类型:** Article

**KeyWords Plus:** WEB SERVER; PERFORMANCE; CAPRI; ZRANK

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Institutes of Health | GM084884 |

National Institutes of Health (GM084884).

**第 47 条，共 395 条**

**标题:** CheMPS2: A free open-source spin-adapted implementation of the density matrix renormalization group for ab initio quantum chemistry

**作者:** Wouters, S (Wouters, Sebastian); Poelmans, W (Poelmans, Ward); Ayers, PW (Ayers, Paul W.); Van Neck, D (Van Neck, Dimitri)

**来源出版物:** COMPUTER PHYSICS COMMUNICATIONS **卷:** 185 **期:** 6 **页:** 1501-1514 **DOI:** 10.1016/j.cpc.2014.01.019 **出版年:** JUN 2014

**Web of Science 核心合集中的 "被引频次":** 16

**被引频次合计:** 16

**摘要:** The density matrix renormalization group (DMRG) has become an indispensable numerical tool to find exact eigenstates of finite-size quantum systems with strong correlation. In the fields of condensed matter, nuclear structure and molecular electronic structure, it has significantly extended the system sizes that can be handled compared to full configuration interaction, without losing numerical accuracy. For quantum chemistry (QC), the most efficient implementations of DMRG require the incorporation of particle number, spin and point group symmetries in the underlying matrix product state (MPS) ansatz, as well as the use of so-called complementary operators. The symmetries introduce a sparse block structure in the MPS ansatz and in the intermediary contracted tensors. If a symmetry is non-abelian, the Wigner-Eckart theorem allows to factorize a tensor into a Clebsch-Gordan coefficient and a reduced tensor. In addition, the fermion signs have to be carefully tracked. Because of these challenges, implementing DMRG efficiently for QC is not straightforward. Efficient and freely available implementations are therefore highly desired. In this work we present CheMPS2, our free open-source spin-adapted implementation of DMRG for ab initio QC. Around CheMPS2, we have implemented the augmented Hessian Newton-Raphson complete active space self-consistent field method, with exact Hessian. The bond dissociation curves of the 12 lowest states of the carbon dimer were obtained at the DMRG(28 orbitals, 12 electrons, D-SU(2) = 2500)/cc-pVDZ level of theory. The contribution of Is core correlation to the X-1 Sigma(+)(g) bond dissociation curve of the carbon dimer was estimated by comparing energies at the DMRG(36o, 12e, D-SU(2) = 2500)/cc-pCVDZ and DMRG-SCF(34o, 8e, D-SU(2) = 2500)/cc-pCVDZ levels of theory.
Program summary
Program title: CheMPS2
Catalogue identifier: AESE_v1_0
Program summary URL:http://cpc.cs.qub.ac.uk/summaries/AESE_v1_0.html
Program obtainable from: CPC Program Library, Queen's University, Belfast, N. Ireland
Licensing provisions: GNU General Public License, version 2
No. of lines in distributed program, including test data, etc.: 131472
No. of bytes in distributed program, including test data, etc.: 1645700 Distribution format: tar.gz
Programming language: C++.
Computer: x86-64.
Operating system: Scientific Linux 6.0.
RAM: 10 MB-64 GB
External routines: Basic Linear Algebra Subprograms (BIAS), Linear Algebra Package (LAPACK), GNU Scientific Library (GSL), and Hierarchical Data Format Release 5 (HDF5)
Nature of problem: The many-body Hilbert space grows exponentially with the number of single-particle states. Exact diagonalization solvers can therefore only handle small systems, of up to 18 electrons in 18 orbitals. Interesting active spaces are often significantly larger.
Solution method: The density matrix renormalization group allows the extension of the size of active spaces, for which numerically exact solutions can be found, to about 40 electrons in 40 orbitals. In addition, it provides a rigorous variational upper bound to energies, as it has an underlying wavefunction ansatz, the matrix product state.
Restrictions: Our implementation of the density matrix renormalization. group is spin-adapted. This means that targeted eigenstates in the active space are exact eigenstates of the total electronic spin operator. Hamiltonians which break this symmetry (a magnetic field term for example) cannot be handled by our code. As electron repulsion integrals in Gaussian basis sets have eightfold permutation symmetry, we have used this property in our code.
Unusual features: The nature of the matrix product state ansatz allows for exact spin coupling. In CheMPS2, the total electronic spin is imposed (not just the spin projection), in addition to the particle-number and abelian point-group symmetries. Running time: The running time depends on the size of the targeted active space, the number of desired eigenstates, their symmetry, the density of states, the individual orbital symmetries, the orbital ordering, the desired level of convergence, and the chosen convergence scheme. To converge a single point of one of the dissociation curves of the carbon dimer (D-infinity h -> D-2h symmetry) in the cc-pVDZ basis (28 orbitals; their ordering is described in Section 5.3) with 2500 reduced renormalized basis states (see the convergence scheme in Section 5.4; the variational energy then lies 0.1 mE(h) above the fully converged result) takes about 8 h on a single node with a

dual-socket octa-core Intel Xeon Sandy Bridge (E5-2670) (16 cores at 2.6 GHz), and requires 6 GB of RAM. (C) 2014 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Density matrix renormalization group; Matrix product state; SU(2) spin symmetry; Abelian point group symmetry; Ab initio quantum chemistry

**KeyWords Plus:** POTENTIAL-ENERGY CURVES; ELECTRONIC STATES; WAVE-FUNCTIONS; QC-DMRG; C-2; ALGORITHM; ENTANGLEMENT; MOLECULE; SPACE; BOND

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Research Foundation Flanders (FWO Vlaanderen) | |
| Ghent University | |
| Hercules Foundation | |
| Flemish Government-department EWI | |
| NSERC | |

S.W. received a Ph.D. fellowship from the Research Foundation Flanders (FWO Vlaanderen). W.P. acknowledges support from a project funded by the Research Foundation Flanders (FWO Vlaanderen). P.W.A. acknowledges support from NSERC. This work was carried out using the Stevin Supercomputer Infrastructure at Ghent University, funded by Ghent University, the Hercules Foundation and the Flemish Government-department EWI. We would like to thank Veronique Van Speybroeck for providing extra resources on the Stevin Supercomputer Infrastructure, and Wim Dewitte for designing the cover of this month's issue.

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**第 48 条，共 395 条**

**标题:** ShengBTE: A solver of the Boltzmann transport equation for phonons

**作者:** Li, W (Li, Wu); Carrete, J (Carrete, Jesus); Katcho, NA (Katcho, Nebil A.); Mingo, N (Mingo, Natalio)

**来源出版物:** COMPUTER PHYSICS COMMUNICATIONS **卷:** 185 **期:** 6 **页:** 1747-1758 **DOI:** 10.1016/j.cpc.2014.02.015 **出版年:** JUN 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** ShengETE is a software package for computing the lattice thermal conductivity of crystalline bulk materials and nanowires with diffusive boundary conditions. It is based on a full iterative solution to the Boltzmann transport equation. Its main inputs are sets of second- and third-order interatomic force constants, which can be calculated using third-party ab-initio packages. Dirac delta distributions arising from conservation of energy are approximated by Gaussian functions. A locally adaptive algorithm is used to determine each process-specific broadening parameter, which renders the method fully parameter free. The code is free software, written in Fortran and parallelized using MPI. A complementary Python script to help compute third-order interatomic force constants from a minimum number of ab-initio calculations, using a real-space finite-difference approach, is also publicly available for download. Here we discuss the design and implementation of both pieces of software and present results for three example systems: Si, InAs and lonsdaleite.
Program summary
Program title: ShengBTE
Catalogue identifier: AESL_v1_0
Program summary URL: http://cpc.cs.qub.ac.uk/summaries/AESL_v1_0.html
Program obtainable from: CPC Program Library, Queen's University, Belfast, N. Ireland
Licensing provisions: GNU General Public License, version 3
No. of lines in distributed program, including test data, etc.: 292 052
No. of bytes in distributed program, including test data, etc.: 1 989 781
Distribution format: tar.gz Programming language: Fortran 90, MPI.
Computer: Non-specific.
Operating system: Unix/Linux.
Has the code been vectorized or parallelized?: Yes, parallelized using MPI.
RAM: Up to several GB
Classification: 7.9.

External routines: LAPACK, MPI, spglib (http://spglib.sourceforge.net/)
Nature of problem:
Calculation of thermal conductivity and related quantities, determination of scattering rates for allowed three-phonon processes
Solution method:
Iterative solution, locally adaptive Gaussian broadening
Running time:
Up to several hours on several tens of processors 
**文献类型:** Article
**作者关键词:** Boltzmann transport equation; Thermal conductivity; Phonon
**KeyWords Plus:** LATTICE THERMAL-CONDUCTIVITY; GENERALIZED GRADIENT APPROXIMATION; LOW TEMPERATURES; FORCE-CONSTANTS; DIAMOND; DYNAMICS; DESIGN; MODEL; INAS; MGO
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**第 49 条，共 395 条**
**标题:** SARAH 4: A tool for (not only SUSY) model builders
**作者:** Staub, F (Staub, Florian)
**来源出版物:** COMPUTER PHYSICS COMMUNICATIONS **卷:** 185 **期:** 6 **页:** 1773-1790 **DOI:** 10.1016/j.cpc.2014.02.018 **出版年:** JUN 2014
**Web of Science 核心合集中的 "被引频次":** 15
**被引频次合计:** 15
**摘要:** We present the new version of the Mathemat ca package SARAH which provides the same features for a non-supersymmetric model as previous versions for supersymmetric models. This includes an easy and straightforward definition of the model, the calculation of all vertices, mass matrices, tadpole equations, and self-energies. Also the two-loop renormalization group equations for a general gauge theory are now included and have been validated with the independent Python code PyR@TE. Model files for FeynArt s, CalcHep/CompHep, WHIZARD and in the UFO format can be written, and source code for SPheno for the calculation of the mass spectrum, a set of precision observables, and the decay widths and branching ratios of all states can be generated. Furthermore, the new version includes routines to output model files for Vevacious for both, supersymmetric and non-supersymmetric, models. Global symmetries are also supported with this version and by linking Susyno the handling of Lie groups has been improved and extended. Program summary
Program title: SARAH
Catalogue identifier: AEIB_v3_0
Program summary URL: http://cpc.cs.qub.ac.uk/summaries/AEIB_v3_0.html
Program obtainable from: CPC Program Library, Queen's University, Belfast, N. Ireland
Licensing provisions: Standard CPC licence, http://cpc.cs.qub.ac.uk/licence/licence.html
No. of lines in distributed program, including test data, etc.: 271 795
No. of bytes in distributed program, including test data, etc.: 2 612 867
Distribution format: tar.gz
Programming language: Mathematica.
Computer: All for which Mathematica is available.
Operating system: All for which Mathematica is available.
Classification: 11.1, 11.6.
Catalogue identifier of previous version: AEIB_v2_1
Journal reference of previous version: Comput. Phys. Commun. 184 (2013) 2604
Does the new version supersede the previous version?: Yes, the new version includes all known features of the previous versions but also provides the new features mentioned below.
Nature of problem:
A supersymmetric model is usually characterized by the particle content, the gauge sector and the superpotential. It is a time consuming process to obtain all necessary information for phenomenological studies from these basic ingredients.
Solution method:
Non-supersymmetric models are supported by the new possibility to define not only chiral superfields but also component fields. The renormalization group equations (RGEs) for a non-supersymmetric models are calculated by using the generic formulae for a general quantum field theory.
Reasons for new version:
New features in the definition of models and a full support of non-supersymmetric models. New output for Vevacious.

Summary of revisions:
Support of non-supersymmetric models; calculation of renormalization group equations for a general gauge theory; link to Susyno for handling of non-SU(N) gauge groups; support of global symmetries; output of model files for Vevacious; support of aligned VEVs; calculation of gauge dependent parts of RGEs for VEVs in running of supersymmetric and non-supersymmetric models.
Restrictions:
Only renormalizable terms in the Lagrangian are supported. No support of fields with spin 2 or 3/2.
Unusual features:
Calculation of non-supersymmetric RGEs includes effects of kinetic mixing as well as gauge dependence of running vacuum expectation values. SARAH is the first tool which can automatically create model files for Vevacious. Fully automatized derivation of all terms in the Lagrangian which are fixed by gauge invariance.
Running time:
Loading the Standard Model: 1.6 s; calculation of all vertices: 11.8 s; calculation of all RGEs: 130.2 s; output for Vevacious model files: 0.1 s; output of model files in UFO format: 0.8 s; output of model files for FeynArts: 0.1 s; output of model files for CalcHep: 0.8 s; output of model files for WHIZARD: 3.5 s; writing of source code for SPheno: 34.5 s. All times measured on Lenovo X220 with Intel(R) Core(TM) i7-2620M CPU @2.70 GHz. 

**文献类型:** Article

**作者关键词:** Model building; Gauge theory; Renormalization group equations; Vacuum constraints

**KeyWords Plus:** RENORMALIZATION-GROUP EQUATIONS; QUANTUM-FIELD THEORY; AUTOMATIC-GENERATION; FEYNMAN-RULES; COUPLINGS; PACKAGE; SPHENO; FEYNARTS; WHIZARD; LANHEP

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**第 50 条，共 395 条**

**标题:** Contextual Query Expansion for Image Retrieval

**作者:** Xie, HT (Xie, Hongtao); Zhang, YD (Zhang, Yongdong); Tan, JL (Tan, Jianlong); Guo, L (Guo, Li); Li, JT (Li, Jintao)

**来源出版物:** IEEE TRANSACTIONS ON MULTIMEDIA **卷:** 16 **期:** 4 **页:** 1104-1114 **DOI:** 10.1109/TMM.2014.2305909 **出版年:** JUN 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4

**摘要:** In this paper, we study the problem of image retrieval by introducing contextual query expansion to address the shortcomings of bag-of-words based frameworks: semantic gap of visual word quantization, and the efficiency and storage loss due to query expansion. Our method is built on common visual patterns (CVPs), which are the distinctive visual structures between two images and have rich contextual information. With CVPs, two contextual query expansions on visual word-level and image-level are explored, respectively. For visual word-level expansion, we find contextual synonymous visual words (CSVWs) and expand a word in the query image with its CSVWs to boost retrieval accuracy. CSVWs are the words that appear in the same CVPs and have same contextual meaning, i.e. similar spatial layout and geometric transformations. For image-level expansion, the database images that have the same CVPs are organized by linked list and the images that have the same CVPs as the query image, but not included in the results are automatically expanded. The main computation of these two expansions is carried out offline, and they can be integrated into the inverted file and efficiently applied to all images in the dataset. Experiments conducted on three reference datasets and a dataset of one million images demonstrate the effectiveness and efficiency of our method.

**文献类型:** Article

**作者关键词:** Contextual query expansion; common visual patterns; image retrieval

**KeyWords Plus:** SEARCH; VIDEOS; SETS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Chinese Academy of Sciences | XDA06030602 |
| National High Technology Research and Development Program | 2011AA010705 |
| National Nature Science Foundation of China | 61303171<br>61100087 |
| Beijing New Star Project on Science Technology | 2007B071 |
| Natural Science Foundation of Beijing | 4112055 |

This work was supported in part by the "Strategic Priority Research Program" of the Chinese Academy of Sciences (XDA06030602), National High Technology Research and Development Program (2011AA010705), National Nature Science Foundation of China (61303171, 61100087); Beijing New Star Project on Science & Technology (2007B071); Natural Science Foundation of Beijing (4112055). The associate editor coordinating the review of this manuscript and approving it for publication was Prof. Nicu Sebe.

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**第 51 条，共 395 条**

**标题:** Data-driven design of robust fault detection system for wind turbines

**作者:** Yin, S (Yin, Shen); Wang, G (Wang, Guang); Karimi, HR (Karimi, Hamid Reza)

**来源出版物:** MECHATRONICS **卷:** 24 **期:** 4 **特刊:** SI **页:** 298-306 **DOI:** 10.1016/j.mechatronics.2013.11.009 **出版年:** JUN 2014

**Web of Science 核心合集中的 "被引频次":** 16

**被引频次合计:** 16

**摘要:** In this paper, a robust data-driven fault detection approach is proposed with application to a wind turbine benchmark. The main challenges of the wind turbine fault detection lie in its nonlinearity, unknown disturbances as well as significant measurement noise. To overcome these difficulties, a data-driven fault detection scheme is proposed with robust residual generators directly constructed from available process data. A performance index and an optimization criterion are proposed to achieve the robustness of the residual signals related to the disturbances. For the residual evaluation, a proper evaluation approach as well as a suitable decision logic is given to make a correct final decision. The effectiveness of the proposed approach is finally illustrated by simulations on the wind turbine benchmark model. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Data-driven; Fault detection; Wind turbine; Performance index; Optimization criterion; Robustness

**KeyWords Plus:** SUBSPACE IDENTIFICATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Nature Science Foundation | 61304102 |
| Norwegian Centre for Offshore Wind Energy (NORCOWE) from Research Council of Norway (RCN) | 193821/S60 |

This work is supported by National Nature Science Foundation under Grant No.61304102 and has been (partially) funded by Norwegian Centre for Offshore Wind Energy (NORCOWE) under grant 193821/S60 from Research Council of Norway (RCN). NORCOWE is a consortium with partners from industry and science, hosted by Christian Michelsen Research.

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**第 52 条，共 395 条**

**标题:** A robust smart card-based anonymous user authentication protocol for wireless communications

**作者:** Wen, FT (Wen, Fengtong); Susilo, W (Susilo, Willy); Yang, GM (Yang, Guomin)

**来源出版物:** SECURITY AND COMMUNICATION NETWORKS **卷:** 7 **期:** 6 **页:** 987-993 **DOI:** 10.1002/sec.816 **出版年:** JUN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Anonymous user authentication is an important but challenging task for wireless communications. In a recent paper, Das proposed a smart cardbased anonymous user authentication protocol for wireless communications. The

scheme can protect user privacy and is believed to be secure against a range of network attacks even if the secret information stored in the smart card is compromised. In this paper, we reanalyze the security of Das' scheme, and show that the scheme is in fact insecure against impersonation attacks. We then propose a new smart cardbased anonymous user authentication protocol for wireless communications. Compared with the existing schemes, our protocol uses a different user authentication mechanism, which does not require different entities to maintain a synchronized clock. We show that the proposed new protocol can provide stronger security and better efficiency and scalability than previous schemes.

**文献类型:** Article

**作者关键词:** remote user authentication; mobile computing; smart card; user anonymity; wireless network

**KeyWords Plus:** SCHEME; SECURITY; EXTENSION; NETWORKS; GSM

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**第 53 条，共 395 条**

**标题:** Comparing DNA integration site clusters with scan statistics

**作者:** Berry, CC (Berry, Charles C.); Ocwieja, KE (Ocwieja, Karen E.); Malani, N (Malani, Nirav); Bushman, FD (Bushman, Frederic D.)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 11 **页:** 1493-1500 **DOI:** 10.1093/bioinformatics/btu035 **出版年:** JUN 1 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Motivation: Gene therapy with retroviral vectors can induce adverse effects when those vectors integrate in sensitive genomic regions. Retroviral vectors are preferred that target sensitive regions less frequently, motivating the search for localized clusters of integration sites and comparison of the clusters formed by integration of different vectors. Scan statistics allow the discovery of spatial differences in clustering and calculation of false discovery rates providing statistical methods for comparing retroviral vectors.
Results: A scan statistic for comparing two vectors using multiple window widths is proposed with software to detect clustering differentials and compute false discovery rates. Application to several sets of experimentally determined HIV integration sites demonstrates the software. Simulated datasets of various sizes and signal strengths are used to determine the power to discover clusters and evaluate a convenient lower bound. This provides a toolkit for planning evaluations of new gene therapy vectors.

**文献类型:** Article

**KeyWords Plus:** GENE-THERAPY; VECTOR INTEGRATION; HUMAN GENOME; EVENTS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Institutes of Health | 2R01 AI052845<br>5R01 AI082020 |

National Institutes of Health (2R01 AI052845 and 5R01 AI082020).

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**第 54 条，共 395 条**

**标题:** iNuc-PseKNC: a sequence-based predictor for predicting nucleosome positioning in genomes with pseudo k-tuple nucleotide composition

**作者:** Guo, SH (Guo, Shou-Hui); Deng, EZ (Deng, En-Ze); Xu, LQ (Xu, Li-Qin); Ding, H (Ding, Hui); Lin, H (Lin, Hao); Chen, W (Chen, Wei); Chou, KC (Chou, Kuo-Chen)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 11 **页:** 1522-1529 **DOI:** 10.1093/bioinformatics/btu083 **出版年:** JUN 1 2014

**Web of Science 核心合集中的 "被引频次":** 28
**被引频次合计:** 30
**摘要:** Motivation: Nucleosome positioning participates in many cellular activities and plays significant roles in regulating cellular processes. With the avalanche of genome sequences generated in the post-genomic age, it is highly desired to develop automated methods for rapidly and effectively identifying nucleosome positioning. Although some computational methods were proposed, most of them were species specific and neglected the intrinsic local structural properties that might play important roles in determining the nucleosome positioning on a DNA sequence.
Results: Here a predictor called 'iNuc-PseKNC' was developed for predicting nucleosome positioning in Homo sapiens, Caenorhabditis elegans and Drosophila melanogaster genomes, respectively. In the new predictor, the samples of DNA sequences were formulated by a novel feature-vector called 'pseudo k-tuple nucleotide composition', into which six DNA local structural properties were incorporated. It was observed by the rigorous cross-validation tests on the three stringent benchmark datasets that the overall success rates achieved by iNuc-PseKNC in predicting the nucleosome positioning of the aforementioned three genomes were 86.27%, 86.90% and 79.97%, respectively. Meanwhile, the results obtained by iNuc-PseKNC on various benchmark datasets used by the previous investigators for different genomes also indicated that the current predictor remarkably outperformed its counterparts.
**文献类型:** Article
**KeyWords Plus:** AMINO-ACID-COMPOSITION; PROTEIN SUBCELLULAR LOCATION; SUPPORT VECTOR MACHINES; SIGNAL PEPTIDES; GENERAL-FORM; STRUCTURAL FEATURES; ABSOLUTE FREQUENCY; HIGH-RESOLUTION; CHOUS PSEAAC; DNA-SEQUENCE
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Nature Scientific Foundation of China | 61202256<br>61301260<br>61100092 |
| Nature Scientific Foundation of Hebei Province | C2013209105 |
| Fundamental Research Funds for the Central Universities | ZYGX2012J113<br>ZYGX2013J102 |

National Nature Scientific Foundation of China (grant numbers 61202256, 61301260 and 61100092); Nature Scientific Foundation of Hebei Province (grant number C2013209105); Fundamental Research Funds for the Central Universities (ZYGX2012J113, ZYGX2013J102).

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**第 55 条，共 395 条**

**标题:** Cooperative game theoretic approach using fuzzy Q-learning for detecting and preventing intrusions in wireless sensor networks
**作者:** Shamshirband, S (Shamshirband, Shahaboddin); Patel, A (Patel, Ahmed); Anuar, NB (Anuar, Nor Badrul); Kiah, MLM (Kiah, Miss Laiha Mat); Abraham, A (Abraham, Ajith)
**来源出版物:** ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE **卷:** 32 **页:** 228-241 **DOI:** 10.1016/j.engappai.2014.02.001 **出版年:** JUN 2014
**Web of Science 核心合集中的 "被引频次":** 8
**被引频次合计:** 8
**摘要:** Owing to the distributed nature of denial-of-service attacks, it is tremendously challenging to detect such malicious behavior using traditional intrusion detection systems in Wireless Sensor Networks (WSNs). In the current paper, a game theoretic method is introduced, namely cooperative Game-based Fuzzy Q-learning (G-FQL). G-FQL adopts a combination of both the game theoretic approach and the fuzzy Q-learning algorithm in WSNs. It is a three-player strategy game consisting of sink nodes, a base station, and an attacker. The game performs at any time a victim node in the network receives a flooding packet as a DDoS attack beyond a specific alarm event threshold in WSN. The proposed model implements cooperative defense counter-attack scenarios for the sink node and the base station to operate as rational decision-maker players through a game theory strategy. In order to evaluate the

performance of the proposed model, the Low Energy Adaptive Clustering Hierarchy (LEACH) was simulated using NS-2 simulator. The model is subsequently compared against other existing soft computing methods, such as fuzzy logic controller, Q-learning, and fuzzy Q-learning, in terms of detection accuracy, counter-defense, network lifetime and energy consumption, to demonstrate its efficiency and viability. The proposed model's attack detection and defense accuracy yield a greater improvement than existing above mentioned machine learning methods. In contrast to the Markovian game theoretic, the proposed model operates better in terms of successful defense rate. (C) 2014 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Game theory; Cooperative game IDPS; Fuzzy Q-learning; Intrusion detection and prevention systems; Security; WSN

**KeyWords Plus:** OF-SERVICE ATTACKS; AD HOC NETWORKS; ENERGY-EFFICIENT; DETECTION SYSTEM; COUNTERMEASURES; PROTOCOLS; STRATEGY; DEFENSE; PATTERN; ACCESS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Malaysian Ministry of Education under the University of Malaya High Impact Research | UM.C/HIR/MOHE/FCSIT/12 |

This paper is financially supported by the Malaysian Ministry of Education under the University of Malaya High Impact Research Grant - UM.C/HIR/MOHE/FCSIT/12.

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**第 56 条，共 395 条**

**标题:** Patient-specific finite element modeling of the Cardiokinetix Parachute(A (R)) device: effects on left ventricular wall stress and function

**作者:** Lee, LC (Lee, Lik Chuan); Ge, L (Ge, Liang); Zhang, ZH (Zhang, Zhihong); Pease, M (Pease, Matthew); Nikolic, SD (Nikolic, Serjan D.); Mishra, R (Mishra, Rakesh); Ratcliffe, MB (Ratcliffe, Mark B.); Guccione, JM (Guccione, Julius M.)

**来源出版物:** MEDICAL & BIOLOGICAL ENGINEERING & COMPUTING **卷:** 52 **期:** 6 **页:** 557-566 **DOI:** 10.1007/s11517-014-1159-5 **出版年:** JUN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** The Parachute(A (R)) (Cardiokinetix, Inc., Menlo Park, California) is a catheter-based device intended to reverse left ventricular (LV) remodeling after antero-apical myocardial infarction. When deployed, the device partitions the LV into upper and lower chambers. To simulate its mechanical effects, we created a finite element LV model based on computed tomography (CT) images from a patient before and 6 months after Parachute(A (R)) implantation. Acute mechanical effects were determined by in silico device implantation (VIRTUAL-Parachute). Chronic effects of the device were determined by adjusting the diastolic and systolic material parameters to better match the 6-month post-implantation CT data and LV pressure data at end-diastole (ED) (POST-OP). Regional myofiber stress and pump function were calculated in each case. The principal finding is that VIRTUAL-Parachute was associated with a 61.2 % reduction in the lower chamber myofiber stress at ED. The POST-OP model was associated with a decrease in LV diastolic stiffness and a larger reduction in myofiber stress at the upper (27.1 %) and lower chamber (78.4 %) at ED. Myofiber stress at end-systole and stroke volume was little changed in the POST-OP case. These results suggest that the primary mechanism of Parachute(A (R)) is a reduction in ED myofiber stress, which may reverse eccentric post-infarct LV hypertrophy.

**文献类型:** Article

**作者关键词:** Myocardial infarction; Remodeling; Finite element method; Surgical ventricular restoration

**KeyWords Plus:** CHRONIC HEART-FAILURE; MYOCARDIAL-INFARCTION; MRI; RESTORATION;

MECHANICS; ANEURYSM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| NIH | R01-HL-084431<br>R01-HL-077921<br>R01-HL-118627 |

This study was supported by an unrestricted gift from Cardiokinetix and NIH grants R01-HL-084431 (Dr. Ratcliffe), R01-HL-077921 and R01-HL-118627 (Dr. Guccione).

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**第 57 条，共 395 条**

**标题:** Impulsive synchronization schemes of stochastic complex networks with switching topology: Average time approach

**作者:** Li, CJ (Li, Chaojie); Yu, WW (Yu, Wenwu); Huang, TW (Huang, Tingwen)

**来源出版物:** NEURAL NETWORKS **卷:** 54 **页:** 85-94 **DOI:** 10.1016/j.neunet.2014.02.013 **出版年:** JUN 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4

**摘要:** In this paper, a novel impulsive control law is proposed for synchronization of stochastic discrete complex networks with time delays and switching topologies, where average dwell time and average impulsive interval are taken into account. The side effect of time delays is estimated by Lyapunov-Razumikhin technique, which quantitatively gives the upper bound to increase the rate of Lyapunov function. By considering the compensation of decreasing interval, a better impulsive control law is recast in terms of average dwell time and average impulsive interval. Detailed results from a numerical illustrative example are presented and discussed. Finally, some relevant conclusions are drawn. (C) 2014 Elsevier Ltd. All rights reserved.

**文献类型:** Article
**作者关键词:** Impulsive synchronization; Stochastic complex networks; Switching topology; Average dwell time; Average impulsive interval
**KeyWords Plus:** FREE DYNAMICAL NETWORKS; EXPONENTIAL SYNCHRONIZATION; NEURAL-NETWORKS; REACTION-DIFFUSION; PINNING CONTROL; VARYING DELAYS; SYSTEMS; STABILITY; CONSENSUS; FEEDBACK

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| NPRP from the Qatar National Research Fund (Qatar Foundation) | NPRP 4-1162-1-181 |

This publication was made possible by NPRP grant # NPRP 4-1162-1-181 from the Qatar National Research Fund (a member of Qatar Foundation). The statements made herein are solely the responsibility of the authors.

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**第 58 条，共 395 条**

**标题:** A comprehensive survey: artificial bee colony (ABC) algorithm and applications

**作者:** Karaboga, D (Karaboga, Dervis); Gorkemli, B (Gorkemli, Beyza); Ozturk, C (Ozturk, Celal); Karaboga, N

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**来源出版物:** ARTIFICIAL INTELLIGENCE REVIEW **卷:** 42 **期:** 1 **页:** 21-57 **DOI:** 10.1007/s10462-012-9328-0 **出版年:** JUN 2014

**Web of Science 核心合集中的 "被引频次":** 39

**被引频次合计:** 40

**摘要:** Swarm intelligence (SI) is briefly defined as the collective behaviour of decentralized and self-organized swarms. The well known examples for these swarms are bird flocks, fish schools and the colony of social insects such as termites, ants and bees. In 1990s, especially two approaches based on ant colony and on fish schooling/bird flocking introduced have highly attracted the interest of researchers. Although the self-organization features are required by SI are strongly and clearly seen in honey bee colonies, unfortunately the researchers have recently started to be interested in the behaviour of these swarm systems to describe new intelligent approaches, especially from the beginning of 2000s. During a decade, several algorithms have been developed depending on different intelligent behaviours of honey bee swarms. Among those, artificial bee colony (ABC) is the one which has been most widely studied on and applied to solve the real world problems, so far. Day by day the number of researchers being interested in ABC algorithm increases rapidly. This work presents a comprehensive survey of the advances with ABC and its applications. It is hoped that this survey would be very beneficial for the researchers studying on SI, particularly ABC algorithm.

**文献类型:** Article

**作者关键词:** Swarm intelligence; Bee swarm intelligence; Artificial bee colony algorithm

**KeyWords Plus:** NONTRADITIONAL OPTIMIZATION ALGORITHMS; COMPACT MICROSTRIP ANTENNAS; NUMERICAL FUNCTION OPTIMIZATION; QUANTUM EVOLUTIONARY ALGORITHM; CALCULATING RESONANT-FREQUENCY; SHOP SCHEDULING PROBLEMS; VEHICLE-ROUTING PROBLEM; LOAD DISPATCH PROBLEM; OPTIMAL POWER-FLOW; SWARM INTELLIGENCE

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**第 59 条，共 395 条**

**标题:** FREQUENCY RECOGNITION IN SSVEP-BASED BCI USING MULTISET CANONICAL CORRELATION ANALYSIS

**作者:** Zhang, Y (Zhang, Yu); Zhou, GX (Zhou, Guoxu); Jin, J (Jin, Jing); Wang, XY (Wang, Xingyu); Cichocki, A (Cichocki, Andrzej)

**来源出版物:** INTERNATIONAL JOURNAL OF NEURAL SYSTEMS **卷:** 24 **期:** 4 **文献号:** 1450013 **DOI:** 10.1142/S0129065714500130 **出版年:** JUN 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Canonical correlation analysis (CCA) has been one of the most popular methods for frequency recognition in steady-state visual evoked potential (SSVEP)-based brain-computer interfaces (BCIs). Despite its efficiency, a potential problem is that using pre-constructed sine-cosine waves as the required reference signals in the CCA method often does not result in the optimal recognition accuracy due to their lack of features from the real electro-encephalo-gram (EEG) data. To address this problem, this study proposes a novel method based on multiset canonical correlation analysis (MsetCCA) to optimize the reference signals used in the CCA method for SSVEP frequency recognition. The MsetCCA method learns multiple linear transforms that implement joint spatial filtering to maximize the overall correlation among canonical variates, and hence extracts SSVEP common features from multiple sets of EEG data recorded at the same stimulus frequency. The optimized reference signals are formed by combination of the common features and completely based on training data. Experimental study with EEG data from 10 healthy subjects demonstrates that the MsetCCA method improves the recognition accuracy of SSVEP frequency in comparison with the CCA method and other two competing methods (multiway CCA (MwayCCA) and phase constrained CCA (PCCA)), especially for a small number of channels and a short time window length. The superiority indicates that the proposed MsetCCA method is a new promising candidate for frequency recognition in SSVEP-based BCIs.

**文献类型:** Article

**作者关键词:** Brain-computer interface (BCI); electroencephalogram (EEG); multiset canonical correlation; analysis (MsetCCA); steady-state visual evoked potential (SSVEP)

**KeyWords Plus:** BRAIN-COMPUTER-INTERFACE; EEG-BASED DIAGNOSIS; VISUAL-EVOKED POTENTIALS; ALZHEIMERS-DISEASE; ALGORITHM; CLASSIFICATION; METHODOLOGY; DISORDER; SYSTEM; SIGNAL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61305028<br>61074113<br>61203127<br>61103122<br>61202155 |
| Fundamental Research Funds for the Central Universities | WH1314023<br>WH1114038 |
| Shanghai Leading Academic Discipline Project | B504 |

The authors sincerely thank the editor and the anonymous reviewers for their insightful comments and suggestions that helped improve the paper. This study was supported in part by the National Natural Science Foundation of China under Grant 61305028, Grant 61074113, Grant 61203127, Grant 61103122, Grant 61202155, Fundamental Research Funds for the Central Universities Grant WH1314023, Grant WH1114038, and Shanghai Leading Academic Discipline Project B504.

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**第 60 条，共 395 条**

**标题:** Hesitant Fuzzy Sets: State of the Art and Future Directions

**作者:** Rodriguez, RM (Rodriguez, R. M.); Martinez, L (Martinez, L.); Torra, V (Torra, V.); Xu, ZS (Xu, Z. S.); Herrera, F (Herrera, F.)

**来源出版物:** INTERNATIONAL JOURNAL OF INTELLIGENT SYSTEMS **卷:** 29 **期:** 6 **特刊:** SI **页:** 495-524 **DOI:** 10.1002/int.21654 **出版年:** JUN 2014
**Web of Science 核心合集中的 "被引频次":** 9
**被引频次合计:** 9

**摘要:** The necessity of dealing with uncertainty in real world problems has been a long-term research challenge that has originated different methodologies and theories. Fuzzy sets along with their extensions, such as type-2 fuzzy sets, interval-valued fuzzy sets, and Atanassov's intuitionistic fuzzy sets, have provided a wide range of tools that are able to deal with uncertainty in different types of problems. Recently, a new extension of fuzzy sets so-called hesitant fuzzy sets has been introduced to deal with hesitant situations, which were not well managed by the previous tools. Hesitant fuzzy sets have attracted very quickly the attention of many researchers that have proposed diverse extensions, several types of operators to compute with such types of information, and eventually some applications have been developed. Because of such a growth, this paper presents an overview on hesitant fuzzy sets with the aim of providing a clear perspective on the different concepts, tools and trends related to this extension of fuzzy sets.

**文献类型:** Article
**KeyWords Plus:** GROUP DECISION-MAKING; LINGUISTIC TERM SETS; AGGREGATION OPERATORS; PREFERENCE RELATIONS; SIMILARITY MEASURES; BONFERRONI MEANS; INFORMATION; DISTANCE; MODEL; CONSISTENCY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| ERDF | |
| | TIN2012-31263 |

This paper was partially supported by the research Projects TIN2012-31263 and ERDF.

**第 61 条，共 395 条**

**标题:** BodyCloud: A SaaS approach for community Body Sensor Networks

**作者:** Fortino, G (Fortino, Giancarlo); Parisi, D (Parisi, Daniele); Pirrone, V (Pirrone, Vincenzo); Di Fatta, G (Di Fatta, Giuseppe)

**来源出版物:** FUTURE GENERATION COMPUTER SYSTEMS-THE INTERNATIONAL JOURNAL OF GRID COMPUTING AND ESCIENCE **卷:** 35 **页:** 62-79 **DOI:** 10.1016/j.future.2013.12.015 **出版年:** JUN 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Body Sensor Networks (BSNs) have been recently introduced for the remote monitoring of human activities in a broad range of application domains, such as health care, emergency management, fitness and behavior surveillance. BSNs can be deployed in a community of people and can generate large amounts of contextual data that require a scalable approach for storage, processing and analysis. Cloud computing can provide a flexible storage and processing infrastructure to perform both online and offline analysis of data streams generated in BSNs. This paper proposes BodyCloud, a SaaS approach for community BSNs that supports the development and deployment of Cloud-assisted BSN applications. BodyCloud is a multi-tier application-level architecture that integrates a Cloud computing platform and BSN data streams middleware. BodyCloud provides programming abstractions that allow the rapid development of community BSN applications. This work describes the general architecture of the proposed approach and presents a case study for the real-time monitoring and analysis of cardiac data streams of many individuals. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Body Sensor Networks; Cloud computing; Software engineering; SaaS; Sensor data as a service; Analytics as a service

**KeyWords Plus:** DATA STREAM MANAGEMENT; HEALTH; ARCHITECTURE; CHALLENGES

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**第 62 条，共 395 条**

**标题:** CoCaMAAL: A cloud-oriented context-aware middleware in ambient assisted living

**作者:** Forkan, A (Forkan, Abdur); Khalil, I (Khalil, Ibrahim); Tari, Z (Tari, Zahir)

**来源出版物:** FUTURE GENERATION COMPUTER SYSTEMS-THE INTERNATIONAL JOURNAL OF GRID COMPUTING AND ESCIENCE **卷:** 35 **页:** 114-127 **DOI:** 10.1016/j.future.2013.07.009 **出版年:** JUN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Research into ambient assisted living (AAL) strives to ease the daily lives of people with disabilities or chronic medical conditions. AAL systems typically consist of multitudes of sensors and embedded devices, generating large amounts of medical and ambient data. However, these biomedical sensors lack the processing power to perform key monitoring and data-aggregation tasks, necessitating data transmission and computation at central locations. The focus here is on the development of a scalable and context-aware framework and easing the flow between data collection and data processing. The resource-constrained nature of typical wearable body sensors is factored into our proposed model, with cloud computing features utilized to provide a real-time assisted-living service. With the myriad of distributed AAL systems at play, each with unique requirements and eccentricities, the challenge lies in the need to service these disparate systems with a middleware layer that is both coherent and flexible. There is significant complexity in the management of sensor data and the derivation of contextual information, as well as in the monitoring of user activities and in locating appropriate situational services. The proposed CoCaMAAL model seeks to address such issues and implement a service-oriented architecture (SOA) for unified context generation. This is done by efficiently aggregating raw sensor data and the timely selection of appropriate services using a context management system (CMS). With a unified model that includes patients, devices, and computational servers in a single virtual community, AAL services are enhanced. We have prototyped the proposed model and implemented some case studies to demonstrate its effectiveness. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Ambient assisted living; Body sensor; Ambient intelligence; Context-aware service; Cloud computing

**KeyWords Plus:** HEALTH-CARE; SENSOR NETWORKS; ELDERLY-PEOPLE; FRAMEWORK; ARCHITECTURE; INTELLIGENCE; MANAGEMENT; SERVICE; INFRASTRUCTURE; ENVIRONMENTS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| NICTA (National ICT Australia) of Victoria Research Lab | |
| Australian Government | |
| Australian Research Council through the ICT Centre of Excellence program | |

The authors wish to acknowledge the support of NICTA (National ICT Australia) of Victoria Research Lab for funding the research work presented in this paper. NICTA is funded by the Australian Government as represented by the Department of Broadband, Communications and the Digital Economy and the Australian Research Council through the ICT Centre of Excellence program.

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**第 63 条，共 395 条**

**标题:** Continuous Variable Quantum Information: Gaussian States and Beyond

**作者:** Adesso, G (Adesso, Gerardo); Ragy, S (Ragy, Sammy); Lee, AR (Lee, Antony R.)

**来源出版物:** OPEN SYSTEMS & INFORMATION DYNAMICS **卷:** 21 **期:** 1-2 **文献号:** 1440001 **DOI:** 10.1142/S1230161214400010 **出版年:** JUN 2014
**Web of Science 核心合集中的 "被引频次":** 7
**被引频次合计:** 7

**摘要:** The study of Gaussian states has arisen to a privileged position in continuous variable quantum information in recent years. This is due to vehemently pursued experimental realisations and a magnificently elegant mathematical framework. In this paper, we provide a brief, and hopefully didactic, exposition of Gaussian state quantum information and its contemporary uses, including sometimes omitted crucial details. After introducing the subject material and outlining the essential toolbox of continuous variable systems, we define the basic notions needed to understand Gaussian states and Gaussian operations. In particular, emphasis is placed on the mathematical structure combining notions of algebra and symplectic geometry fundamental to a complete understanding of Gaussian informatics. Furthermore, we discuss the quantification of different forms of correlations (including entanglement and quantum discord) for Gaussian states, paying special attention to recently developed measures. The paper is concluded by succinctly expressing the main Gaussian state limitations and outlining a selection of possible future lines for quantum information processing with continuous variable systems.

**文献类型:** Article
**KeyWords Plus:** SEPARABILITY CRITERION; STRONG SUBADDITIVITY; NORMAL FORMS; ENTANGLEMENT; SYSTEMS; TELEPORTATION; LIGHT; COMMUNICATION; DISTRIBUTIONS; INEQUALITY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| University of Nottingham [EPSRC] | |
| Foundational Questions Institute | FQXi-RFP3-1317 |
| Brazilian CAPES | 108/2012 |

We are pleased to acknowledge a number of people with whom we worked in recent years on topics related to this paper. In alphabetical order, our thanks go in particular to N. Friis, I. Fuentes, D. Girolami, F. Illuminati, L. Mista Jr., and A. Serafini. GA is grateful to S. Pascazio for the kind invitation to contribute this paper, his endured tolerance with deadlines, and his careful reading of the manuscript. Apologies are issued a priori to whom it may concern for all the missing references. Financial support from the University of Nottingham [EPSRC Doctoral Prize], the Foundational Questions Institute [Grant No. FQXi-RFP3-1317] and the Brazilian CAPES [Pesquisador Visitante Especial-Grant No. 108/2012] is gratefully acknowledged.

**第 64 条，共 395 条**

**标题:** Entanglement of Identical Particles

**作者:** Benatti, F (Benatti, F.); Floreanini, R (Floreanini, R.); Titimbo, K (Titimbo, K.)

**来源出版物:** OPEN SYSTEMS & INFORMATION DYNAMICS **卷:** 21 **期:** 1-2 **文献号:** 1440003 **DOI:** 10.1142/S1230161214400034 **出版年:** JUN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Unlike for bipartite states consisting of distinguishable particles, in the case of identical parties the notion of entanglement is still under debate. In the following, we review two different approaches to the entanglement of systems consisting of two bosons or fermions; the first approach is based on the particle aspect typical of first quantization and identifies separable pure states as those that allow to assign two orthogonal single particle vector states to both parties. The second approach makes full use of the mode aspect of second quantization whereby separability can be formulated as absence of non-local correlation among two different sets of modes. While the first approach applies to pure states only, the second one is more general and characterizes generic entangled states. In the following, we shall show that the mode-based approach indeed contains the particle-based one.

**文献类型:** Article

**KeyWords Plus:** SYSTEMS

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**第 65 条，共 395 条**

**标题:** Non-Markovian Quantum Probes

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**来源出版物:** OPEN SYSTEMS & INFORMATION DYNAMICS **卷:** 21 **期:** 1-2 **文献号:** 1440005 **DOI:** 10.1142/S1230161214400058 **出版年:** JUN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** We review the most recent developments in the theory of open quantum systems focusing on situations in which the reservoir memory effects, due to long-lasting and non-negligible correlations between system and environment, play a crucial role. These systems are often referred to as non-Markovian systems. After a brief summary of different measures of non-Markovianity that have been introduced over the last few years we restrict our analysis to the investigation of information flow between system and environment. Within this framework we introduce an important application of non-Markovianity, namely its use as a quantum probe of complex quantum systems. To illustrate this point we consider quantum probes of ultracold gases, spin chains, and trapped ion crystals and show how properties of these systems can be extracted by means of non-Markovianity measures.

**文献类型:** Article

**KeyWords Plus:** DYNAMICAL SEMIGROUPS; OPTICS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| EPSRC | EP/J016349/1 |
| Finnish Cultural Foundation | |
| Emil Aaltonen foundation | |

We acknowledge financial support from EPSRC (EP/J016349/1), the Finnish Cultural Foundation (Science Workshop on Entanglement), and the Emil Aaltonen foundation (Non-Markovian Quantum Information). We thank Suzanne McEndoo for discussions and for carefully reading of the manuscript.

**第 66 条，共 395 条**

**标题:** Fault diagnosis of rolling element bearings via discriminative subspace learning: Visualization and classification

**作者:** Zhao, MB (Zhao, Mingbo); Jin, XH (Jin, Xiaohang); Zhang, Z (Zhang, Zhao); Li, B (Li, Bing)

**来源出版物:** EXPERT SYSTEMS WITH APPLICATIONS **卷:** 41 **期:** 7 **页:** 3391-3401 **DOI:** 10.1016/j.eswa.2013.11.026 **出版年:** JUN 1 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** Rolling element bearings play an important role in ensuring the availability of industrial machines. Unexpected bearing failures in such machines during field operation can lead to machine breakdown, which may have some pretty severe implications. To address such concern, we extend our algorithm for solving trace ratio problem in linear discriminant analysis to diagnose faulty bearings in this paper. Our algorithm is validated by comparison with other state-of art methods based on a UCI data set, and then be extended to rolling element bearing data. Through the construction of feature data set from sensor-based vibration signals of bearing, the fault diagnosis problem is solved as a pattern classification and recognition way. The two-dimensional visualization and classification accuracy of bearing data show that our algorithm is able to recognize different bearing fault categories effectively. Thus, it can be considered as a promising method for fault diagnosis. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Fault diagnosis; Linear discriminant analysis; Rolling element bearing; Pattern recognition; Vibrations

**KeyWords Plus:** NONLINEAR DIMENSIONALITY REDUCTION; RECOGNITION; PROJECTIONS; EXTENSIONS; CRITERION; FRAMEWORK; EFFICIENT; DISTANCE; SYSTEM; MOTORS

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**第 67 条，共 395 条**

**标题:** SCaNME: Location tracking system in large-scale campus Wi-Fi environment using unlabeled mobility map

**作者:** Zhou, M (Zhou, Mu); Tian, ZS (Tian, Zengshan); Xu, KJ (Xu, Kunjie); Yu, X (Yu, Xiang); Hong, X (Hong, Xia); Wu, HB (Wu, Haibo)

**来源出版物:** EXPERT SYSTEMS WITH APPLICATIONS **卷:** 41 **期:** 7 **页:** 3429-3443 **DOI:** 10.1016/j.eswa.2013.10.047 **出版年:** JUN 1 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** In this paper, we propose a novel location tracking system called SCaNME (Shotgun Clustering-aided Navigation in Mobile Environment) which iteratively sequences the clusters of sporadically recorded received signal strength (RSS) measurements and adaptively construct a mobility map of the environment for location tracking. In the SCaNME system, the location tracking problem is solved by first matching the people's locations to the location points (LPs) with small Kullback-Leibler (KL) divergence. Then, Allen's logics are applied to reveal the person's activities, assist the on-line location tracking and finally obtain a refined path estimate. The experimental results conducted on the large-scale HKUST campus demonstrate that the SCaNME tracking system provides better precision and reliability than the conventional location tracking systems. Furthermore, the experiments of SCaNME tracking system show its capability of providing people's real-time locations without fingerprint calibration in large-scale Wi-Fi environment. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Wi-Fi location tracking; Mobility map; Shotgun reads; Spectral clustering; Kullback-Leibler divergence; Allen's logics

**KeyWords Plus:** LOCAL-AREA-NETWORKS; INDOOR; LOCALIZATION; SENSOR; ACCURACY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61301126<br>61304197 |
| National Science and Technology Major Project of China | 2011ZX03006003007<br>2012ZX03006002003 |
| Fundamental and Frontier Research Project of Chongqing | cstc2013jcyjA40041<br>cstc2013jcyjA40032<br>cstc2013jcyjA40034 |
| Scientific and Technological Research Program of Chongqing Municipal Education Commission | KJ130528 |
| Special Fund of Chongqing Key Laboratory (CSTC) | |
| Startup Foundation for Doctors of CQUPT | A2012-33 |
| Science Foundation for Young Scientists of CQUPT | A2012-77 |

The authors wish to thank the reviewers and editors for their valuable comments and useful corrections. This work was done when Mu Zhou was a Post-doctoral Research Assistant at The Hong Kong University of Science and Technology (HKUST). This work was supported in part by the National Natural Science Foundation of China (61301126, 61304197), National Science and Technology Major Project of China (2011ZX03006003007, 2012ZX03006002003), Fundamental and Frontier Research Project of Chongqing (cstc2013jcyjA40041, cstc2013jcyjA40032, cstc2013jcyjA40034), Scientific and Technological Research Program of Chongqing Municipal Education Commission (KJ130528), Special Fund of Chongqing Key Laboratory (CSTC), Startup Foundation for Doctors of CQUPT (A2012-33), and Science Foundation for Young Scientists of CQUPT (A2012-77).

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**第 68 条，共 395 条**

**标题:** Minfi: a flexible and comprehensive Bioconductor package for the analysis of Infinium DNA methylation microarrays

**作者:** Aryee, MJ (Aryee, Martin J.); Jaffe, AE (Jaffe, Andrew E.); Corrada-Bravo, H (Corrada-Bravo, Hector); Ladd-Acosta, C (Ladd-Acosta, Christine); Feinberg, AP (Feinberg, Andrew P.); Hansen, KD (Hansen, Kasper D.); Irizarry, RA (Irizarry, Rafael A.)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 10 **页:** 1363-1369 **DOI:** 10.1093/bioinformatics/btu049 **出版年:** MAY 15 2014

**Web of Science 核心合集中的 "被引频次":** 14

**被引频次合计:** 15

**摘要:** Motivation: The recently released Infinium HumanMethylation450 array (the '450k' array) provides a high-throughput assay to quantify DNA methylation (DNAm) at similar to 450000 loci across a range of genomic features. Although less comprehensive than high-throughput sequencing-based techniques, this product is more cost-effective and promises to be the most widely used DNAm high-throughput measurement technology over the next several years.

Results: Here we describe a suite of computational tools that incorporate state-of-the-art statistical techniques for the analysis of DNAm data. The software is structured to easily adapt to future versions of the technology. We include methods for preprocessing, quality assessment and detection of differentially methylated regions from the kilobase to the megabase scale. We show how our software provides a powerful and flexible development platform for future methods. We also illustrate how our methods empower the technology to make discoveries previously thought to be possible only with sequencing-based methods.

**文献类型:** Article

**KeyWords Plus:** QUANTILE NORMALIZATION; CANCER EPIGENETICS; SUBSET-QUANTILE; ARRAY DATA; BIAS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| NIH | GM083084<br>GM103552<br>R01AG042187<br>P50HG003233 |

NIH (GM083084, GM103552, R01AG042187 and P50HG003233).

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**第 69 条，共 395 条**

**标题:** Reference-free cell mixture adjustments in analysis of DNA methylation data

**作者:** Houseman, EA (Houseman, Eugene Andres); Molitor, J (Molitor, John); Marsit, CJ (Marsit, Carmen J.)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 10 **页:** 1431-1439 **DOI:** 10.1093/bioinformatics/btu029 **出版年:** MAY 15 2014

**Web of Science 核心合集中的 "被引频次":** 12

**被引频次合计:** 12

**摘要:** Motivation: Recently there has been increasing interest in the effects of cell mixture on the measurement of DNA methylation, specifically the extent to which small perturbations in cell mixture proportions can register as changes in DNA methylation. A recently published set of statistical methods exploits this association to infer changes in cell mixture proportions, and these methods are presently being applied to adjust for cell mixture effect in the context of epigenome-wide association studies. However, these adjustments require the existence of reference datasets, which may be laborious or expensive to collect. For some tissues such as placenta, saliva, adipose or tumor tissue, the relevant underlying cell types may not be known.
Results: We propose a method for conducting epigenome-wide association studies analysis when a reference dataset is unavailable, including a bootstrap method for estimating standard errors. We demonstrate via simulation study and several real data analyses that our proposed method can perform as well as or better than methods that make explicit use of reference datasets. In particular, it may adjust for detailed cell type differences that may be unavailable even in existing reference datasets.

**文献类型:** Article

**KeyWords Plus:** SURROGATE VARIABLE ANALYSIS; EPIGENOME-WIDE ASSOCIATION; PROFILES; EXPRESSION; POLYCOMB; GENOME

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| NIH R01 | MH094609 |

This work was funded by NIH R01 (grant MH094609).

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**第 70 条，共 395 条**

**标题:** Cas-OFFinder: a fast and versatile algorithm that searches for potential off-target sites of Cas9 RNA-guided endonucleases

**作者:** Bae, S (Bae, Sangsu); Park, J (Park, Jeongbin); Kim, JS (Kim, Jin-Soo)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 10 **页:** 1473-1475 **DOI:** 10.1093/bioinformatics/btu048 **出版年:** MAY 15 2014

**Web of Science 核心合集中的 "被引频次":** 10

**被引频次合计:** 10

**摘要:** The Type II clustered regularly interspaced short palindromic repeats (CRISPR)/Cas system is an adaptive

immune response in prokaryotes, protecting host cells against invading phages or plasmids by cleaving these foreign DNA species in a targeted manner. CRISPR/Cas-derived RNA-guided engineered nucleases (RGENs) enable genome editing in cultured cells, animals and plants, but are limited by off-target mutations. Here, we present a novel algorithm termed Cas-OFFinder that searches for potential off-target sites in a given genome or user-defined sequences. Unlike other algorithms currently available for identification of RGEN off-target sites, Cas-OFFinder is not limited by the number of mismatches and allows variations in protospacer-adjacent motif sequences recognized by Cas9, the essential protein component in RGENs. Cas-OFFinder is available as a command-line program or accessible via our website.

**文献类型:** Article

**KeyWords Plus:** ZINC-FINGER NUCLEASES; HUMAN GENOME; HUMAN-CELLS; SEQUENCES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Research Foundation of Korea | 2013000718<br>2013065262 |
| Plant Molecular Breeding Center of Next-Generation BioGreen 21 Program | PJ009081 |
| Park Science Fellowship | |

National Research Foundation of Korea (2013000718 to J.-S.K.) and the Plant Molecular Breeding Center of Next-Generation BioGreen 21 Program (PJ009081), the National Research Foundation of Korea (2013065262), TJ Park Science Fellowship (to S. B.).

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**第 71 条，共 395 条**

**标题:** Mobyle SNAP Workbench: a web-based analysis portal for population genetics and evolutionary genomics

**作者:** Monacell, JT (Monacell, James T.); Carbone, I (Carbone, Ignazio)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 10 **页:** 1488-1490 **DOI:** 10.1093/bioinformatics/btu055 **出版年:** MAY 15 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Previously we developed the stand-alone SNAP Workbench toolkit that integrated a wide array of bioinformatics tools for phylogenetic and population genetic analyses. We have now developed a web-based portal front-end, using the Mobyle portal framework, which executes all of the programs available in the stand-alone SNAP Workbench toolkit on a high-performance Linux cluster. Additionally, we have expanded the selection of programs to over 189 tools, including population genetic, genome assembly and analysis tools, as well as metagenomic and large-scale phylogenetic analyses. The Mobyle SNAP Workbench web portal allows end users to (i) execute and manage otherwise complex command-line programs, (ii) launch multiple exploratory analyses of parameter-rich and computationally intensive methods and (iii) track the sequence of steps and parameters that were used to perform a specific analysis. Analysis pipelines or workflows for population genetic, metagenomic and genome assembly provide automation of data conversion, analysis and graphical visualization for biological inference.

**文献类型:** Article

**KeyWords Plus:** COALESCENT; MIGRATION; FRAMEWORK; WINDOWS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Office of the Provost | |
| Office of Research and Graduate Studies | |

| | |
|---|---|
| Bioinformatics Training Grant (NIEHS) | 5 T32 ES007329 |
| National Science Foundation's Dimensions of Biodiversity (DoB) program | 1046167 |

The NC State High Performance Computing (HPC) resources provided by the NC State Information Technology Division with support from the Office of the Provost and Office of Research and Graduate Studies (in part). Bioinformatics Training Grant (NIEHS 5 T32 ES007329 to J.T.M.); National Science Foundation's Dimensions of Biodiversity (DoB) program (Award Number 1046167 to I.C.).

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**第 72 条，共 395 条**

**标题:** Traffic sign recognition using group sparse coding

**作者:** Liu, HP (Liu, Huaping); Liu, YL (Liu, Yulong); Sun, FC (Sun, Fuchun)

**来源出版物:** INFORMATION SCIENCES **卷:** 266 **页:** 75-89 **DOI:** 10.1016/j.ins.2014.01.010 **出版年:** MAY 10 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** Recognizing traffic signs is a challenging problem; and it has captured the attention of the computer vision community for several decades. Essentially, traffic sign recognition is a multi-class classification problem that has become a real challenge for computer vision and machine learning techniques. Although many machine learning approaches are used for traffic sign recognition, they are primarily used for classification, not feature design. Identifying rich features using modern machine learning methods has recently attracted attention and has achieved success in many benchmarks. However these approaches have not been fully implemented in the traffic sign recognition problem. In this paper, we propose a new approach to tackle the traffic sign recognition problem. First, we introduce a new feature learning approach using group sparse coding. The primary goal is to exploit the intrinsic structure of the pre-learned visual codebook. This new coding strategy preserves locality and encourages similar descriptors to share similar sparse representation patterns. Second, we use a non-uniform quantization approach based on log-polar mapping. Using the log-polar mapping of the traffic sign image, rotated and scaled patterns are converted into shifted patterns in the new space. We extract the local descriptors from these patterns to learn the features. Finally, by evaluating the proposed approach using the German Traffic Sign Recognition Benchmark dataset, we show that the proposed coding strategy outperforms existing coding methods and the obtained results are comparable to the state-of-the-art. (C) 2014 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Traffic sign recognition; Sparse coding; GTSRB dataset

**KeyWords Plus:** SUPPORT VECTOR MACHINES; IMAGE CLASSIFICATION; FEATURES; ALGORITHMS; SYSTEM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Key Project for Basic Research of China | 2013CB329403 |
| National Natural Science Foundation of China | 61075027<br>91120011<br>61210013 |
| Tsinghua Self-innovation Project | 20111081111 |

This work is jointly supported by the National Key Project for Basic Research of China (2013CB329403), the National Natural Science Foundation of China (Grants Nos: 61075027, 91120011, and 61210013) and the Tsinghua Self-innovation Project (Grant No: 20111081111).

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**第 73 条，共 395 条**

**标题:** State estimation for a class of discrete nonlinear systems with randomly occurring uncertainties and distributed sensor delays

**作者:** Hu, J (Hu, Jun); Chen, DY (Chen, Dongyan); Du, JH (Du, Junhua)

**来源出版物:** INTERNATIONAL JOURNAL OF GENERAL SYSTEMS **卷:** 43 **期:** 3-4 **特刊:** SI **页:** 387-401 **DOI:** 10.1080/03081079.2014.892251 **出版年:** MAY 7 2014

**Web of Science 核心合集中的 "被引频次":** 14

**被引频次合计:** 14

**摘要:** In this paper, the state estimation problem is investigated for a class of discrete nonlinear systems with randomly occurring uncertainties and distributed sensor delays. The norm-bounded uncertainties enter into the system in a randomly way, and such randomly occurring uncertainties (ROUs) obey certain Bernoulli distributed white noise sequence with known conditional probability. By constructing a new Lyapunov-Krasovskii functional, sufficient conditions are proposed to guarantee the convergence of the estimation error for all discrete time-varying delays, ROUs and distributed sensor delays. Subsequently, the explicit form of the estimator parameter is derived by solving two linear matrix inequalities (LMIs) which can be easily tested by using standard numerical software. Finally, a simulation example is given to illustrate the feasibility and effectiveness of the proposed estimation scheme.

**文献类型:** Article

**作者关键词:** state estimation; distributed sensor delays; randomly occurring uncertainties.; discrete nonlinear systems

**KeyWords Plus:** TIME COMPLEX NETWORKS; MISSING MEASUREMENTS; STOCHASTIC NONLINEARITIES; SATURATIONS; NOISE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 11301118<br>11271103 |
| Science and Technology Foundation of Educational Commission of Heilongjiang Province | 12511608 |
| Alexander von Humboldt Foundation of Germany | |

This work was supported in part by the National Natural Science Foundation of China under [grant number 11301118], [grant number 11271103], the Science and Technology Foundation of Educational Commission of Heilongjiang Province under [grant number 12511608], and the Alexander von Humboldt Foundation of Germany.

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**第 74 条，共 395 条**

**标题:** Bus Travel-Time Prediction with a Forgetting Factor

**作者:** Yu, B (Yu, Bin); Ye, T (Ye, Ting); Tian, XM (Tian, Xiao-Mei); Ning, GB (Ning, Guo-Bao); Zhong, SQ (Zhong, Shi-Quan)

**来源出版物:** JOURNAL OF COMPUTING IN CIVIL ENGINEERING **卷:** 28 **期:** 3 **文献号:** 06014002 **DOI:** 10.1061/(ASCE)CP.1943-5487.0000274 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Bus travel-time prediction has drawn a lot of research interests in previous literature. This paper proposes a prediction model for bus travel time based on the support vector machine (SVM) regression method. A forgetting factor is introduced to assign the weight to the recent data resulting from the bus running time-based variable quantities. The Grubbs' test method is applied to remove outliers from the input data. The proposed model is assessed with the data of transit route number 23 in the city of Dalian, China. Results show that the SVM with the forgetting factor and the Grubbs' test method is a powerful tool for bus travel-time prediction. (C) 2014 American Society of Civil Engineers.

**文献类型:** Article

**作者关键词:** Prediction; Bus travel time; Support vector machine regression; Forgetting factor; Grubbs' test method

**KeyWords Plus:** SUPPORT VECTOR MACHINES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 51108053<br>50908155<br>70971094 |
| Trans-Century Training Program Foundation for Talents from the Ministry of Education of China | NCET-12-0752 |
| Liaoning Excellent Talents in University | LJQ2012045 |
| Humanities and Social Sciences Foundation of the Ministry of Education of China | 10YJC630357 |
| China Postdoctoral Science Foundation | 2011QN037 |

This work was supported by the National Natural Science Foundation of China 51108053, 50908155 and 70971094, the Trans-Century Training Program Foundation for Talents from the Ministry of Education of China (NCET-12-0752) and Liaoning Excellent Talents in University LJQ2012045, the Humanities and Social Sciences Foundation of the Ministry of Education of China 10YJC630357, and the special financial support from the China Postdoctoral Science Foundation 2011QN037.

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**第 75 条，共 395 条**

**标题:** Theoretical investigation on gas-phase reaction of CF3CH2OCH3 with OH radicals and fate of alkoxy radicals (CF3CH(O-center dot)OCH3/CF3CH2OCH2O center dot)

**作者:** Mishra, BK (Mishra, Bhupesh Kumar); Lily, M (Lily, Makroni); Deka, RC (Deka, Ramesh Chandra); Chandra, AK (Chandra, Asit K.)

**来源出版物:** JOURNAL OF MOLECULAR GRAPHICS & MODELLING **卷:** 50 **页:** 90-99 **DOI:** 10.1016/j.jmgm.2014.03.009 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** Detailed theoretical investigation has been performed on the mechanism, kinetics and thermochemistry of the gas phase reactions of CF3CH2OCH3 (HFE-263fb2) with OH radicals using ab-initio and DFT methods. Reaction profiles are modeled including the formation of pre-reactive and post-reactive complexes at entrance and exit channels, respectively. Our calculations reveal that hydrogen abstraction from the -CH2 group is thermodynamically and kinetically more facile than that from the -CH3 group. Using group-balanced isodesmic reactions, the standard enthalpies of formation for CF3CH2OCH3 and radicals (CF3CHOCH3 and CF3CH2OCH2) are also reported for the first time. The calculated bond dissociation energies for the C H bonds are in good agreement with experimental results. At 298 K, the calculated total rate coefficient for CF3CH2OCH3 + OH reactions is found to be in good agreement with the experimental results. The atmospheric fate of the alkoxy radicals, CF3CH(O-center dot)OCH3 and CF3CH2OCH2O center dot are also investigated for the first time using the same level of theory. Out of three plausible decomposition channels, our results clearly point out that reaction with O-2 is not the dominant path leading to the formation of CF3C(O)OCH3 for the decomposition of CF3CH(O)OCH3 radical in the atmosphere. This is in accord with the recent report of Osterstrom et al. [CPL 524 (2012) 32] but found to be in contradiction with experimental finding of Oyaro et al. [JPCA 109 (2005) 337]. 

**文献类型:** Article

**作者关键词:** Hydrofluoroether; Isodesmic reactions; Rate constant; Atmospheric lifetime; Alkoxy radical

**KeyWords Plus:** GLOBAL WARMING POTENTIALS; CL ATOMS; ATMOSPHERIC CHEMISTRY; CHLORINE ATOMS; RATE CONSTANTS; NONCOVALENT INTERACTIONS; THERMOCHEMICAL KINETICS; DECOMPOSITION KINETICS; THERMAL-DECOMPOSITION; 298 K

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Department of Science and Technology, New Delhi | SR/NM.NS-102312011(G) |
| CSIR, New Delhi | 01(2494)/11/EMR-II |
| University Grants Commission, New Delhi | F.4-2/2006(BSR)/13-696/2012(BSR) |

The authors acknowledge financial support from the Department of Science and Technology, New Delhi in the form of a project (SR/NM.NS-102312011(G)). A.K.C. acknowledges CSIR, New Delhi, for financial assistance through project no. 01(2494)/11/EMR-II. B.K.M. is thankful to University Grants Commission, New Delhi

(F.4-2/2006(BSR)/13-696/2012(BSR) for providing Dr. D.S. Kothari Post doctoral Fellowship.

**第 76 条，共 395 条**

**标题:** A New Approach for Compliance Checking in Service Workflows

**作者:** Viriyasitavat, W (Viriyasitavat, Wattana); Xu, LD (Xu, Li Da); Viriyasitavat, W (Viriyasitavat, Wantanee)

**来源出版物:** IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS **卷:** 10 **期:** 2 **页:** 1452-1460 **DOI:** 10.1109/TII.2014.2301143 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** The emergence of the Internet-of-Things (IoT) refers to not only the ability to identify physical objects, but also to identify many types of virtual objects, including services. Such identification plays a crucial role in service workflow. The success of a service workflow requires the composition of services where requirements must be satisfied. However, the large-scale open environment of today's Internet poses significant challenges for efficient compliance checking algorithms of those requirements. This paper is based on the previous progressive work on Service Workflow Specification language (SWSpec), the uniformed representation of requirements, and the compliance checking algorithms based on Constrained Truth Table (CTT) and Exclusive Disjunctive Normal Form (EDNF). In this paper, a new algorithm is proposed, which significantly reduces the cost of time complexity. In some cases, this algorithm is able to run in polynomial time. Experiments are conducted to evaluate and compare the performance of these algorithms.

**文献类型:** Article

**作者关键词:** Algorithm; compliance checking; Internet-of-Things (IoT); service; specification language; workflow

**KeyWords Plus:** ENTERPRISE SYSTEMS; TRUST MANAGEMENT; COMPLEX PRODUCTS; SUPPLY CHAIN; METHODOLOGY; FRAMEWORK; PLATFORM; WEB

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**第 77 条，共 395 条**

**标题:** Compliance Checking for Requirement-Oriented Service Workflow Interoperations

**作者:** Viriyasitavat, W (Viriyasitavat, Wattana); Xu, LD (Xu, Li Da); Viriyasitavat, W (Viriyasitavat, Wantanee)

**来源出版物:** IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS **卷:** 10 **期:** 2 **页:** 1469-1477 **DOI:** 10.1109/TII.2014.2301132 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** The Internet of Things (IoT) not only identifies physical and virtual objects, but also enables the connection of such objects in an internet-like structure. In this context, services are one of the most important technologies where IoT can be utilized to enhance dynamic interoperation in the form of service workflows. In opened environments, because services are dynamically gathered, IoT identification is an essential feature which leads to more complicated service composition than before. Since services may possess different requirements, it becomes very challenging to determine suitable services to be a part of a workflow. Compliance of such requirements, reflecting trust-based decision of a service to join a workflow, plays a significant role in the success of service interoperation. This paper presents the compliance checking algorithms for service workflow specification (SWSpec) and service workflow net (SWN) to support trust-based decision for service workflow participation. The application of SWSpec is illustrated using an example of a disaster warning system. Finally, the prototype is developed to evaluate the performance of the proposed algorithms.

**文献类型:** Article

**作者关键词:** Algorithm; compliance checking; Internet of Things (IoT); service; service collaboration; service composition; service identification; specification language; workflow

**KeyWords Plus:** SUPPLY CHAIN; MANAGEMENT

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**第 78 条，共 395 条**

**标题:** A Novel Architecture for Requirement-Oriented Participation Decision in Service Workflows

**作者:** Xu, LD (Xu, Li Da); Viriyasitavat, W (Viriyasitavat, Wattana)

**来源出版物:** IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS **卷:** 10 **期:** 2 **页:** 1478-1485 **DOI:** 10.1109/TII.2014.2301378 **出版年:** MAY 2014
**Web of Science 核心合集中的 "被引频次":** 9
**被引频次合计:** 9

**摘要:** The internet-of-things (IoT) technology allows auto-organized and intelligent entities such as services to be interoperable and able to act independently. This enables the advanced form of service composition by allowing individual services to dynamically form a service workflow. In this context, services possess different requirements where the compliance of such requirements reflects trust-based decision for participating in a workflow. Large-scale service interoperations pose significant challenges for compliance checking of those requirements. These include inconsistency of requirements that can be represented in different formats and dynamicity, where a workflow can be modified based on service creation, modification, or termination. These factors directly affect the decision of a service to be part of a workflow. To solve these problems, service workflow specification (SWSpec) has been proposed as a consistent and uniformed representation of requirements, and algorithms based on constrained truth table (CTT) have been developed for automatic compliance checking. In this paper, the architecture of these elements is created to facilitate 1) a workflow owner in specifying properties of services to be part of a workflow and 2) services to express their requirements where their compliance reflects trust-based participation decision.

**文献类型:** Article
**作者关键词:** Algorithm; compliance checking; internet of things (IoT); service; specification language; workflow
**KeyWords Plus:** MULTIDISCIPLINARY DESIGN; INFORMATION-SYSTEMS; ENTERPRISE SYSTEMS; FRAMEWORK; TRUST; METHODOLOGY; INTEGRATION; PLATFORM

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**第 79 条，共 395 条**

**标题:** Internet of Things for Enterprise Systems of Modern Manufacturing

**作者:** Bi, ZM (Bi, Zhuming); Xu, LD (Xu, Li Da); Wang, CG (Wang, Chengen)

**来源出版物:** IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS **卷:** 10 **期:** 2 **页:** 1537-1546 **DOI:** 10.1109/TII.2014.2300338 **出版年:** MAY 2014
**Web of Science 核心合集中的 "被引频次":** 8
**被引频次合计:** 8

**摘要:** Design and operation of a manufacturing enterprise involve numerous types of decision-making at various levels and domains. A complex system has a large number of design variables and decision-making requires real-time data collected from machines, processes, and business environments. Enterprise systems (ESs) are used to support data acquisition, communication, and all decision-making activities. Therefore, information technology (IT) infrastructure for data acquisition and sharing affects the performance of an ES greatly. Our objective is to investigate the impact of emerging Internet of Things (IoT) on ESs in modern manufacturing. To achieve this objective, the evolution of manufacturing system paradigms is discussed to identify the requirements of decision support systems in dynamic and distributed environments; recent advances in IT are overviewed and associated with next-generation manufacturing paradigms; and the relation of IT infrastructure and ESs is explored to identify the technological gaps in adopting IoT as an IT infrastructure of ESs. The future research directions in this area are discussed.

**文献类型:** Article
**作者关键词:** Enterprise modeling; enterprise systems (ESs); Internet of Things (IoT); literature review; manufacturing enterprise; system paradigms
**KeyWords Plus:** SUPPLY CHAIN; FRAMEWORK; TECHNOLOGY; INTEGRATION; CHALLENGES; NETWORKS; SERVICES; ARCHITECTURE; METHODOLOGY; PERFORMANCE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China (NNSFC) | 71132008 |
| U.S. National Science Foundation | SES-1318470<br>1044845 |

This work was supported in part by the National Natural Science Foundation of China (NNSFC) under Grant 71132008, and in part by the U.S. National Science Foundation under Grant SES-1318470 and Grant 1044845. Paper no. TII-13-0633. (Corresponding author: Z. Bi.)

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**第 80 条，共 395 条**

**标题:** IoT-Based Smart Rehabilitation System

**作者:** Fan, YJ (Fan, Yuan Jie); Yin, YH (Yin, Yue Hong); Xu, LD (Xu, Li Da); Zeng, Y (Zeng, Yan); Wu, F (Wu, Fan)

**来源出版物:** IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS **卷:** 10 **期:** 2 **页:** 1568-1577 **DOI:** 10.1109/TII.2014.2302583 **出版年:** MAY 2014
**Web of Science 核心合集中的 "被引频次":** 7
**被引频次合计:** 7

**摘要:** Internet of Things (IoT) makes all objects become interconnected and smart, which has been recognized as the next technological revolution. As its typical case, IoT-based smart rehabilitation systems are becoming a better way to mitigate problems associated with aging populations and shortage of health professionals. Although it has come into reality, critical problems still exist in automating design and reconfiguration of such a system enabling it to respond to the patient's requirements rapidly. This paper presents an ontology-based automating design methodology (ADM) for smart rehabilitation systems in IoT. Ontology aids computers in further understanding the symptoms and medical resources, which helps to create a rehabilitation strategy and reconfigure medical resources according to patients' specific requirements quickly and automatically. Meanwhile, IoT provides an effective platform to interconnect all the resources and provides immediate information interaction. Preliminary experiments and clinical trials demonstrate valuable information on the feasibility, rapidity, and effectiveness of the proposed methodology.

**文献类型:** Article
**作者关键词:** Automated design; industrial informatics; Internet of Things (IoT); ontology; service sector; smart rehabilitation
**KeyWords Plus:** MULTIDISCIPLINARY DESIGN OPTIMIZATION; SUPPLY CHAIN; INTERNET; THINGS; FRAMEWORK; EXOSKELETON; INTEGRATION; ONTOLOGIES; MANAGEMENT; PLATFORM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Basic Research Program of China | 2011CB013203 |
| National Natural Science Foundation of China (NNSFC) | 61375098/61075101/60643002<br>71132008 |
| Science and Technology Intercrossing Research Foundation of Shanghai Jiao Tong University | LG2011ZD106 |
| U.S. National Science Foundation | SES-1318470<br>1044845 |

This work was supported in part by the National Basic Research Program of China (2011CB013203), in part by the National Natural Science Foundation of China (NNSFC) (61375098/61075101/60643002) and under Grant 71132008, in part by the Science and Technology Intercrossing Research Foundation of Shanghai Jiao Tong University (LG2011ZD106), and in part by the U.S. National Science Foundation under Grant SES-1318470 and Grant 1044845. (Corresponding author: Y. H. Yin.) Paper no. TII-13-0742.

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**第 81 条，共 395 条**

**标题:** Developing Vehicular Data Cloud Services in the IoT Environment

**作者:** He, W (He, Wu); Yan, GJ (Yan, Gongjun); Xu, LD (Xu, Li Da)

**来源出版物:** IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS **卷:** 10 **期:** 2 **页:** 1587-1595 **DOI:** 10.1109/TII.2014.2299233 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 10

**被引频次合计:** 10

**摘要:** The advances in cloud computing and internet of things (IoT) have provided a promising opportunity to resolve the challenges caused by the increasing transportation issues. We present a novel multilayered vehicular data cloud platform by using cloud computing and IoT technologies. Two innovative vehicular data cloud services, an intelligent parking cloud service and a vehicular data mining cloud service, for vehicle warranty analysis in the IoT environment are also presented. Two modified data mining models for the vehicular data mining cloud service, a Naive Bayes model and a Logistic Regression model, are presented in detail. Challenges and directions for future work are also provided.

**文献类型:** Article

**作者关键词:** Automobile service; cloud computing; internet of things (IoT); intelligent transportation systems (ITSs); service-oriented architecture (SOA)

**KeyWords Plus:** SYSTEMS; CHALLENGES; NETWORKS; INTERNET; THINGS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China (NNSFC) | 71132008 |
| U.S. National Science Foundation | SES-1318470<br>1044845 |

This work was supported in part by the National Natural Science Foundation of China (NNSFC) under Grant 71132008, and in part by U.S. National Science Foundation under Grants SES-1318470 and 1044845. Paper no. TII-13-0629.

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**第 82 条，共 395 条**

**标题:** Understanding fish behavior during typhoon events in real-life underwater environments

**作者:** Spampinato, C (Spampinato, Concetto); Palazzo, S (Palazzo, Simone); Boom, B (Boom, Bastian); van Ossenbruggen, J (van Ossenbruggen, Jacco); Kavasidis, I (Kavasidis, Isaak); Di Salvo, R (Di Salvo, Roberto); Lin, FP (Lin, Fang-Pang); Giordano, D (Giordano, Daniela); Hardman, L (Hardman, Lynda); Fisher, RB (Fisher, Robert B.)

**来源出版物:** MULTIMEDIA TOOLS AND APPLICATIONS **卷:** 70 **期:** 1 **页:** 199-236 **DOI:** 10.1007/s11042-012-1101-5 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** The study of fish populations in their own natural environment is a task that has usually been tackled in invasive ways which inevitably influenced the behavior of the fish under observation. Recent projects involving the installation of permanent underwater cameras (e.g. the Fish4Knowledge (F4K) project, for the observation of Taiwan's coral reefs) allow to gather huge quantities of video data, without interfering with the observed environment, but at the same time require the development of automatic processing tools, since manual analysis would be impractical for such amounts of videos. Event detection is one of the most interesting aspects from the

biologists' point of view, since it allows the analysis of fish activity during particular events, such as typhoons. In order to achieve this goal, in this paper we present an automatic video analysis approach for fish behavior understanding during typhoon events. The first step of the proposed system, therefore, involves the detection of "typhoon" events and it is based on video texture analysis and on classification by means of Support Vector Machines (SVM). As part of our behavior understanding efforts, trajectory extraction and clustering have been performed to study the differences in behavior when disruptive events happen. The integration of event detection with fish behavior understanding surpasses the idea of simply detecting events by low-level features analysis, as it supports the full semantic comprehension of interesting events.

**文献类型:** Article

**作者关键词:** Event detection; Fish detection; Covariance tracking; Behavior understanding

**KeyWords Plus:** OBJECT DETECTION; BACKGROUND SUBTRACTION; CORAL-REEF; TRACKING; VIDEO; ALGORITHM; DYNAMICS; HABITAT

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| European Commission | 257024 |

This research was funded by European Commission FP7 grant 257024, for the Fish4Knowledge project (www.fish4knowledge.eu).

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**第 83 条，共 395 条**

**标题:** InterProScan 5: genome-scale protein function classification

**作者:** Jones, P (Jones, Philip); Binns, D (Binns, David); Chang, HY (Chang, Hsin-Yu); Fraser, M (Fraser, Matthew); Li, WZ (Li, Weizhong); McAnulla, C (McAnulla, Craig); McWilliam, H (McWilliam, Hamish); Maslen, J (Maslen, John); Mitchell, A (Mitchell, Alex); Nuka, G (Nuka, Gift); Pesseat, S (Pesseat, Sebastien); Quinn, AF (Quinn, Antony F.); Sangrador-Vegas, A (Sangrador-Vegas, Amaia); Scheremetjew, M (Scheremetjew, Maxim); Yong, SY (Yong, Siew-Yit); Lopez, R (Lopez, Rodrigo); Hunter, S (Hunter, Sarah)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 9 **页:** 1236-1240 **DOI:** 10.1093/bioinformatics/btu031 **出版年:** MAY 1 2014

**Web of Science 核心合集中的 "被引频次":** 22

**被引频次合计:** 22

**摘要:** Motivation: Robust large-scale sequence analysis is a major challenge in modern genomic science, where biologists are frequently trying to characterize many millions of sequences. Here, we describe a new Java-based architecture for the widely used protein function prediction software package InterProScan. Developments include improvements and additions to the outputs of the software and the complete reimplementation of the software framework, resulting in a flexible and stable system that is able to use both multiprocessor machines and/or conventional clusters to achieve scalable distributed data analysis. InterProScan is freely available for download from the EMBl-EBI FTP site and the open source code is hosted at Google Code.

**文献类型:** Article

**KeyWords Plus:** FAMILY CLASSIFICATION; GENE ONTOLOGY; DATABASE; ANNOTATION; RESOURCE; TOPOLOGY; SYSTEM; TOOL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Biotechnology and Biological Sciences Research Council (Bioinformatics and Biological Resources Fund) | BB/ F010508/1 |
| European Union (under the program 'FP7 capacities: Scientific Data Repositories') | 213037 |

Biotechnology and Biological Sciences Research Council (Bioinformatics and Biological Resources Fund) (BB/ F010508/1); European Union (under the program 'FP7 capacities: Scientific Data Repositories') (213037). Open access charges are paid for by EMBL.

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**第 84 条，共 395 条**

**标题:** RAxML version 8: a tool for phylogenetic analysis and post-analysis of large phylogenies

**作者:** Stamatakis, A (Stamatakis, Alexandros)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 9 **页:** 1312-1313 **DOI:** 10.1093/bioinformatics/btu033 **出版年:** MAY 1 2014

**Web of Science 核心合集中的 "被引频次":** 95

**被引频次合计:** 95

**摘要:** Motivation: Phylogenies are increasingly used in all fields of medical and biological research. Moreover, because of the next-generation sequencing revolution, datasets used for conducting phylogenetic analyses grow at an unprecedented pace. RAxML (Randomized Axelerated Maximum Likelihood) is a popular program for phylogenetic analyses of large datasets under maximum likelihood. Since the last RAxML paper in 2006, it has been continuously maintained and extended to accommodate the increasingly growing input datasets and to serve the needs of the user community.

Results: I present some of the most notable new features and extensions of RAxML, such as a substantial extension of substitution models and supported data types, the introduction of SSE3, AVX and AVX2 vector intrinsics, techniques for reducing the memory requirements of the code and a plethora of operations for conducting postanalyses on sets of trees. In addition, an up-to-date 50-page user manual covering all new RAxML options is available.

**文献类型:** Article

**KeyWords Plus:** MAXIMUM-LIKELIHOOD; BOOTSTRAP; PERFORMANCE; ALGORITHMS; INFERENCE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Heidelberg Institute for Theoretical | |

This work was funded by institutional funding provided by the Heidelberg Institute for Theoretical

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**第 85 条，共 395 条**

**标题:** INCA: a computational platform for isotopically non-stationary metabolic flux analysis

**作者:** Young, JD (Young, Jamey D.)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 9 **页:** 1333-1335 **DOI:** 10.1093/bioinformatics/btu015 **出版年:** MAY 1 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 9

**摘要:** C-13 flux analysis studies have become an essential component of metabolic engineering research. The scope of these studies has gradually expanded to include both isotopically steady-state and transient labeling experiments, the latter of which are uniquely applicable to photosynthetic organisms and slow-to-label mammalian cell cultures. Isotopomer network compartmental analysis (INCA) is the first publicly available software package that can perform both steady- state metabolic flux analysis and isotopically non-stationary metabolic flux analysis. The software provides a framework for comprehensive analysis of metabolic networks using mass balances and elementary metabolite unit balances. The generation of balance equations and their computational solution is completely

automated and can be performed on networks of arbitrary complexity.

**文献类型:** Article

**KeyWords Plus:** LABELING EXPERIMENTS; SOFTWARE; NETWORKS; EMU

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
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| Department of Energy | DE-SC0008118 |
| National Institutes of Health | CA155964<br>DK072856 |

The National Science Foundation [CBET-0955251, CBET-1067766, CBET-1105991, EF-1105249]; Department of Energy [DE-SC0008118]; The National Institutes of Health [CA155964, DK072856].

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**第 86 条，共 395 条**

**标题:** The EBI RDF platform: linked open data for the life sciences

**作者:** Jupp, S (Jupp, Simon); Malone, J (Malone, James); Bolleman, J (Bolleman, Jerven); Brandizi, M (Brandizi, Marco); Davies, M (Davies, Mark); Garcia, L (Garcia, Leyla); Gaulton, A (Gaulton, Anna); Gehant, S (Gehant, Sebastien); Laibe, C (Laibe, Camille); Redaschi, N (Redaschi, Nicole); Wimalaratne, SM (Wimalaratne, Sarala M.); Martin, M (Martin, Maria); Le Novere, N (Le Novere, Nicolas); Parkinson, H (Parkinson, Helen); Birney, E (Birney, Ewan); Jenkinson, AM (Jenkinson, Andrew M.)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 9 **页:** 1338-1339 **DOI:** 10.1093/bioinformatics/btt765 **出版年:** MAY 1 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** Motivation: Resource description framework (RDF) is an emerging technology for describing, publishing and linking life science data. As a major provider of bioinformatics data and services, the European Bioinformatics Institute (EBI) is committed to making data readily accessible to the community in ways that meet existing demand. The EBI RDF platform has been developed to meet an increasing demand to coordinate RDF activities across the institute and provides a new entry point to querying and exploring integrated resources available at the EBI.

**文献类型:** Article

**地址:** [Jupp, Simon; Malone, James; Brandizi, Marco; Davies, Mark; Garcia, Leyla; Gaulton, Anna; Laibe, Camille; Wimalaratne, Sarala M.; Martin, Maria; Le Novere, Nicolas; Parkinson, Helen; Birney, Ewan; Jenkinson, Andrew M.] European Bioinformat Inst EMBL EBI, European Mol Biol Lab, Cambridge CB10 1SD, England.
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| EMBL | |
| European Union grants Diachron | 601043 |
| BioMedBridges | 284209 |
| OpenPHACTS | 115191 |
| National Institutes of Health | 1U41HG006104-03 |
| NCBO | U54-HG004028 |
| Swiss Federal Government through the Federal Office of Education and Science | |

EMBL and European Union grants Diachron (601043) and BioMedBridges (284209). OpenPHACTS (115191). National Institutes of Health grants [1U41HG006104-03] and NCBO [U54-HG004028] and the Swiss Federal Government through the Federal Office of Education and Science.

**第 87 条，共 395 条**

**标题:** Resource discovery mechanisms in grid systems: A survey

**作者:** Navimipour, NJ (Navimipour, Nima Jafari); Rahmani, AM (Rahmani, Amir Masoud); Navin, AH (Navin, Ahmad Habibizad); Hosseinzadeh, M (Hosseinzadeh, Mehdi)

**来源出版物:** JOURNAL OF NETWORK AND COMPUTER APPLICATIONS **卷:** 41 **页:** 389-410 **DOI:** 10.1016/j.jnca.2013.09.013 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Grid computing systems provide a vast amount of computing resources from multiple administrative domains to reach a main objective. One of the most important challenges in these systems is to discover appropriate resource in networks. In this paper we survey the resource discovery mechanisms which have been used in Grid computing systems so far. We classify the resource discovery mechanisms into five main categories: Centralized, Decentralized, Peer to Peer, Hierarchical, and Agent based. We reviewed the major development in these five categories and outlined new challenges. This survey paper also provides a discussion of differences between considered mechanisms in terms of scalability, dynamicity, reliability and queries' attributes as well as directions for future research. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Review

**作者关键词:** Grid systems; Peer to peer; Resource discovery; Network applications; Scalability; Centralized; Decentralized; Hierarchical; Agent

**KeyWords Plus:** PROTOCOL; P2P; AUTHORIZATION; MANAGEMENT; NETWORKS; SECURITY; SERVICES; MODELS; FILE

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**第 88 条，共 395 条**

**标题:** Magnetohydrodynamic free convection of Al2O3-water nanofluid considering Thermophoresis and Brownian motion effects

**作者:** Sheikholeslami, M (Sheikholeslami, M.); Gorji-Bandpy, M (Gorji-Bandpy, M.); Ganji, DD (Ganji, D. D.); Rana, P (Rana, P.); Soleimani, S (Soleimani, Soheil)

**来源出版物:** COMPUTERS & FLUIDS **卷:** 94 **页:** 147-160 **DOI:** 10.1016/j.compfluid.2014.01.036 **出版年:** MAY 1 2014

**Web of Science 核心合集中的 "被引频次":** 20

**被引频次合计:** 20

**摘要:** In this study MHD effect on natural convection heat transfer in an enclosure filled with nanofluid is investigated. The transport equations used in the analysis took into account the effect of Brownian motion and thermophoresis parameters. The Navier Stokes equations in their vorticity-stream function form are used to simulate the flow pattern, isotherms and concentration. The governing equations are solved via Control Volume based Finite Element Method. The inner and outer circular walls are maintained at constant temperatures while two other walls are thermally insulated. The heat transfer between cold and hot regions of the enclosure cannot be well understood by using isotherm patterns so heatline visualization technique is used to find the direction and intensity of heat transfer in a domain. Effect of Hartmann number (Ha = 0, 30, 60 and 100), buoyancy ratio number (Nr = 0.1-4) and Lewis number (Le = 2, 4, 6 and 8) on streamline, isotherm, isoconcentration and heatline are examined. Also a correlation for Nusselt number corresponding to active parameters is presented. The results indicate that Nusselt number is an increasing function of buoyancy ratio number but it is a decreasing function of Lewis number and Hartmann number. Also it can be concluded that as buoyancy ratio number increases the effects of other active parameters are more pronounced. (C) 2014 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** MHD; Nanofluid; CVFEM; Heatline; Thermophoresis; Brownian

**KeyWords Plus:** MHD NATURAL-CONVECTION; CU-WATER NANOFLUID; BOUNDARY-LAYER-FLOW;

HEAT-TRANSFER; ENTROPY GENERATION; MAGNETIC-FIELD; SQUARE CAVITY; ENCLOSURE; ANNULUS; CYLINDER

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**第 89 条，共 395 条**

**标题:** Sea level rise in the Severn Estuary and Bristol Channel and impacts of a Severn Barrage

**作者:** Ahmadian, R (Ahmadian, Reza); Olbert, AI (Olbert, Agnieszka I.); Hartnett, M (Hartnett, Michael); Falconer, RA (Falconer, Roger A.)

**来源出版物:** COMPUTERS & GEOSCIENCES **卷:** 66 **页:** 94-105 **DOI:** 10.1016/j.cageo.2013.12.011 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Many research projects in recent years have focused on marine renewable energy devices and structures due to the growing interest in marine renewable energy. These devices and structures have very different life spans. Schemes such as the Severn Barrage in the UK, as originally proposed by the Severn Tidal Power Group (STPG), would be the largest tidal renewable energy generation project in the world and would be operational for well over a century if built. Due to the long working life of some of these marine renewable energy schemes, it is important to study the impacts of climate change on such schemes, and particularly sea level rise. This study focuses on investigating the impacts of sea level rise due to climate change on the largest macro-tidal estuary in the UK, namely the Severn Estuary and Bristol Channel, and the alterations of the impacts and the performance of the Severn Barrage as a result of climate change. A hierarchy of computer models was implemented to identify the more localised impacts of climate change in the region of the study. Moreover, the potential benefits of the barrage on reducing flood risk, as well as the impact of climate change and the barrage on intertidal mudflats were investigated. The model predictions showed that the barrage would reduce flood risk due to the sea level rise. Furthermore, annual power output and the initial reduction in flood risk of the barrage would not be affected by sea level rise. (C) 2014 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Sea level rise; Climate change; Severn Barrage; Flood risk; Severn Estuary; Marine renewable energy

**KeyWords Plus:** COASTAL FLOOD RISK; EASTERN IRISH SEA; CLIMATE-CHANGE; STORM SURGES; UNITED-KINGDOM; MODEL; UK; OCEAN; VARIABILITY; CIRCULATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| European Regional Development Fund (ERDF) through the Atlantic Area Transnational Programme (INTERREG IV) | |
| Science Foundation Ireland | 12/RC/2302 |

The study has been carried out as part of the MAREN project, which is part funded by the European Regional Development Fund (ERDF) through the Atlantic Area Transnational Programme (INTERREG IV), and is based upon works supported by the Science Foundation Ireland under Grant No. 12/RC/2302.

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**第 90 条，共 395 条**

**标题:** Subspace Alignment Chains and the Degrees of Freedom of the Three-User MIMO Interference Channel

**作者:** Wang, CW (Wang, Chenwei); Gou, TG (Gou, Tiangao); Jafar, SA (Jafar, Syed Ali)

**来源出版物:** IEEE TRANSACTIONS ON INFORMATION THEORY **卷:** 60 **期:** 5 **页:** 2432-2479 **DOI:** 10.1109/TIT.2014.2308988 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** We show that the three-user M-T x M-R Multiple-Input Multiple-Output (MIMO) interference channel where

each transmitter is equipped with M-T antennas and each receiver is equipped with M-R antennas has d(M, N) Delta(=) min (M/2-1/kappa, N/2+1/kappa) degrees of freedom (DoF) normalized by time, frequency, and space dimensions, where M Delta(=) min(M-T, M-R), N Delta(=) max(M-T, M-R), kappa Delta(=) [M/N-M]. While the DoF outer bound of d(M, N) is established for every M-T, M-R value, the achievability of d(M, N) DoF is established in general subject to a normalization with respect to spatial extensions, i. e., the scaling of the number of antennas at all nodes. In particular, we show that qd(M, N) DoF are achievable for the three-user qM(T) x qM(R) MIMO interference channel, for some positive integer q, which may be seen as a spatial extension factor. q is the scaling factor needed to make the value qd(M, N) an integer. Given spatial extensions, the achievability relies only on linear beamforming based interference alignment schemes and requires neither channel extensions nor channel variations in time or frequency. In the absence of spatial extensions, it is shown through examples how essentially the same interference alignment scheme may be applied over time-extensions over either constant or time-varying channels. The central new insight to emerge from this paper is the notion of subspace alignment chains as the DoF bottlenecks. The subspace alignment chains are instrumental both in identifying the extra dimensions to be provided by a genie to a receiver for the DoF outer bound, as well as in the construction of the optimal interference alignment schemes. The DoF value d(M, N) is a piecewise linear function of M, N, with either M or N being the bottleneck within each linear segment, whereas the other value contains some redundancy, i. e., it can be reduced without reducing the DoF. The corner points of these piecewise linear segments correspond to two sets, A Delta(=) {1/2, 2/3, 3/4, ... } and B Delta(=) {1/3, 3/5, 5/7, ... }. The set A contains all those values of M/N and only those values of M/N for which there is redundancy in both M and N, i. e., either can be reduced without reducing the DoF. The set B contains all those values of M/N and only those values of M/N for which there is no redundancy in either M or N, i. e., neither can be reduced without reducing the DoF. Because A and B represent settings with maximum and minimum redundancy, essentially they are the basis for the DoF outer bounds and inner bounds, respectively. Our results settle the question of feasibility of linear interference alignment, introduced previously by Cenk et al., for the three-user M-T x M-R MIMO interference channel, completely for all values of M-T, M-R. In particular, we show that the linear interference alignment problem (M-T x M-R, d)(3) (as defined in previous paper by Cenk et al.) is feasible if and only if d <= d(M, N)]. With the exception of the values M/N is an element of B, and only with that exception, we show that for every M/N value there are proper systems (as defined by Cenk et al.) that are not feasible. Evidently the redundancy contained in all other values of M/N manifests itself as superfluous variables that are not discounted in the definition of proper systems, thus creating a discrepancy between proper and feasible systems. Our results show that M/N is an element of A are the only values for which there is no DoF benefit of joint processing among co-located antennas at the transmitters or receivers. This may also be seen as a consequence of the maximum redundancy in the M/N is an element of A settings.

**文献类型:** Article
**作者关键词:** MIMO interference channel; interference alignment; subspace alignment chains; degrees of freedom
**KeyWords Plus:** NETWORKS
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| NSF | CCF-1319104<br>CCF-1161418 |
| ONR | N00014-12-10067 |

C. Wang and T. Gou were supported by the Center for Pervasive Communications and Computing, University of California, Irvine, Irvine, CA, USA. This work was supported in part by NSF under Grants CCF-1319104 and CCF-1161418 and in part by ONR under Grant N00014-12-10067. This paper was presented in part at the 2012 IEEE International Symposium on Information Theory.

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**第 91 条，共 395 条**

**标题:** Jumping NLP Curves: A Review of Natural Language Processing Research

**作者:** Cambria, E (Cambria, Erik); White, B (White, Bebo)

**来源出版物:** IEEE COMPUTATIONAL INTELLIGENCE MAGAZINE **卷:** 9 **期:** 2 **页:** 48-57 **DOI:** 10.1109/MCI.2014.2307227 **出版年:** MAY 2014
**Web of Science 核心合集中的 "被引频次":** 19
**被引频次合计:** 19

**文献类型:** Review

**KeyWords Plus:** TEXT CATEGORIZATION; MODELS; EVOLUTIONARY; CLASSIFICATION; DOCUMENTS; NETWORKS; LOGIC; WEB

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**第 92 条，共 395 条**

**标题:** Fuzzy Neural Network-Based Adaptive Control for a Class of Uncertain Nonlinear Stochastic Systems

**作者:** Chen, CLP (Chen, C. L. Philip); Liu, YJ (Liu, Yan-Jun); Wen, GX (Wen, Guo-Xing)

**来源出版物:** IEEE TRANSACTIONS ON CYBERNETICS **卷:** 44 **期:** 5 **页:** 583-593 **DOI:** 10.1109/TCYB.2013.2262935 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** This paper studies an adaptive tracking control for a class of nonlinear stochastic systems with unknown functions. The considered systems are in the nonaffine pure-feedback form, and it is the first to control this class of systems with stochastic disturbances. The fuzzy-neural networks are used to approximate unknown functions. Based on the backstepping design technique, the controllers and the adaptation laws are obtained. Compared to most of the existing stochastic systems, the proposed control algorithm has fewer adjustable parameters and thus, it can reduce online computation load. By using Lyapunov analysis, it is proven that all the signals of the closed-loop system are semiglobally uniformly ultimately bounded in probability and the system output tracks the reference signal to a bounded compact set. The simulation example is given to illustrate the effectiveness of the proposed control algorithm.

**文献类型:** Article

**作者关键词:** Adaptive control; backstepping design; fuzzy-neural networks; nonlinear stochastic systems

**KeyWords Plus:** OUTPUT-FEEDBACK CONTROL; SMALL-GAIN APPROACH; TRACKING CONTROL; DECENTRALIZED STABILIZATION; DYNAMICAL-SYSTEMS; DESIGN; OBSERVER

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Natural Science Foundation of China | 61104017 |
| National Fundamental Research 973 Program of China | 2011CB302801 |
| Macau Science and Technology Development Foundation | 008/2010/A1 |

Manuscript received December 9, 2011; revised May 23, 2012, December 15, 2012, March 25, 2013; accepted April 23, 2013. Date of publication May 30, 2013; date of current version April 11, 2014. This work was supported in part by the Natural Science Foundation of China under Grant 61104017, The National Fundamental Research 973 Program of China under Grant 2011CB302801, and the Macau Science and Technology Development Foundation under Grant 008/2010/A1. This paper was recommended by Associate Editor R. Selmic.

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**第 93 条，共 395 条**

**标题:** Synchronization control of memristor-based recurrent neural networks with perturbations

**作者:** Wang, WP (Wang, Weiping); Li, LX (Li, Lixiang); Peng, HP (Peng, Haipeng); Xiao, JH (Xiao, Jinghua); Yang, YX (Yang, Yixian)

**来源出版物:** NEURAL NETWORKS **卷:** 53 **页:** 8-14 **DOI:** 10.1016/j.neunet.2014.01.010 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** In this paper, the synchronization control of memristor-based recurrent neural networks with impulsive perturbations or boundary perturbations is studied. We find that the memristive connection weights have a certain relationship with the stability of the system. Some criteria are obtained to guarantee that memristive neural networks have strong noise tolerance capability. Two kinds of controllers are designed so that the memristive neural networks with perturbations can converge to the equilibrium points, which evoke human's memory patterns. The analysis in this paper employs the differential inclusions theory and the Lyapunov functional method. Numerical examples are given to show the effectiveness of our results. 

**文献类型:** Article

**作者关键词:** Memristor-based recurrent neural networks; Synchronization control; Impulsive perturbation; Boundary perturbation

**KeyWords Plus:** TIME-VARYING DELAYS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61100204<br>61170269<br>61121061 |
| China Postdoctoral Science Foundation Funded Project | 2013M540070 |
| Beijing Higher Education Young Elite Teacher Project | YETP0449 |
| Open Research Fund of Zhejiang Provincial Key Lab of Data Storage and Transmission Technology, Hangzhou Dianzi University | 201305 |

The authors would like to thank all the anonymous reviewers for their helpful advice. This paper is supported by the National Natural Science Foundation of China (Grant Nos. 61100204, 61170269, 61121061), the China Postdoctoral Science Foundation Funded Project (Grant No. 2013M540070), the Beijing Higher Education Young Elite Teacher Project (Grant No. YETP0449), and the Open Research Fund of Zhejiang Provincial Key Lab of Data Storage and Transmission Technology, Hangzhou Dianzi University (Grant No. 201305).

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**第 94 条，共 395 条**

**标题:** Matrix measure strategies for stability and synchronization of inertial BAM neural network with time delays

**作者:** Cao, JD (Cao, Jinde); Wan, Y (Wan, Ying)

**来源出版物:** NEURAL NETWORKS **卷:** 53 **页:** 165-172 **DOI:** 10.1016/j.neunet.2014.02.003 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 21

**被引频次合计:** 22

**摘要:** A single inertial BAM neural network with time-varying delays and external inputs is concerned in this paper. First, by choosing suitable variable substitution, the original system can be transformed into first-order differential equations. Then, we present several sufficient conditions for the global exponential stability of the equilibrium by using matrix measure and Halanay inequality, these criteria are simple in form and easy to verify in practice. Furthermore, when employing an error-feedback control term to the response neural network, parallel criteria regarding to the exponential synchronization of the drive-response neural network are also generated. Finally, some examples are given to illustrate our theoretical results. (C) 2014 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Global exponential stability; Global synchronization; Matrix measure; Inertial BAM neural network; Time-varying delays

**KeyWords Plus:** PERIODIC-SOLUTIONS; BIFURCATION-ANALYSIS; PATTERN-FORMATION; MODEL; NEURONS; SYSTEMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61272530<br>11072059 |
| Natural Science Foundation of Jiangsu Province of China | BK2012741 |
| Specialized Research Fund for the Doctoral Program of Higher Education | 20110092110017<br>20130092110017 |

This work was supported in part by the National Natural Science Foundation of China (Grant Nos. 61272530 and 11072059), the Natural Science Foundation of Jiangsu Province of China (Grant No. BK2012741), and the Specialized Research Fund for the Doctoral Program of Higher Education (Grant Nos. 20110092110017 and 20130092110017).

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**第 95 条，共 395 条**

**标题:** Exponential synchronization of coupled memristive neural networks with time delays

**作者:** Wang, G (Wang, Guan); Shen, Y (Shen, Yi)

**来源出版物:** NEURAL COMPUTING & APPLICATIONS **卷:** 24 **期:** 6 **页:** 1421-1430 **DOI:** 10.1007/s00521-013-1349-3 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** In this paper, the model of coupled memristive neural networks with time delays is established, and sufficient conditions are obtained that guarantee the exponential synchronization for such system. Memristive network exhibits state-dependent switching behaviors due to the physical properties of memristor. It is demonstrated that the synchronization performance is largely dependent on the coupling pattern and strength among memristive neural networks. Moreover, the information exchange graph of the underlying network topology need not be undirected or strongly connected. Finally, numerical simulations are given to verify the usefulness and effectiveness of our results.

**文献类型:** Article

**作者关键词:** Exponential synchronization; Memristor; Coupled neural networks; Time delays; State-dependent switching

**KeyWords Plus:** VARYING DELAYS; STABILITY ANALYSIS; GLOBAL SYNCHRONIZATION; ROBUST SYNCHRONIZATION; DYNAMICAL NETWORKS; SYSTEMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| State Key Program of National Natural Science of China | 61134012 |
| National Natural Science Foundation of China | 11271146 |

The project was supported by the State Key Program of National Natural Science of China (Grant No. 61134012) and the National Natural Science Foundation of China (Grant No. 11271146).

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**第 96 条，共 395 条**

**标题:** Linear quantile mixed models

**作者:** Geraci, M (Geraci, Marco); Bottai, M (Bottai, Matteo)

**来源出版物:** STATISTICS AND COMPUTING **卷:** 24 **期:** 3 **页:** 461-479 **DOI:** 10.1007/s11222-013-9381-9 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** Dependent data arise in many studies. Frequently adopted sampling designs, such as cluster, multilevel, spatial, and repeated measures, may induce this dependence, which the analysis of the data needs to take into due account. In a previous publication (Geraci and Bottai in Biostatistics 8:140-154, 2007), we proposed a conditional quantile regression model for continuous responses where subject-specific random intercepts were included to account for within-subject dependence in the context of longitudinal data analysis. The approach hinged upon the link existing

between the minimization of weighted absolute deviations, typically used in quantile regression, and the maximization of a Laplace likelihood. Here, we consider an extension of those models to more complex dependence structures in the data, which are modeled by including multiple random effects in the linear conditional quantile functions. We also discuss estimation strategies to reduce the computational burden and inefficiency associated with the Monte Carlo EM algorithm we have proposed previously. In particular, the estimation of the fixed regression coefficients and of the random effects' covariance matrix is based on a combination of Gaussian quadrature approximations and non-smooth optimization algorithms. Finally, a simulation study and a number of applications of our models are presented.

**文献类型:** Article

**作者关键词:** Best linear predictor; Clarke's derivative; Hierarchical models; Gaussian quadrature

**KeyWords Plus:** ASYMMETRIC LAPLACE DISTRIBUTION; LONGITUDINAL DATA; REGRESSION QUANTILES; SMOOTHING SPLINES; PANEL-DATA; BOOTSTRAP; INFERENCE; APPROXIMATION; DISTRIBUTIONS; SUCCIMER

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Medical Research Council in its capacity as the MRC Centre of Epidemiology for Child Health | G0400546 |
| Department of Health's NIHR Biomedical Research Centres funding scheme | |

The Centre for Paediatric Epidemiology and Biostatistics benefits from funding support from the Medical Research Council in its capacity as the MRC Centre of Epidemiology for Child Health (G0400546). The UCL Institute of Child Health receives a proportion of funding from the Department of Health's NIHR Biomedical Research Centres funding scheme.

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**第 97 条，共 395 条**

**标题:** Active Contours with Free Endpoints

**作者:** Schaeffer, H (Schaeffer, Hayden); Vese, L (Vese, Luminita)

**来源出版物:** JOURNAL OF MATHEMATICAL IMAGING AND VISION **卷:** 49 **期:** 1 **页:** 20-36 **DOI:** 10.1007/s10851-013-0437-4 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Image segmentation methods with length regularized edge sets are known to have segments whose endpoints either terminate perpendicularly to the boundary of the domain, terminate at a triple junction where three segments connect, or terminate at a free endpoint where the segment does not connect to any other edges. However, level set based segmentation methods are only able to capture edge structures which contain the first two types of segments. In this work, we propose an extension to the level set based image segmentation method in order to detect free endpoint structures. By generalizing the curve representation used in Chan and Vese (Trans. Image Proces. 10(2):266-277, 2001; Int. J. Comput. Vis. 50(3):271-293, 2002) to also include free endpoint structures, we are able to segment a larger class of edge types. Since our model is formulated using the level set framework, the curve evolution inherits useful properties such as the ability to change its topology by splitting and merging. The numerical method is provided as well as experimental results on both synthetic and real images.

**文献类型:** Article

**作者关键词:** Segmentation; Active contours; Free endpoint; Sobolev gradient

**KeyWords Plus:** IMAGE SEGMENTATION; INFINITY-LAPLACIAN; LIPSCHITZ EXTENSIONS; VARIATIONAL METHOD; APPROXIMATION; INTERPOLATION; FORMULATIONS; EXISTENCE; EQUATION; MUMFORD

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Department of Defense (DoD) through the National Defense Science and Engineering Graduate Fellowship (NDSEG) Program | |
| National Science Foundation | DMS 0714945 |
| CCF/ITR Expeditions Grant | 0926127 |

This research was supported by the Department of Defense (DoD) through the National Defense Science and Engineering Graduate Fellowship (NDSEG) Program and in part by the National Science Foundation Grant DMS 0714945 and CCF/ITR Expeditions Grant 0926127.

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**第 98 条，共 395 条**

**标题:** Analytical solution of nonlinear second-order periodic boundary value problem using reproducing kernel method

**作者:** Shawagfeh, N (Shawagfeh, Nabil); Abu Arqub, O (Abu Arqub, Omar); Momani, S (Momani, Shaher)

**来源出版物:** JOURNAL OF COMPUTATIONAL ANALYSIS AND APPLICATIONS **卷:** 16 **期:** 4 **页:** 750-762 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** This paper investigates the numerical solution of nonlinear second-order periodic boundary value problems by using reproducing kernel Hilbert space method. The solution was calculated in the form of a convergent series in the space W with easily computable components. In the proposed method, the n-term approximation is obtained and is proved to converge to the analytical solution. Meanwhile, the error of the approximate solution is monotone decreasing in the sense of the norm of W. The proposed technique is applied to several examples to illustrate the accuracy, efficiency, and applicability of the method. The results reveal that the method is very effective, straightforward, and simple.

**文献类型:** Article

**作者关键词:** periodic boundary value problems; Reproducing kernel Hilbert space method

**KeyWords Plus:** LANE-EMDEN EQUATION; DIFFERENTIAL-EQUATIONS; POSITIVE SOLUTIONS; EXISTENCE; REPRESENTATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| University of Jordan | |

The first author would like to thank the University of Jordan for the financial support during the preparation of this article.

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**第 99 条，共 395 条**

**标题:** A review of soft consensus models in a fuzzy environment

**作者:** Herrera-Viedma, E (Herrera-Viedma, Enrique); Cabrerizo, FJ (Javier Cabrerizo, Francisco); Kacprzyk, J (Kacprzyk, Janusz); Pedrycz, W (Pedrycz, Witold)

**来源出版物:** INFORMATION FUSION **卷:** 17 **特刊:** SI **页:** 4-13 **DOI:** 10.1016/j.inffus.2013.04.002 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 15

**被引频次合计:** 15

**摘要:** In the consensus reaching processes developed in group decision making problems we need to measure the closeness among experts' opinions in order to obtain a consensus degree. As it is known, to achieve a full and unanimous consensus is often not reachable in practice. An alternative approach is to use softer consensus measures, which reflect better all possible partial agreements, guiding the consensus process until high agreement is achieved among individuals. Consensus models based on soft consensus measures have been widely used because these measures represent better the human perception of the essence of consensus. This paper presents an overview of consensus models based on soft consensus measures, showing the pioneering and prominent papers, the main existing approaches and the new trends and challenges. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Group decision making; Consensus; Soft consensus measures; Fuzzy logic

**KeyWords Plus:** GROUP DECISION-MAKING; PREFERENCE RELATIONS; LINGUISTIC QUANTIFIERS; SUPPORT-SYSTEM; OWA OPERATORS; AGGREGATION; INFORMATION; CONSISTENCY; MAJORITY; ASSESSMENTS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| FEDER funds in FUZZYLING-II Project | TIN2010-17876 |
| Andalusian Excellence Projects | TIC-05299<br>TIC-5991 |
| Programa Jose Castillejo | JC2011-0002 |

This work has been developed with the financing of FEDER funds in FUZZYLING-II Project TIN2010-17876, the Andalusian Excellence Projects TIC-05299 and TIC-5991, and "Programa Jose Castillejo 2011 (JC2011-0002)".

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**第 100 条，共 395 条**

**标题:** Consistency and consensus measures for linguistic preference relations based on distribution assessments

**作者:** Zhang, GQ (Zhang, Guiqing); Dong, YC (Dong, Yucheng); Xu, YF (Xu, Yinfeng)

**来源出版物:** INFORMATION FUSION **卷:** 17 **特刊:** SI **页:** 46-55 **DOI:** 10.1016/j.inffus.2012.01.006 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** In this paper, we propose the concept of distribution assessments in a linguistic term set, and study the operational laws of linguistic distribution assessments. The weighted averaging operator and the ordered weighted averaging operator for linguistic distribution assessments are presented. We also develop the concept of distribution linguistic preference relations, whose elements are linguistic distribution assessments. Further, we study the consistency and consensus measures for group decision making based on distribution linguistic preference relations. Two desirable properties of the proposed measures are shown. A consensus model also has been developed to help decision makers improve the consensus level among distribution linguistic preference relations. Finally, illustrative numerical examples are given. The results in this paper provide a theoretic basis for the application of linguistic distribution assessments in group decision making. (C) 2012 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Group decision making; Linguistic preference relations; Distribution assessments; Consistency; Consensus

**KeyWords Plus:** GROUP DECISION-MAKING; TYPE-2 FUZZY-SETS; AGGREGATION OPERATORS; REPRESENTATION MODEL; SUPPORT-SYSTEM; OWA OPERATORS; INFORMATION; WORDS; LABELS; FUZZISTICS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| NSF of China | 70801048<br>71171160 |

The authors thank the editors and three anonymous reviewers for their constructive comments and suggestions,

which are very helpful in improving this paper. Yucheng Dong would like to acknowledge the financial support of Grants (Nos. 70801048 and 71171160) from NSF of China

**第 101 条，共 395 条**

**标题:** Consensus in multi-expert decision making problems using penalty functions defined over a Cartesian product of lattices

**作者:** Bustince, H (Bustince, H.); Barrenechea, E (Barrenechea, E.); Calvo, T (Calvo, T.); James, S (James, S.); Beliakov, G (Beliakov, G.)

**来源出版物:** INFORMATION FUSION **卷:** 17 **特刊:** SI **页:** 56-64 **DOI:** 10.1016/j.inffus.2011.10.002 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** In this paper we introduce an algorithm to aggregate the preference relations provided by experts in multi-expert decision making problems. Instead of using a single aggregation function for the whole process, we start from a set of aggregation functions and select, by means of consensus done through penalty functions, the most suitable aggregation function in order to aggregate the individual preferences for each of the elements. An advantage of the method that we propose is that it allows us to recover the classical methods, just by using a single aggregation function. We also present a generalization of the concepts of restricted dissimilarity function and distance between sets for the case where we are working with a Cartesian product of lattices and use such concepts to build penalty functions. Finally, we propose an algorithm that allows us to choose the best combination of aggregation functions for a multi-expert decision making problem. (C) 2011 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Restricted dissimilarity function; Fuzzy distance; Penalty functions; Multipurpose decision making; Selection process

**KeyWords Plus:** RESTRICTED EQUIVALENCE FUNCTIONS; AGGREGATION OPERATORS; PREFERENCE RELATIONS; FUZZY-SETS; CHOICE FUNCTIONS; CLASSIFICATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Government of Spain | TIN2010-15055 |
| | MTM2009-10962 |
| | TIN2009-07901 |

H. Bustince and E. Barrenechea wish to acknowledge partial support through the Grant TIN2010-15055 from the Government of Spain. T. Calvo wishes to acknowledge partial support through the Grants MTM2009-10962 and TIN2009-07901.

**第 102 条，共 395 条**

**标题:** A granulation of linguistic information in AHP decision-making problems

**作者:** Pedrycz, W (Pedrycz, Witold); Song, ML (Song, Mingli)

**来源出版物:** INFORMATION FUSION **卷:** 17 **特刊:** SI **页:** 93-101 **DOI:** 10.1016/j.inffus.2011.09.003 **出版年:** MAY 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** To be fully utilized, linguistic information present in decision-making, has to be made operational through information granulation. This study is concerned with information granulation present in the problems of Analytic Hierarchy Process (AHP), which is available in the characterization of a pairwise assessment of alternatives studied in the decision-making problem. The granulation of entries of reciprocal matrices forming the cornerstone of the AHP is formulated as a optimization problem in which an inconsistency index is minimized by a suitable mapping of the linguistic terms on the predetermined scale. Particle Swarm Optimization is used as an optimization framework. Both individual and group decision-making models of AHP are discussed. (C) 2011 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Decision-making; AHP method; Information granules; Particle swarm optimization (PSO); Granular computing; Linguistic evaluation; Membership function estimation

**KeyWords Plus:** ANALYTIC HIERARCHY PROCESS; PARTICLE SWARM OPTIMIZATION; PREFERENCE RELATIONS; CONSENSUS MODEL; SUPPORT-SYSTEM; CONSISTENCY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Natural Sciences and Engineering of Canada (NSERC) | |
| Canada Research Chair (CRC) Program | |
| China Scholarship Council | |

Support from the Natural Sciences and Engineering of Canada (NSERC), Canada Research Chair (CRC) Program, and China Scholarship Council is gratefully acknowledged.

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**第 103 条，共 395 条**

**标题:** Feature selection with SVD entropy: Some modification and extension

**作者:** Banerjee, M (Banerjee, Monami); Pal, NR (Pal, Nikhil R.)

**来源出版物:** INFORMATION SCIENCES **卷:** 264 **页:** 118-134 **DOI:** 10.1016/j.ins.2013.12.029 **出版年:** APR 20 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Many approaches have been developed for dimensionality reduction. These approaches can broadly be categorized into supervised and unsupervised methods. In case of supervised dimensionality reduction, for any input vector the target value is known, which can be a class label also. In a supervised approach, our objective is to select a subset of features that has adequate discriminating power to predict the target value. This target value for an input vector is absent in case of an unsupervised approach. In an unsupervised scheme, we mainly try to find a subset that can capture the inherent "structure" of the data, such as the neighborhood relation or the cluster structure. In this work, we first study a Singular Value Decomposition (SVD) based unsupervised feature selection approach proposed by Varshavsky et al. Then we propose a modification of this method to improve its performance. An SVD-entropy based supervised feature selection algorithm is also developed in this paper. Performance evaluation of the algorithms is done on altogether 13 benchmark and one Synthetic data sets. The quality of the selected features is assessed using three indices: Sammon's Error (SE), Cluster Preservation Index (CPI) and MisClassification Error (MCE) using a 1-Nearest Neighbor (1-NN) classifier. Besides showing the improvement of the modified unsupervised scheme over the existing one, we have also made a comparative study of the modified unsupervised and the proposed supervised algorithms with one well-known unsupervised and two popular supervised feature selection methods respectively. Our results reveal the effectiveness of the proposed algorithms in selecting relevant features. (C) 2014 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Feature selection; Singular Value Decomposition; Entropy

**KeyWords Plus:** UNSUPERVISED FEATURE-SELECTION; GENE-EXPRESSION DATA; CLASSIFICATION; CANCER; DISCOVERY

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**第 104 条，共 395 条**

**标题:** CasOT: a genome-wide Cas9/gRNA off-target searching tool

**作者:** Xiao, A (Xiao, An); Cheng, ZC (Cheng, Zhenchao); Kong, L (Kong, Lei); Zhu, ZY (Zhu, Zuoyan); Lin, S (Lin, Shuo); Gao, G (Gao, Ge); Zhang, B (Zhang, Bo)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 8 **页:** 1180-1182 **DOI:** 10.1093/bioinformatics/btt764 **出版年:** APR 15 2014

**Web of Science 核心合集中的 "被引频次":** 7
**被引频次合计:** 7
**摘要:** The CRISPR/Cas or Cas9/guide RNA system is a newly developed, easily engineered and highly effective tool for gene targeting; it has considerable off-target effects in cultured human cells and in several organisms. However, the Cas9/guide RNA target site is too short for existing alignment tools to exhaustively and effectively identify potential off-target sites. CasOT is a local tool designed to find potential off-target sites in any given genome or user-provided sequence, with user-specified types of protospacer adjacent motif, and number of mismatches allowed in the seed and non-seed regions.
**文献类型:** Article
**KeyWords Plus:** SPECIFICITY; SYSTEMS; ENDONUCLEASE; NUCLEASES
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China (NSFC) | 31110103904 |
| 973 programs | 2011CBA01000<br>2012CB945101<br>2011CBA01102 |
| NSFC | 31171242 |

This work was supported by National Natural Science Foundation of China (NSFC) [31110103904], the 973 programs [2011CBA01000, 2012CB945101, 2011CBA01102], and NSFC [31171242].

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**第 105 条，共 395 条**
**标题:** DIYABC v2.0: a software to make approximate Bayesian computation inferences about population history using single nucleotide polymorphism, DNA sequence and microsatellite data
**作者:** Cornuet, JM (Cornuet, Jean-Marie); Pudlo, P (Pudlo, Pierre); Veyssier, J (Veyssier, Julien); Dehne-Garcia, A (Dehne-Garcia, Alexandre); Gautier, M (Gautier, Mathieu); Leblois, R (Leblois, Raphael); Marin, JM (Marin, Jean-Michel); Estoup, A (Estoup, Arnaud)
**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 8 **页:** 1187-1189 **DOI:** 10.1093/bioinformatics/btt763 **出版年:** APR 15 2014
**Web of Science 核心合集中的 "被引频次":** 21
**被引频次合计:** 21
**摘要:** Motivation: DIYABC is a software package for a comprehensive analysis of population history using approximate Bayesian computation on DNA polymorphism data. Version 2.0 implements a number of new features and analytical methods. It allows (i) the analysis of single nucleotide polymorphism data at large number of loci, apart from micro-satellite and DNA sequence data, (ii) efficient Bayesian model choice using linear discriminant analysis on summary statistics and (iii) the serial launching of multiple post-processing analyses. DIYABC v2.0 also includes a user-friendly graphical interface with various new options. It can be run on three operating systems: GNU/Linux, Microsoft Windows and Apple Os X.
**文献类型:** Article
**KeyWords Plus:** MODEL; EVOLUTION; GENETICS; ABC
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| French Agence Nationale de la Recherche | ANR-09-BLAN- 0145-01 |
| Inra-Jeune Equipe IGGiPop | |
| NUMEV Labex | |
| CBGP HPC computational platform | |

French Agence Nationale de la Recherche (ANR-09-BLAN- 0145-01), Inra-Jeune Equipe IGGiPop, CBGP HPC computational platform and NUMEV Labex.

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**第 106 条，共 395 条**

**标题:** Finite-time boundedness of state estimation for neural networks with time-varying delays

**作者:** Cheng, J (Cheng, Jun); Zhong, SM (Zhong, Shouming); Zhong, QS (Zhong, Qishui); Zhu, H (Zhu, Hong); Du, YH (Du, Yuanhua)

**来源出版物:** NEUROCOMPUTING **卷:** 129 **特刊:** SI **页:** 257-264 **DOI:** 10.1016/j.neucom.2013.09.034 **出版年:** APR 10 2014

**Web of Science 核心合集中的 "被引频次":** 10

**被引频次合计:** 10

**摘要:** In this paper, we study the finite-time boundedness problem for neural networks with time-varying delays. By introducing a newly augmented Lyapunov-Krasovskii functional and considering the relationship between time-varying delays and their upper delay bounds, sufficient condition of state estimation for neural networks with time-varying delays is presented and proved by using convex polyhedron method and novel activation function conditions. Finally, a numerical example is given to illustrate the efficiency and less conservative character of the proposed method. Crown Copyright (C) 2013 Published by Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Finite-time boundedness; Neural networks; State estimation; Time-varying delays

**KeyWords Plus:** EXPONENTIAL STABILITY ANALYSIS; H-INFINITY CONTROL; TRANSITION-PROBABILITIES; SYSTEMS; STABILIZATION; FEEDBACK; UNCERTAINTIES; CRITERIA

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**第 107 条，共 395 条**

**标题:** Mining user-contributed photos for personalized product recommendation

**作者:** Feng, H (Feng, He); Qian, XM (Qian, Xueming)

**来源出版物:** NEUROCOMPUTING **卷:** 129 **特刊:** SI **页:** 409-420 **DOI:** 10.1016/j.neucom.2013.09.018 **出版年:** APR 10 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** With the advent and popularity of social media, users are willing to share their experiences by photos, reviews, blogs, and so on. The social media contents shared by these users reveal potential shopping needs. Product recommender is not limited to just e-commerce sites, it can also be expanded to social media sites. In this paper, we propose a novel hierarchical user interest mining (Huim) approach for personalized products recommendation. The input of our approach consists of user-contributed photos and user generated content (UGC), which include user-annotated photo tags and the comments from others in a social site. The proposed approach consists of four steps. First, we make full use of the visual information and UGC of its photos to mine user's interest. Second, we represent user interest by a topic distribution vector, and apply our proposed Huim to enhance interest-related topics. Third, we also represent each product by a topic distribution vector. Then, we measure the relevance of user and product in the topic space and determine the rank of each product for the user. We conduct a series of experiments on Flickr users and the products from Bing Shopping. Experimental results show the effectiveness of the proposed approach. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Products recommender; Personalized recommendation; Hierarchical topic space; Social media

**KeyWords Plus:** IMAGE ANNOTATION; SYSTEM; GRAPH

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**第 108 条，共 395 条**

**标题:** Creation of a Highly Detailed, Dynamic, Global Model and Map of Science

**作者:** Boyack, KW (Boyack, Kevin W.); Klavans, R (Klavans, Richard)

**来源出版物:** JOURNAL OF THE ASSOCIATION FOR INFORMATION SCIENCE AND TECHNOLOGY **卷:** 65 **期:** 4 **页:** 670-685 **DOI:** 10.1002/asi.22990 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** The majority of the effort in metrics research has addressed research evaluation. Far less research has addressed the unique problems of research planning. Models and maps of science that can address the detailed problems associated with research planning are needed. This article reports on the creation of an article-level model and map of science covering 16 years and nearly 20 million articles using cocitation-based techniques. The map is then used to define discipline-like structures consisting of natural groupings of articles and clusters of articles. This combination of detail and high-level structure can be used to address planning-related problems such as identification of emerging topics and the identification of which areas of science and technology are innovative and which are simply persisting. In addition to presenting the model and map, several process improvements that result in greater accuracy structures are detailed, including a bibliographic coupling approach for assigning current papers to cocitation clusters and a sequential hybrid approach to producing visual maps from models.

**文献类型:** Article

**KeyWords Plus:** CITATION; LITERATURES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Center for Scientific Review (CSR) at the U.S. National Institutes of Health | |

We thank Michael Patek for extracting the necessary data and creating and running the scripts that create our models of science. The sequentially hybrid layout work described here was supported by the Center for Scientific Review (CSR) at the U.S. National Institutes of Health.

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**第 109 条，共 395 条**

**标题:** Tautomerism in pyridazin-3(2H)-one: A theoretical study using implicit/explicit solvation models

**作者:** Emamian, SR (Emamian, Saeed Reza); Domingo, LR (Ramon Domingo, Luis); Tayyari, SF (Faramarz Tayyari, Sayyed)

**来源出版物:** JOURNAL OF MOLECULAR GRAPHICS & MODELLING **卷:** 49 **页:** 47-54 **DOI:** 10.1016/j.jmgm.2014.01.006 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** The tautomeric conversion of pyridazin-3(2H)-one 1 into pyridazin-3-ol 2 has been theoretically studied using density functional theory (DFT) methods at the B3LYP/6-311++G** level. Two mechanisms have been considered for this process: (i) one in which the hydrogen is directly transferred through TS12; and (ii) another one in which a double hydrogen transfer takes place via Th1122 upon formation of the corresponding dimer. The former requires a very high activation energy of 42.64 kcal/mol as a consequence of the strain associated with the formation of the four-membered TS12, while the latter requires a much lower activation energy, 14.66 kcal/mol. Implicit, explicit, and a combination of both implicit and explicit solvation models, using both protic and aprotic polar solvents, have been considered for the first mechanism. This study allows the establishment of the requirement to use protic polar solvents in order to reduce the high activation energy associated with TS12. (C) 2014 Elsevier Inc. All rights reserved.

**文献类型:** Article
**作者关键词:** Tautomerism; Pyridazinone; DFT calculations; Solvent effects; Explicit and implicit solvation models
**KeyWords Plus:** KETO-ENOL-TAUTOMERISM; AB-INITIO; HYDROXAMIC ACID; AQUEOUS PHASES; HYDROGEN-BOND; SOLVENT; WATER; COMPUTATION; CONTINUUM; HYDRATION
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**第 110 条，共 395 条**
**标题:** Novel Stability Criteria for T-S Fuzzy Systems
**作者:** Zhao, XD (Zhao, Xudong); Zhang, LX (Zhang, Lixian); Shi, P (Shi, Peng); Karimi, HR (Karimi, Hamid Reza)
**来源出版物:** IEEE TRANSACTIONS ON FUZZY SYSTEMS **卷:** 22 **期:** 2 **页:** 313-323 **DOI:** 10.1109/TFUZZ.2013.2254491 **出版年:** APR 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4
**摘要:** In this paper, novel stability conditions for Takagi-Sugeno (T-S) fuzzy systems are presented. The so-called non-quadratic membership-dependent Lyapunov function is first proposed, which is formulated in a higher order form of both the system states and the normalized membership functions than existing techniques in the literature. Then, new membership-dependent stability conditions are developed by the new Lyapunov function approach. It is shown that the conservativeness of the obtained criteria can be further reduced as the degree of the Lyapunov function increases. Two numerical examples are given to demonstrate the effectiveness and less conservativeness of the obtained theoretical results.
**文献类型:** Article
**作者关键词:** Lyapunov function; membership-dependent; stability; Takagi-Sugeno (T-S) fuzzy system
**KeyWords Plus:** SINGULARLY PERTURBED SYSTEMS; H-INFINITY CONTROL; LYAPUNOV FUNCTION-APPROACH; RELAXED STABILITY; LMI APPROACH; STABILIZATION CONDITIONS; NONLINEAR-SYSTEMS; CONTROL DESIGN; TIME; DELAY
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61203123<br>60904001<br>61174058 |
| National Key Basic Research Program (973) | 2012CB215202 |
| 111 Project | B12018 |
| Doctoral Fund of Ministry of Education of China | 20092302120071 |
| Fundamental Research Funds for the Central Universities, China | 11CX04044A |
| Shandong Provincial Natural Science Foundation, China | ZR2012FQ019 |

This work was supported in part by the National Natural Science Foundation of China under Grant 61203123, Grant 60904001, and Grant 61174058, in part by the National Key Basic Research Program (973, No. 2012CB215202), in part by the 111 Project (B12018), in part by the Doctoral Fund of Ministry of Education of China under Grant 20092302120071, in part by the Fundamental Research Funds for the Central Universities, China, under Grant 11CX04044A, and in part by the Shandong Provincial Natural Science Foundation, China, under Grant ZR2012FQ019.

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**第 111 条，共 395 条**
**标题:** Dissipativity Analysis and Synthesis for Discrete-Time T-S Fuzzy Stochastic Systems With Time-Varying Delay

**作者:** Wu, LG (Wu, Ligang); Yang, XZ (Yang, Xiaozhan); Lam, HK (Lam, Hak-Keung)

**来源出版物:** IEEE TRANSACTIONS ON FUZZY SYSTEMS **卷:** 22 **期:** 2 **页:** 380-394 **DOI:** 10.1109/TFUZZ.2013.2256913 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 10

**被引频次合计:** 10

**摘要:** This paper is concerned with the problems of dissipativity analysis and synthesis for discrete-time Takagi-Sugeno fuzzy systems with stochastic perturbation and time-varying delay. First, a novel model transformation method is introduced to pull the time-varying delay uncertainty out of the original system. Consequently, the transformed model is composed of a linear time-invariant system and a norm-bounded uncertain subsystem. By using this model transformation method combined with the Lyapunov-Krasovskii technique, sufficient conditions of the dissipativity are established. Then, a fuzzy controller is designed to guarantee the dissipative performance of the closed-loop system. Finally, three examples are presented: one shows the effectiveness of model transformation method, the second performs the comparison with alternative approaches, and the third illustrates the applicability of the proposed dissipative control methods.

**文献类型:** Article

**作者关键词:** Dissipativity; model transformation; stochastic perturbation; Takagi-Sugeno (T-S) fuzzy systems; time-varying delay

**KeyWords Plus:** H-INFINITY CONTROL; MATRIX INEQUALITY TECHNIQUES; STABILITY ANALYSIS; NONLINEAR-SYSTEMS; CONTROLLER-DESIGN; DYNAMICAL-SYSTEMS; INPUT-OUTPUT; LMI APPROACH; STATE DELAY; STABILIZATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61174126<br>61222301 |
| Program for New Century Excellent Talents in University | NCET-09-0063 |
| Fundamental Research Funds for the Central Universities | HIT.BRET2.2010011 |

This work was supported in part by the National Natural Science Foundation of China under Grant 61174126 and Grant 61222301, the Program for New Century Excellent Talents in University under Grant NCET-09-0063, and the Fundamental Research Funds for the Central Universities under Grant HIT.BRET2.2010011.

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**第 112 条，共 395 条**

**标题:** Fast and Robust Recursive Algorithms for Separable Nonnegative Matrix Factorization

**作者:** Gillis, N (Gillis, Nicolas); Vavasis, SA (Vavasis, Stephen A.)

**来源出版物:** IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE **卷:** 36 **期:** 4 **页:** 698-714 **DOI:** 10.1109/TPAMI.2013.226 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** In this paper, we study the nonnegative matrix factorization problem under the separability assumption ( that is, there exists a cone spanned by a small subset of the columns of the input nonnegative data matrix containing all columns), which is equivalent to the hyperspectral unmixing problem under the linear mixing model and the pure-pixel assumption. We present a family of fast recursive algorithms and prove they are robust under any small perturbations of the input data matrix. This family generalizes several existing hyperspectral unmixing algorithms and hence provides for the first time a theoretical justification of their better practical performance.

**文献类型:** Article

**作者关键词:** Nonnegative matrix factorization; algorithms; separability; robustness; hyperspectral unmixing; linear mixing model; pure-pixel assumption

**KeyWords Plus:** HYPERSPECTRAL DATA; ENDMEMBER EXTRACTION; SPARSE; MODEL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| US Air Force Office of Scientific Research | |
| Natural Sciences and Engineering Research Council (Canada) | |

The authors would like to thank the reviewers for their feedback which helped improve the paper significantly. This work was supported in part by a grant from the US Air Force Office of Scientific Research and a Discovery Grant from the Natural Sciences and Engineering Research Council (Canada).

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**第 113 条，共 395 条**

**标题:** featureCounts: an efficient general purpose program for assigning sequence reads to genomic features

**作者:** Liao, Y (Liao, Yang); Smyth, GK (Smyth, Gordon K.); Shi, W (Shi, Wei)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 7 **页:** 923-930 **DOI:** 10.1093/bioinformatics/btt656 **出版年:** APR 1 2014

**Web of Science 核心合集中的 "被引频次":** 20

**被引频次合计:** 20

**摘要:** Motivation: Next-generation sequencing technologies generate millions of short sequence reads, which are usually aligned to a reference genome. In many applications, the key information required for downstream analysis is the number of reads mapping to each genomic feature, for example to each exon or each gene. The process of counting reads is called read summarization. Read summarization is required for a great variety of genomic analyses but has so far received relatively little attention in the literature.
Results: We present featureCounts, a read summarization program suitable for counting reads generated from either RNA or genomic DNA sequencing experiments. featureCounts implements highly efficient chromosome hashing and feature blocking techniques. It is considerably faster than existing methods (by an order of magnitude for gene-level summarization) and requires far less computer memory. It works with either single or paired-end reads and provides a wide range of options appropriate for different sequencing applications.

**文献类型:** Article

**KeyWords Plus:** DIFFERENTIAL EXPRESSION ANALYSIS; RNA-SEQ DATA; ACCURATE; BIOCONDUCTOR; ALIGNMENT; QUANTIFICATION; BIOLOGY; BINDING; CANCER

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Australian National Health and Medical Research Council (NHMRC) | 1023454 |

Project grant (1023454) and a Fellowship (to G. K. S.) from the Australian National Health and Medical Research Council (NHMRC). Victorian State Government Operational Infrastructure Support and Australian Government NHMRC IRIIS.

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**第 114 条，共 395 条**

**标题:** TSSer: an automated method to identify transcription start sites in prokaryotic genomes from differential RNA sequencing data

**作者:** Jorjani, H (Jorjani, Hadi); Zavolan, M (Zavolan, Mihaela)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 7 **页:** 971-974 **DOI:** 10.1093/bioinformatics/btt752 **出版年:** APR 1 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Motivation: Accurate identification of transcription start sites (TSSs) is an essential step in the analysis of transcription regulatory networks. In higher eukaryotes, the capped analysis of gene expression technology enabled comprehensive annotation of TSSs in genomes such as those of mice and humans. In bacteria, an equivalent approach, termed differential RNA sequencing (dRNA-seq), has recently been proposed, but the application of this

approach to a large number of genomes is hindered by the paucity of computational analysis methods. With few exceptions, when the method has been used, annotation of TSSs has been largely done manually.
Results: In this work, we present a computational method called 'TSSer' that enables the automatic inference of TSSs from dRNA-seq data. The method rests on a probabilistic framework for identifying both genomic positions that are preferentially enriched in the dRNA-seq data as well as preferentially captured relative to neighboring genomic regions. Evaluating our approach for TSS calling on several publicly available datasets, we find that TSSer achieves high consistency with the curated lists of annotated TSSs, but identifies many additional TSSs. Therefore, TSSer can accelerate genome-wide identification of TSSs in bacterial genomes and can aid in further characterization of bacterial transcription regulatory networks.

**文献类型:** Article

**KeyWords Plus:** BACTERIA

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| University of Basel | |
| Swiss National Science Foundation | 31003A_147013 |

Work in the Zavolan laboratory is supported by the University of Basel and the Swiss National Science Foundation (grant number 31003A_147013).

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**第 115 条，共 395 条**

**标题:** A survey on vehicular cloud computing

**作者:** Whaiduzzaman, M (Whaiduzzaman, Md); Sookhak, M (Sookhak, Mehdi); Gani, A (Gani, Abdullah); Buyya, R (Buyya, Rajkumar)

**来源出版物:** JOURNAL OF NETWORK AND COMPUTER APPLICATIONS **卷:** 40 **页:** 325-344 **DOI:** 10.1016/j.jnca.2013.08.004 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** Vehicular networking has become a significant research area due to its specific features and applications such as standardization, efficient traffic management, road safety and infotainment. Vehicles are expected to carry relatively more communication systems, on board computing facilities, storage and increased sensing power. Hence, several technologies have been deployed to maintain and promote Intelligent Transportation Systems (ITS). Recently, a number of solutions were proposed to address the challenges and issues of vehicular networks. Vehicular Cloud Computing (VCC) is one of the solutions. VCC is a new hybrid technology that has a remarkable impact on traffic management and road safety by instantly using vehicular resources, such as computing, storage and internet for decision making. This paper presents the state-of-the-art survey of vehicular cloud computing. Moreover, we present a taxonomy for vehicular cloud in which special attention has been devoted to the extensive applications, cloud formations, key management, inter cloud communication systems, and broad aspects of privacy and security issues. Through an extensive review of the literature, we design an architecture for VCC, itemize the properties required in vehicular cloud that support this model. We compare this mechanism with normal Cloud Computing (CC) and discuss open research issues and future directions. By reviewing and analyzing literature, we found that VCC is a technologically feasible and economically viable technological shifting paradigm for converging intelligent vehicular networks towards autonomous traffic, vehicle control and perception systems. (c) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Review

**作者关键词:** Vehicular networks; Road vehicle control; Intelligent transportation systems; Cloud computing; Vehicular cloud computing

**KeyWords Plus:** MOBILE WIRELESS NETWORKS; AD HOC NETWORKS; SECURITY; PREDICTION; COMMUNICATION; ARCHITECTURE; VANETS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Malaysian Ministry of Higher Education under the University of Malaya High Impact Research Grant | UM.C/HIR/MOHE/FCSIT/03 |

This work is fully funded by the Malaysian Ministry of Higher Education under the University of Malaya High Impact Research Grant UM.C/HIR/MOHE/FCSIT/03.

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**第 116 条，共 395 条**

**标题:** Rich Mobile Applications: Genesis, taxonomy, and open issues

**作者:** Abolfazli, S (Abolfazli, Saeid); Sanaei, Z (Sanaei, Zohreh); Gani, A (Gani, Abdullah); Xia, F (Xia, Feng); Yang, LT (Yang, Laurence T.)

**来源出版物:** JOURNAL OF NETWORK AND COMPUTER APPLICATIONS **卷:** 40 **页:** 345-362 **DOI:** 10.1016/j.jnca.2013.09.009 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** Rich Mobile Applications (RMAs) comprise a budding research area receiving increasingly abundant attention from the academic and industrial communities. RMAs are deemed to be a candidate blueprint of future online smartphone applications aiming to deliver high functionalities and rich immersive experience to mobile users. RMAs are still in early stages and comprehensive survey of the domain is lacking. In this paper, we use structuralism and functionalism paradigms to analyze RMAs' origins, trends, and characteristics. RMAs are distinguished from traditional mobile applications and Rich Internet Applications (RIAs). Comprehending the distinction between delivering Rich User eXperience (RUX) in desktop and mobile computers, and the inward similarities and dissimilarities between RMAs and RIM will facilitate and accelerate the development of rich, smartphone-centric applications. We analyze several problems inhibiting the adoption of RMAs and review corresponding solutions to devise a taxonomy. Our study advocates that the majority of problems stem from the intrinsic characteristics of mobile devices and the heterogeneity in this environment, especially when cloud computing is employed to enhance mobile computing. Several open issues on RMAs' domination and adoption are presented as future research directions. (c) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Review

**作者关键词:** Rich mobile applications; Mobile computing systems; Ubiquitous computing; Smartphone; Rich user experience; Mobile Cloud Computing

**KeyWords Plus:** INTERNET APPLICATIONS; MANAGEMENT-TECHNIQUES; DEVICES; PHONE; CHALLENGES; NETWORKS; SYSTEMS; STORAGE; SMART; CLOUD

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
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| Malaysian Ministry of Higher Education under the University of Malaya High Impact Research Grant | UM.C/HIR/MOHE/FCSIT/03 |

This work is funded by the Malaysian Ministry of Higher Education under the University of Malaya High Impact Research Grant - UM.C/HIR/MOHE/FCSIT/03.

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**第 117 条，共 395 条**

**标题:** Constacyclic Codes and Some New Quantum MDS Codes

**作者:** Kai, XS (Kai, Xiaoshan); Zhu, SX (Zhu, Shixin); Li, P (Li, Ping)

**来源出版物:** IEEE TRANSACTIONS ON INFORMATION THEORY **卷:** 60 **期:** 4 **页:** 2080-2086 **DOI:** 10.1109/TIT.2014.2308180 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** One central theme in quantum error-correction is to construct quantum codes that have a large minimum distance. Quantum maximal distance separable (MDS) codes are optimal in the sense they attain maximal minimum distance. Recently, constructing quantum MDS codes has received much attention and seems to become more and more difficult. In this paper, based on classical constacyclic codes, we construct some new quantum MDS codes by

employing the Hermitian construction. Compared with the known quantum MDS codes, these quantum MDS codes have much larger minimum distance.

**文献类型:** Article

**作者关键词:** Cyclotomic cosets; constacyclic codes; quantum MDS codes

**KeyWords Plus:** ERROR-CORRECTION; STABILIZER CODES; TWISTED CODES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61370089 |
| Natural Science Foundation of Anhui Province | 1208085MA14 |
| Fundamental Research Funds through the Central Universities | 2012HGBZ0622<br>2012HGXJ0040<br>2011HGBZ1298 |

This work was supported in part by the National Natural Science Foundation of China under Grant 61370089, in part by the Natural Science Foundation of Anhui Province under Grant 1208085MA14, and in part by the Fundamental Research Funds through the Central Universities under Grants 2012HGBZ0622, 2012HGXJ0040, and 2011HGBZ1298.

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**第 118 条，共 395 条**

**标题:** Towards Codebook-Free: Scalable Cascaded Hashing for Mobile Image Search

**作者:** Zhou, WG (Zhou, Wengang); Yang, M (Yang, Ming); Li, HQ (Li, Houqiang); Wang, XY (Wang, Xiaoyu); Lin, YQ (Lin, Yuanqing); Tian, Q (Tian, Qi)

**来源出版物:** IEEE TRANSACTIONS ON MULTIMEDIA **卷:** 16 **期:** 3 **页:** 601-611 **DOI:** 10.1109/TMM.2014.2301979 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** State-of-the-art image retrieval algorithms using local invariant features mostly rely on a large visual codebook to accelerate the feature quantization and matching. This codebook typically contains millions of visual words, which not only demands for considerable resources to train offline but also consumes large amount of memory at the online retrieval stage. This is hardly affordable in resource limited scenarios such as mobile image search applications. To address this issue, we propose a codebook-free algorithm for large scale mobile image search. In our method, we first employ a novel scalable cascaded hashing scheme to ensure the recall rate of local feature matching. Afterwards, we enhance the matching precision by an efficient verification with the binary signatures of these local features. Consequently, our method achieves fast and accurate feature matching free of a huge visual codebook. Moreover, the quantization and binarizing functions in the proposed scheme are independent of small collections of training images and generalize well for diverse image datasets. Evaluated on two public datasets with a million distractor images, the proposed algorithm demonstrates competitive retrieval accuracy and scalability against four recent retrieval methods in literature.

**文献类型:** Article

**作者关键词:** Binary signature; cascaded hashing; matching verification; mobile image search

**KeyWords Plus:** SCALE; NEIGHBOR; FEATURES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Fundamental Research Funds for the Central Universities | WK2100060014 |
| University of Science and Technology of China | KY2100000036 |

| | |
|---|---|
| NSFC | 61325009<br>61390514<br>61272316 |
| ARO | W911NF-12-1-0057 |
| NEC Laboratories of America | |
| Google | |
| FXPAL | |
| UTSA START-R Research Award | |
| National Science Foundation of China (NSFC) | 61128007 |

This work was supported in part to Dr. Zhou by the Fundamental Research Funds for the Central Universities under contract No. WK2100060014 and the start-up funding from the University of Science and Technology of China under contract No. KY2100000036, in part to Dr. Li by NSFC under contract No. 61325009, No. 61390514, and No. 61272316, and in part to Dr. Tian by ARO grant W911NF-12-1-0057, Faculty Research Awards by NEC Laboratories of America, Google, and FXPAL, and 2012 UTSA START-R Research Award, respectively. This work was supported in part by National Science Foundation of China (NSFC) under contract No. 61128007. The associate editor coordinating the review of this manuscript and approving it for publication was Dr. Yu-Gang Jiang.

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**第 119 条，共 395 条**

**标题:** Iteration complexity of randomized block-coordinate descent methods for minimizing a composite function

**作者:** Richtarik, P (Richtarik, Peter); Takac, M (Takac, Martin)

**来源出版物:** MATHEMATICAL PROGRAMMING **卷:** 144 **期:** 1-2 **页:** 1-38 **DOI:** 10.1007/s10107-012-0614-z **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** In this paper we develop a randomized block-coordinate descent method for minimizing the sum of a smooth and a simple nonsmooth block-separable convex function and prove that it obtains an -accurate solution with probability at least in at most iterations, where is the number of blocks. This extends recent results of Nesterov (SIAM J Optim 22(2): 341-362, 2012), which cover the smooth case, to composite minimization, while at the same time improving the complexity by the factor of 4 and removing from the logarithmic term. More importantly, in contrast with the aforementioned work in which the author achieves the results by applying the method to a regularized version of the objective function with an unknown scaling factor, we show that this is not necessary, thus achieving first true iteration complexity bounds. For strongly convex functions the method converges linearly. In the smooth case we also allow for arbitrary probability vectors and non-Euclidean norms. Finally, we demonstrate numerically that the algorithm is able to solve huge-scale -regularized least squares problems with a billion variables.

**文献类型:** Article

**作者关键词:** Block coordinate descent; Huge-scale optimization; Composite minimization; Iteration complexity; Convex optimization; LASSO; Sparse regression; Gradient descent; Coordinate relaxation; Gauss-Seidel method

**KeyWords Plus:** OPTIMIZATION; MINIMIZATION; CONVERGENCE; REGRESSION; ALGORITHM; SELECTION; LASSO

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| EPSRC | EP/I017127/1<br>EP/G036136/1 |
| Centre for Numerical algorithms and Intelligent Software | |
| Scottish Funding Council | |

An extended abstract of a preliminary version of this paper appeared in [15]. The work of the first author was supported in part by EPSRC grant EP/I017127/1 "Mathematics for vast digital resources". The second author was supported in part by the Centre for Numerical algorithms and Intelligent Software (funded by EPSRC grant EP/G036136/1 and the Scottish Funding Council).

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**第 120 条，共 395 条**

**标题:** Solving quasi-variational inequalities via their KKT conditions

**作者:** Facchinei, F (Facchinei, Francisco); Kanzow, C (Kanzow, Christian); Sagratella, S (Sagratella, Simone)

**来源出版物:** MATHEMATICAL PROGRAMMING **卷:** 144 **期:** 1-2 **页:** 369-412 **DOI:** 10.1007/s10107-013-0637-0 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 8

**摘要:** We propose to solve a general quasi-variational inequality by using its Karush-Kuhn-Tucker conditions. To this end we use a globally convergent algorithm based on a potential reduction approach. We establish global convergence results for many interesting instances of quasi-variational inequalities, vastly broadening the class of problems that can be solved with theoretical guarantees. Our numerical testings are very promising and show the practical viability of the approach.

**文献类型:** Article

**作者关键词:** Quasi-variational inequality; KKT conditions; Interior-point method; Global convergence

**KeyWords Plus:** NASH EQUILIBRIUM PROBLEMS; IMPULSE CONTROL; FORMULATION; FRICTION; GAMES

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**第 121 条，共 395 条**

**标题:** SalientShape: group saliency in image collections

**作者:** Cheng, MM (Cheng, Ming-Ming); Mitra, NJ (Mitra, Niloy J.); Huang, XL (Huang, Xiaolei); Hu, SM (Hu, Shi-Min)

**来源出版物:** VISUAL COMPUTER **卷:** 30 **期:** 4 **页:** 443-453 **DOI:** 10.1007/s00371-013-0867-4 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Efficiently identifying salient objects in large image collections is essential for many applications including image retrieval, surveillance, image annotation, and object recognition. We propose a simple, fast, and effective algorithm for locating and segmenting salient objects by analysing image collections. As a key novelty, we introduce group saliency to achieve superior unsupervised salient object segmentation by extracting salient objects (in collections of pre-filtered images) that maximize between-image similarities and within-image distinctness. To evaluate our method, we construct a large benchmark dataset consisting of 15 K images across multiple categories with 6000+ pixel-accurate ground truth annotations for salient object regions where applicable. In all our tests, group saliency consistently outperforms state-of-the-art single-image saliency algorithms, resulting in both higher precision and better recall. Our algorithm successfully handles image collections, of an order larger than any existing benchmark datasets, consisting of diverse and heterogeneous images from various internet sources.

**文献类型:** Article

**作者关键词:** Saliency detection; Group saliency; Object of interest segmentation; Image retrieval

**KeyWords Plus:** REGION DETECTION; SHAPE CONTEXTS; RETRIEVAL; SEGMENTATION; RECOGNITION; EXTRACTION; ATTENTION; COLLAGE; SEARCH

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| 973 Program | 2011CB302205 |
| 863 Program | 2009AA01Z327 |
| Key Project of ST | 2011ZX01042-001-002 |
| NSFC | U0735001 |
| Google Ph.D. fellowship | |
| IBM Ph.D. fellowship | |
| New Ph.D. Researcher Award (Ministry of Edu., CN) | |

We would like to thank the anonymous reviewers for their constructive comments. This research was supported by the 973 Program (2011CB302205), the 863 Program (2009AA01Z327), the Key Project of S&T (2011ZX01042-001-002), and NSFC (U0735001). Ming-Ming Cheng was funded by Google Ph.D. fellowship, IBM Ph.D. fellowship, and New Ph.D. Researcher Award (Ministry of Edu., CN).

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**第 122 条，共 395 条**

**标题:** A framework for propagation of uncertainty contributed by parameterization, input data, model structure, and calibration/validation data in watershed modeling

**作者:** Yen, H (Yen, Haw); Wang, XY (Wang, Xiuying); Fontane, DG (Fontane, Darrell G.); Harmel, RD (Harmel, R. Daren); Arabi, M (Arabi, Mazdak)

**来源出版物:** ENVIRONMENTAL MODELLING & SOFTWARE **卷:** 54 **页:** 211-221 **DOI:** 10.1016/j.envsoft.2014.01.004 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** Failure to consider major sources of uncertainty may bias model predictions in simulating watershed behavior. A framework entitled the Integrated Parameter Estimation and Uncertainty Analysis Tool (IPEAT), was developed utilizing Bayesian inferences, an input error model and modified goodness-of-fit statistics to incorporate uncertainty in parameter, model structure, input data, and calibration/validation data in watershed modeling. Applications of the framework at the Eagle Creek Watershed in Indiana shows that watershed behavior was more realistically represented when the four uncertainty sources were considered jointly without having to embed watershed behavior constraints in auto-calibration. Accounting for the major sources of uncertainty associated with watershed modeling produces more realistic predictions, improves the quality of calibrated solutions, and consequently reduces predictive uncertainty. IPEAT is an innovative tool to investigate and explore the significance of uncertainty sources, which enhances watershed modeling by improved characterization and assessment of predictive uncertainty. (C) 2014 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Model calibration; Error propagation; SWAT model; Bayesian Model Averaging; Uncertainty analysis

**KeyWords Plus:** RAINFALL-RUNOFF MODELS; GOODNESS-OF-FIT; SWAT MODEL; ASSESSMENT-TOOL; STREAMFLOW SIMULATION; CATCHMENT MODELS; QUALITY MODELS; PREDICTION; ALGORITHM; BASIN

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**第 123 条，共 395 条**

**标题:** Secure Data Aggregation in Wireless Sensor Networks: Filtering out the Attacker's Impact

**作者:** Roy, S (Roy, Sankardas); Conti, M (Conti, Mauro); Setia, S (Setia, Sanjeev); Jajodia, S (Jajodia, Sushil)

**来源出版物:** IEEE TRANSACTIONS ON INFORMATION FORENSICS AND SECURITY **卷:** 9 **期:** 4 **页:** 681-694 **DOI:** 10.1109/TIFS.2014.2307197 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Wireless sensor networks (WSNs) are increasingly used in many applications, such as volcano and fire monitoring, urban sensing, and perimeter surveillance. In a large WSN, in-network data aggregation (i.e., combining partial results at intermediate nodes during message routing) significantly reduces the amount of communication overhead and energy consumption. The research community proposed a loss-resilient aggregation framework called synopsis diffusion, which uses duplicate-insensitive algorithms on top of multipath routing schemes to accurately compute aggregates (e.g., predicate count or sum). However, this aggregation framework does not address the problem of false subaggregate values contributed by compromised nodes. This attack may cause large errors in the aggregate computed at the base station, which is the root node in the aggregation hierarchy. In this paper, we make the synopsis diffusion approach secure against the above attack launched by compromised nodes. In particular, we present an algorithm to enable the base station to securely compute predicate count or sum even in the presence of such an attack. Our attack-resilient computation algorithm computes the true aggregate by filtering out the contributions of compromised nodes in the aggregation hierarchy. Extensive analysis and simulation study show that our algorithm outperforms other existing approaches.

**文献类型:** Article

**作者关键词:** Data aggregation; hierarchical aggregation; in-network aggregation; sensor network security; synopsis diffusion; attack resilient

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| TENACE PRIN Project through the Italian MIUR | 20103P34XC |
| Marie Curie Fellowship through the European Commission for the PRISM-CODE Project | PCIG11-GA-2012-321980 |

The work of M. Conti was supported by the TENACE PRIN Project 20103P34XC through the Italian MIUR. The work of M. Conti was supported by a Marie Curie Fellowship through the European Commission for the PRISM-CODE Project under Grant n. PCIG11-GA-2012-321980. The associate editor coordinating the review of this manuscript and approving it for publication was Dr. Kui Ren.

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**第 124 条，共 395 条**

**标题:** A Recurrent Neural Network for Solving Bilevel Linear Programming Problem

**作者:** He, X (He, Xing); Li, CD (Li, Chuandong); Huang, TW (Huang, Tingwen); Li, CJ (Li, Chaojie); Huang, JJ (Huang, Junjian)

**来源出版物:** IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS **卷:** 25 **期:** 4 **页:** 824-830 **DOI:** 10.1109/TNNLS.2013.2280905 **出版年:** APR 2014
**Web of Science 核心合集中的 "被引频次":** 8
**被引频次合计:** 8

**摘要:** In this brief, based on the method of penalty functions, a recurrent neural network (NN) modeled by means of a differential inclusion is proposed for solving the bilevel linear programming problem (BLPP). Compared with the existing NNs for BLPP, the model has the least number of state variables and simple structure. Using nonsmooth analysis, the theory of differential inclusions, and Lyapunov-like method, the equilibrium point sequence of the proposed NNs can approximately converge to an optimal solution of BLPP under certain conditions. Finally, the numerical simulations of a supply chain distribution model have shown excellent performance of the proposed recurrent NNs.

**文献类型:** Article

**作者关键词:** Bilevel linear programming problem (BLPP); differential inclusions; nonsmooth analysis; recurrent neural network (NN)

**KeyWords Plus:** VARIATIONAL-INEQUALITIES; OPTIMIZATION; CONSTRAINTS; TIME; DESIGN

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61374078 |
| National Priority Research Project | NPRP 4-1162-1-181 |
| Qatar National Research Fund, Qatar | |

This work was supported in part by the National Natural Science Foundation of China under Grant 61374078 and in part by the National Priority Research Project under Grant NPRP 4-1162-1-181 funded by Qatar National Research Fund, Qatar.

**第 125 条，共 395 条**

**标题:** Dynamic Behavior Analysis of Membrane-Inspired Evolutionary Algorithms

**作者:** Zhang, G (Zhang, G.); Cheng, J (Cheng, J.); Gheorghe, M (Gheorghe, M.)

**来源出版物:** INTERNATIONAL JOURNAL OF COMPUTERS COMMUNICATIONS & CONTROL **卷:** 9 **期:** 2 **页:** 227-242 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** A membrane-inspired evolutionary algorithm (MIEA) is a successful instance of a model linking membrane computing and evolutionary algorithms. This paper proposes the analysis of dynamic behaviors of MIEAs by introducing a set of population diversity and convergence measures. This is the first attempt to obtain additional insights into the search capabilities of MIEAs. The analysis is performed on the MIEA, QEPS (a quantum-inspired evolutionary algorithm based on membrane computing), and its counterpart algorithm, QIEA (a quantum-inspired evolutionary algorithm), using a comparative approach in an experimental context to better understand their characteristics and performances. Also the relationship between these measures and fitness is analyzed by presenting a tendency correlation coefficient to evaluate the importance of various population and convergence measures, which is beneficial to further improvements of MIEAs. Results show that QEPS can achieve better balance between convergence and diversity than QIEA, which indicates QEPS has a stronger capacity of balancing exploration and exploitation than QIEA in order to prevent premature convergence that might occur. Experiments utilizing knapsack problems support the above made statement.

**文献类型:** Article

**作者关键词:** Membrane computing; membrane-inspired evolutionary algorithm; dynamic behavior; quantum-inspired evolutionary algorithm; knapsack problem

**KeyWords Plus:** TISSUE P SYSTEMS; DIFFERENTIAL EVOLUTION; OPTIMIZATION PROBLEMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61170016<br>61373047 |
| Program for New Century Excellent Talents in University | NCET-11-0715 |
| SWJTU supported project | SWJTU12CX008 |

This work was supported by the National Natural Science Foundation of China (61170016, 61373047), the Program for New Century Excellent Talents in University (NCET-11-0715) and SWJTU supported project (SWJTU12CX008)

**第 126 条，共 395 条**

**标题:** On weighted Hilbert spaces and integration of functions of infinitely many variables

**作者:** Gnewuch, M (Gnewuch, Michael); Mayer, S (Mayer, Sebastian); Ritter, K (Ritter, Klaus)

**来源出版物:** JOURNAL OF COMPLEXITY **卷:** 30 **期:** 2 **特刊:** SI **页:** 29-47 **DOI:** 10.1016/j.jco.2013.05.004 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** We study aspects of the analytic foundations of integration and closely related problems for functions of infinitely many variables x(1), x(2), ... is an element of D. The setting is based on a reproducing kernel k for functions on D, a family of non-negative weights gamma(u), where u varies over all finite subsets of N, and a probability measure rho on D. We consider the weighted superposition K = Sigma(u) gamma(u)k(u) of finite tensor products k(u) of k. Under mild assumptions we show that K is a reproducing kernel on a properly chosen domain in the sequence space D-N, and that the reproducing kernel Hilbert space H (K) is the orthogonal sum of the spaces H (gamma(u)k(u)). Integration on H(K) cans be defined in two ways, via a canonical representer or with respect to the product measure rho(N) on D-N. We relate both approaches and provide sufficient conditions for the two approaches to coincide. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Reproducing kernel Hilbert space; Functions of infinitely many variables; Tensor product; Weighted superposition; Integration problem

**KeyWords Plus:** MONTE CARLO ALGORITHMS; DIMENSION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| German Research Foundation DFG | GN 91/3-1 |
| Australian Research Council ARC | |
| DFG within the Priority Program 1324 | |

Michael Gnewuch was partially supported by the German Research Foundation DFG under grant GN 91/3-1 and the Australian Research Council ARC. Klaus Ritter was partially supported by the DFG within the Priority Program 1324. Both are grateful to the Computational Mathematics group at the University of New South Wales, Sydney, for their support and for the stimulating research environment during a visit in February/March 2012.

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**第 127 条，共 395 条**

**标题:** Weak and quasi-polynomial tractability of approximation of infinitely differentiable functions

**作者:** Vybiral, J (Vybiral, Jan)

**来源出版物:** JOURNAL OF COMPLEXITY 卷: 30 期: 2 特刊: SI 页: 48-55 **DOI:** 10.1016/j.jco.2013.04.003 出版年: APR 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3

**摘要:** We comment on recent results in the field of information based complexity, which state (in a number of different settings), that the approximation of infinitely differentiable functions is intractable and suffers from the cure of dimensionality. We show that renorming the space of infinitely differentiable functions in a suitable way allows weakly tractable uniform approximation by using only function values. Moreover, the approximating algorithm is based on a simple application of Taylor's expansion about the center of the unit cube. We discuss also the approximation on the Euclidean ball and the approximation in the L-1-norm. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article
**作者关键词:** Weak tractability; Uniform approximation; Infinitely differentiable functions; Curse of dimensionality
**KeyWords Plus:** FUNCTION-SPACES; MULTIVARIATE FUNCTIONS; SMOOTH FUNCTIONS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| DFG Research Center MATHEON "Mathematics for key technologies" in Berlin | |

The author's research was supported by the DFG Research Center MATHEON "Mathematics for key technologies" in Berlin.

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**第 128 条，共 395 条**

**标题:** Multiple attribute group decision making methods based on intuitionistic linguistic power generalized aggregation operators

**作者:** Liu, PD (Liu, Peide); Wang, YM (Wang, Yumei)

**来源出版物:** APPLIED SOFT COMPUTING 卷: 17 页: 90-104 **DOI:** 10.1016/j.asoc.2013.12.010 出版年: APR 2014
**Web of Science 核心合集中的 "被引频次":** 6
**被引频次合计:** 6

**摘要:** With respect to multiple attribute group decision making (MADM) problems in which attribute values take the form of intuitionistic linguistic numbers, some new group decision making methods are developed. Firstly, some

operational laws, expected value, score function and accuracy function of intuitionistic linguistic numbers are introduced. Then, an intuitionistic linguistic power generalized weighted average( ILPGWA) operator and an intuitionistic linguistic power generalized ordered weighted average (ILPGOWA) operator are developed. Furthermore, some desirable properties of the ILPGWA and ILPGOWA operators, such as commutativity, idempotency and monotonicity, etc. are studied. At the same time, some special cases of the generalized parameters in these operators are analyzed. Based on the ILPGWA and ILPGOWA operators, two approaches to multiple attribute group decision making with intuitionistic linguistic information are proposed. Finally, an illustrative example is given to verify the developed approaches and to demonstrate their practicality and effectiveness. (C) 2013 Elsevier B. V. All rights reserved.

**文献类型:** Article

**作者关键词:** Multiple criteria evaluation; Group decision-making; Intuitionistic linguistic number; Intuitionistic linguistic power generalized weighted average (ILPGWA) operator; Intuitionistic linguistic power generalized ordered weighted average (ILPGOWA) operator

**KeyWords Plus:** FUZZY-SETS; INFORMATION; SYSTEM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 71271124 |
| Humanities and Social Sciences Research Project of Ministry of Education of China | 13YJC630104 |
| Natural Science Foundation of Shandong Province | ZR2011FM036 |
| Shandong Provincial Social Science Planning Project | 13BGLJ10 |
| graduate education innovation projects in Shandong Province | SDYY12065 |

This paper is supported by the National Natural Science Foundation of China (No. 71271124), the Humanities and Social Sciences Research Project of Ministry of Education of China (No. 13YJC630104), the Natural Science Foundation of Shandong Province (No. ZR2011FM036), Shandong Provincial Social Science Planning Project (No. 13BGLJ10), and graduate education innovation projects in Shandong Province (SDYY12065). The author also would like to express appreciation to the anonymous reviewers and Editor in Editor for their very helpful comments that improved the paper.

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**第 129 条，共 395 条**

**标题:** Contextual Hashing for Large-Scale Image Search

**作者:** Liu, Z (Liu, Zhen); Li, HQ (Li, Houqiang); Zhou, WG (Zhou, Wengang); Zhao, RZ (Zhao, Ruizhen); Tian, Q (Tian, Qi)

**来源出版物:** IEEE TRANSACTIONS ON IMAGE PROCESSING **卷:** 23 **期:** 4 **页:** 1606-1614 **DOI:** 10.1109/TIP.2014.2305072 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** With the explosive growth of the multimedia data on the Web, content-based image search has attracted considerable attentions in the multimedia and the computer vision community. The most popular approach is based on the bag-of-visual-words model with invariant local features. Since the spatial context information among local features is critical for visual content identification, many methods exploit the geometric clues of local features, including the location, the scale, and the orientation, for explicitly post-geometric verification. However, usually only a few initially top-ranked results are geometrically verified, considering the high computational cost in full geometric verification. In this paper, we propose to represent the spatial context of local features into binary codes, and implicitly achieve geometric verification by efficient comparison of the binary codes. Besides, we explore the multimode property of local features to further boost the retrieval performance. Experiments on holidays, Paris, and Oxford building benchmark data sets demonstrate the effectiveness of the proposed algorithm.

**文献类型:** Article

**作者关键词:** Image search; BoVW; hashing; spatial context modeling; geometric verification

**KeyWords Plus:** REPRESENTATION; RETRIEVAL; FEATURES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Science Foundation of China | 61128007<br>61325009<br>61390514<br>61272316 |
| Fundamental Research Funds for the Central Universities | WK2100060014<br>2013JBZ003 |
| University of Science and Technology of China | KY2100000036 |
| National High Technology Research and Development Program (863 Program) of China | 2014AA015202 |
| ARO | W911NF-12-1-0057 |
| Faculty Research Awards through the NEC Laboratories of America | |
| UTSA START-R Research Award | |

This work was supported by the National Science Foundation of China under Grant 61128007. The work of H. Li was supported by the National Science Foundation of China under Contract 61325009, Contract 61390514, and Contract 61272316. The work of W. Zhou was supported in part by the Fundamental Research Funds for the Central Universities under Contract WK2100060014 and in part by the University of Science and Technology of China under Contract KY2100000036. The work of R. Zhao was supported in part by the National High Technology Research and Development Program (863 Program) of China under Grant 2014AA015202 and in part by the Fundamental Research Funds for the Central Universities under Grant 2013JBZ003. The work of Q. Tian was supported in part by ARO under Grant W911NF-12-1-0057, in part by the Faculty Research Awards through the NEC Laboratories of America, and in part by the 2012 UTSA START-R Research Award respectively. The associate editor coordinating the review of this manuscript and approving it for publication was Prof. Richard J. Radke.

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**第 130 条，共 395 条**

**标题:** Efficient and robust large medical image retrieval in mobile cloud computing environment

**作者:** Zhuang, Y (Zhuang, Yi); Jiang, N (Jiang, Nan); Wu, Z (Wu, Zhiang); Li, Q (Li, Qing); Chiu, DKW (Chiu, Dickson K. W.); Hu, H (Hu, Hua)

**来源出版物:** INFORMATION SCIENCES **卷:** 263 **页:** 60-86 **DOI:** 10.1016/j.ins.2013.10.013 **出版年:** APR 1 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** This paper presents an efficient and robust content-based large medical image retrieval method in mobile Cloud computing environment, called the MIRC. The whole query process of the MIRC is composed of three steps. First, when a clinical user submits a query image I-q, a parallel image set reduction process is conducted at a master node. Then the candidate images ate transferred to the slave nodes for a refinement process to obtain the answer set. The answer set is finally transferred to the query node. The proposed method including an priority-based robust image block transmission scheme is specifically designed for solving the instability and the heterogeneity of the mobile cloud environment, and an index-support image set reduction algorithm is introduced for reducing the data transfer cost involved. We also propose a content-aware and bandwidth-conscious multi-resolution-based image data replica selection method and a correlated data caching algorithm to further improve the query performance. The experimental results show that the performance of our approach is both efficient and effective, minimizing the response time by decreasing the network transfer cost while increasing the parallelism of I/O and CPU. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Medical image; Multi-resolution; Mobile cloud

**KeyWords Plus:** TRANSMISSION; DIRECTIONS; SEARCH; TEXT

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61003074<br>61103229<br>61272188<br>71072172 |
| Natural Science Foundation of Zhejiang Province | LY13F020008<br>LY13F020010 |
| Science & Technology Innovative Team of Zhejiang Province | 2012R10041-06 |

This paper is partially supported by the Program of National Natural Science Foundation of China under Grant Nos. 61003074, 61103229, 61272188 and 71072172; the Program of Natural Science Foundation of Zhejiang Province under Grant Nos. LY13F020008, and LY13F020010. The Science & Technology Innovative Team of Zhejiang Province under Grant No. 2012R10041-06.

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**第 131 条，共 395 条**

**标题:** A wrapper approach for feature selection and Optimum-Path Forest based on Bat Algorithm

**作者:** Rodrigues, D (Rodrigues, Douglas); Pereira, LAM (Pereira, Luis A. M.); Nakamura, RYM (Nakamura, Rodrigo Y. M.); Costa, KAP (Costa, Kelton A. P.); Yang, XS (Yang, Xin-She); Souza, AN (Souza, Andre N.); Papa, JP (Papa, Joao Paulo)

**来源出版物:** EXPERT SYSTEMS WITH APPLICATIONS **卷:** 41 **期:** 5 **页:** 2250-2258 **DOI:** 10.1016/j.eswa.2013.09.023 **出版年:** APR 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Besides optimizing classifier predictive performance and addressing the curse of the dimensionality problem, feature selection techniques support a classification model as simple as possible. In this paper, we present a wrapper feature selection approach based on Bat Algorithm (BA) and Optimum-Path Forest (OPF), in which we model the problem of feature selection as an binary-based optimization technique, guided by BA using the OPF accuracy over a validating set as the fitness function to be maximized. Moreover, we present a methodology to better estimate the quality of the reduced feature set. Experiments conducted over six public datasets demonstrated that the proposed approach provides statistically significant more compact sets and, in some cases, it can indeed improve the classification effectiveness. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Dimensionality reduction; Swarm intelligence; Bat Algorithm; Optimum-Path Forest

**KeyWords Plus:** SUPPORT VECTOR MACHINES; OPTIMIZATION; ECHOLOCATION; SEARCH

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**第 132 条，共 395 条**

**标题:** Stud krill herd algorithm

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**来源出版物:** NEUROCOMPUTING **卷:** 128 **页:** 363-370 **DOI:** 10.1016/j.neucom.2013.08.031 **出版年:** MAR 27 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** Recently, Gandomi and Alavi proposed a meta-heuristic optimization algorithm, called Krill Herd (KH), for global optimization [Gandomi AH, Alavi AH. Krill Herd: A New Bio-Inspired Optimization Algorithm. Communications in Nonlinear Science and Numerical Simulation, 17(12), 4831-4845, 2012.]. This paper represents

an optimization method to global optimization using a novel variant of KH. This method is called the Stud Krill Herd (SKH). Similar to genetic reproduction mechanisms added to KH method, an updated genetic reproduction schemes, called stud selection and crossover (SSC) operator, is introduced into the KH during the krill updating process dealing with numerical optimization problems. The introduced SSC operator is originated from original Stud genetic algorithm. In SSC operator, the best krill, the Stud, provides its optimal information for all the other individuals in the population using general genetic operators instead of stochastic selection. This approach appears to be well capable of solving various functions. Several problems are used to test the SKH method. In addition, the influence of the different crossover types on convergence and performance is carefully studied. Experimental results indicate an instructive addition to the portfolio of swarm intelligence techniques. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Global optimization problem; Krill herd; Stud genetic algorithm; Stud selection and crossover operator; Multimodal function

**KeyWords Plus:** PARTICLE SWARM OPTIMIZATION; DIFFERENTIAL EVOLUTION; GLOBAL OPTIMIZATION; COLONY ALGORITHM; NEURAL-NETWORK; STRATEGY; SEARCH; HYBRID

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**第 133 条，共 395 条**

**标题:** Exponential stability of complex-valued neural networks with mixed delays

**作者:** Xu, XH (Xu, Xiaohui); Zhang, JY (Zhang, Jiye); Shi, JZ (Shi, Jizhong)

**来源出版物:** NEUROCOMPUTING **卷:** 128 **页:** 483-490 **DOI:** 10.1016/j.neucom.2013.08.014 **出版年:** MAR 27 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** This paper investigates the problem of the dynamic behaviors of a class of complex-valued neural networks with mixed time delays. Some sufficient conditions for assuring the existence, uniqueness and exponential stability of the equilibrium point of the system are derived using the vector Lyapunov function method, homeomorphism mapping lemma and the matrix theory. The obtained results not only are convenient to check, but also generalize the previously published corresponding results. A numerical example is used to show the effectiveness of the obtained results. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Neural networks; Complex-valued; Mixed delays; Exponential stability; Vector Lyapunov function

**KeyWords Plus:** GLOBAL ASYMPTOTIC STABILITY; TIME-VARYING DELAYS; ACTIVATION FUNCTIONS; ROBUST STABILITY; CRITERION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Key Laboratory of Automotive Engineering of Sichuan Province | szjj2013-030 |
| Natural Science Foundation of China | 11172247 |

This work was supported by the Open Research Fund of Key Laboratory of Automotive Engineering of Sichuan Province (No. szjj2013-030) and the Natural Science Foundation of China (No. 11172247).

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**第 134 条，共 395 条**

**标题:** Sales forecasting of computer products based on variable selection scheme and support vector regression

**作者:** Lu, CJ (Lu, Chi-Jie)

**来源出版物:** NEUROCOMPUTING **卷:** 128 **页:** 491-499 **DOI:** 10.1016/j.neucom.2013.08.012 **出版年:** MAR 27 2014

**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4
**摘要:** Since computer products are highly replaceable and consumer demand often changes dramatically with the invention of new computer products, sales forecasting is therefore always crucial for computer product sales management. When constructing a sales forecasting model, discussing and understanding the important predictor variables can help focus on improving sales management efficacy. Aiming at to select appropriate predictor variable and construct effective forecasting model, this study combines variable selection method and support vector regression (SVR) to construct a hybrid sales forecasting model for computer products. In order to evaluate the feasibility and performance of the proposed approach, this study compiles the weekly sales data of five computer products including Notebook (NB), Liquid Crystal Display (LCD), Main Board (MB), Hard Disk (HD), and Display Card (DC) from a computer product retailer as the illustrative example. The experimental results indicate that the proposed hybrid sales forecasting scheme can not only provide a better forecasting result than the four competing models in terms of forecasting error, but also exhibit the capability of identifying important predictor variables. Furthermore, useful information can be provided by discussing the identified predictor variables for the five different computer products, thereby increasing sales management efficacy. (C) 2013 Elsevier B.V. All rights reserved.
**文献类型:** Article
**作者关键词:** Sales forecasting; Computer products; Variable selection; Support vector regression
**KeyWords Plus:** EXTREME LEARNING-MACHINE; INDEPENDENT COMPONENT ANALYSIS; SUPPLY CHAIN MANAGEMENT; SOFTWARE-RELIABILITY; TIME-SERIES; MODEL; SPLINES; PREDICTION; ALGORITHM; PRICE
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Science Council of the Republic of China | NSC 100-2628-E-231-001 |

This work is partially supported by the National Science Council of the Republic of China, Grant no. NSC 100-2628-E-231-001. The authors also gratefully acknowledge the helpful comments and suggestions of the reviewers, which have improved the presentation.

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**第 135 条，共 395 条**

**标题:** Protter: interactive protein feature visualization and integration with experimental proteomic data
**作者:** Omasits, U (Omasits, Ulrich); Ahrens, CH (Ahrens, Christian H.); Muller, S (Mueller, Sebastian); Wollscheid, B (Wollscheid, Bernd)
**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 6 **页:** 884-886 **DOI:** 10.1093/bioinformatics/btt607 **出版年:** MAR 15 2014
**Web of Science 核心合集中的 "被引频次":** 17
**被引频次合计:** 17
**摘要:** The ability to integrate and visualize experimental proteomic evidence in the context of rich protein feature annotations represents an unmet need of the proteomics community. Here we present Protter, a web-based tool that supports interactive protein data analysis and hypothesis generation by visualizing both annotated sequence features and experimental proteomic data in the context of protein topology. Protter supports numerous proteomic file formats and automatically integrates a variety of reference protein annotation sources, which can be readily extended via modular plugins. A built-in export function produces publication-quality customized protein illustrations, also for large datasets. Visualizations of surfaceome datasets show the specific utility of Protter for the integrated visual analysis of membrane proteins and peptide selection for targeted proteomics.
**文献类型:** Article
**KeyWords Plus:** MASS-SPECTROMETRY; STATISTICAL-MODEL; IDENTIFICATION; QUANTIFICATION; TOPOLOGY; GLYCOSITES; RESOURCE; WEB
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Swiss National Science Foundation | 31003A_135805<br>31003A_130723 |
| SystemsX.ch | IPP 2011/121 |

Swiss National Science Foundation (grants 31003A_135805 to B.W. and 31003A_130723 to C.H.A.); and SystemsX.ch (grant InfectX to B.W. and grant IPP 2011/121 to C.H.A.).

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**第 136 条，共 395 条**

**标题:** Jacobi-Gauss-Lobatto collocation method for the numerical solution of 1+1 nonlinear Schrodinger equations

**作者:** Doha, EH (Doha, E. H.); Bhrawy, AH (Bhrawy, A. H.); Abdelkawy, MA (Abdelkawy, M. A.); Van Gorder, RA (Van Gorder, Robert A.)

**来源出版物:** JOURNAL OF COMPUTATIONAL PHYSICS **卷:** 261 **页:** 244-255 **DOI:** 10.1016/j.jcp.2014.01.003 **出版年:** MAR 15 2014

**Web of Science 核心合集中的 "被引频次":** 11

**被引频次合计:** 11

**摘要:** A Jacobi-Gauss-Lobatto collocation (J-GL-C) method, used in combination with the implicit Runge-Kutta method of fourth order, is proposed as a numerical algorithm for the approximation of solutions to nonlinear Schrodinger equations (NLSE) with initial-boundary data in 1 + 1 dimensions. Our procedure is implemented in two successive steps. In the first one, the J-GL-C is employed for approximating the functional dependence on the spatial variable, using (N - 1) nodes of the Jacobi-Gauss-Lobatto interpolation which depends upon two general Jacobi parameters. The resulting equations together with the two-point boundary conditions induce a system of 2(N - 1) first-order ordinary differential equations (ODEs) in time. In the second step, the implicit Runge-Kutta method of fourth order is applied to solve this temporal system. The proposed J-GL-C method, used in combination with the implicit Runge-Kutta method of fourth order, is employed to obtain highly accurate numerical approximations to four types of NLSE, including the attractive and repulsive NLSE and a Gross-Pitaevskii equation with space-periodic potential. The numerical results obtained by this algorithm have been compared with various exact solutions in order to demonstrate the accuracy and efficiency of the proposed method. Indeed, for relatively few nodes used, the absolute error in our numerical solutions is sufficiently small. (C) 2014 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Nonlinear complex Schrodinger equations; Gross-Pitaevskii equation; Collocation method; Jacobi-Gauss-Lobatto quadrature; Implicit Runge-Kutta method

**KeyWords Plus:** VOLTERRA INTEGRAL-EQUATIONS; DIFFERENTIAL-EQUATIONS; PSEUDOSPECTRAL METHOD; GALERKIN METHOD; SCHEME; APPROXIMATION; POLYNOMIALS; ALGORITHMS; SOLITON; VORTEX

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| NSF | 1144246 |

R.A.V. supported in part by NSF grant # 1144246.

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**第 137 条，共 395 条**

**标题:** Particle swarm optimization for construction of neural network-based prediction intervals

**作者:** Quan, H (Quan, Hao); Srinivasan, D (Srinivasan, Dipti); Khosravi, A (Khosravi, Abbas)

**来源出版物:** NEUROCOMPUTING **卷:** 127 **页:** 172-180 **DOI:** 10.1016/j.neucom.2013.08.020 **出版年:** MAR 15 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Point forecasts suffer from unreliable and uninformative problems when the uncertainty level increases in data. Prediction intervals (Pis) have been proposed in the literature to quantify uncertainties associated with point forecasts. In this paper, a newly introduced method called Lower Upper Bound Estimation (LUBE) (Khosravi et al., 2011, [1])

is applied and extended for construction of Pls. The LUBE method adopts a neural network (NN) with two outputs to directly generate the upper and lower bounds of Pls without making any assumption about the data distribution. A new width evaluation index that is suitable for NN training is proposed. Further a new cost function is developed for the comprehensive evaluation of Pis based on their width and coverage probability. The width index is replaced by the new one and PSO with mutation operator is used for minimizing the cost function and adjusting NN parameters in the LUBE method. By introducing these two changes we observe dramatic improvements in the quality of results and speed. Demonstrated results for six synthetic and real-world case studies indicate that the proposed PSO-based LUBE method is very efficient in constructing high quality Pls in a short time. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Prediction interval; Neural network; Particle swarm optimization; Uncertainty

**KeyWords Plus:** PATTERN-RECOGNITION; CONFIDENCE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Research Foundation programme | NRF-2007EWT-CERP01-0954 (R-263-000-522-272) |
| Centre for Intelligent Systems Research (CISR) at Deakin University | |

This work was supported by National Research Foundation programme grant, NRF-2007EWT-CERP01-0954 (R-263-000-522-272). A. Khosravi would like to acknowledge the financial support by the Centre for Intelligent Systems Research (CISR) at Deakin University. The authors are grateful to the reviewers for their helpful comments and suggestions.

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**第 138 条，共 395 条**

**标题:** GENI: A federated testbed for innovative network experiments

**作者:** Berman, M (Berman, Mark); Chase, JS (Chase, Jeffrey S.); Landweber, L (Landweber, Lawrence); Nakao, A (Nakao, Akihiro); Ott, M (Ott, Max); Raychaudhuri, D (Raychaudhuri, Dipankar); Ricci, R (Ricci, Robert); Seskar, I (Seskar, Ivan)

**来源出版物:** COMPUTER NETWORKS **卷:** 61 **特刊:** SI **页:** 5-23 **DOI:** 10.1016/j.bjp.2013.12.037 **出版年:** MAR 14 2014

**Web of Science 核心合集中的 "被引频次":** 16

**被引频次合计:** 16

**摘要:** GENI, the Global Environment for Networking Innovation, is a distributed virtual laboratory for transformative, at-scale experiments in network science, services, and security. Designed in response to concerns over Internet ossification, GENI is enabling a wide variety of experiments in a range of areas, including clean-slate networking, protocol design and evaluation, distributed service offerings, social network integration, content management, and in-network service deployment. Recently, GENI has been leading an effort to explore the potential of its underlying technologies, SDN and GENI racks, in support of university campus network management and applications. With the concurrent deployment of these technologies on regional and national R&E backbones, this will result in a revolutionary new national-scale distributed architecture, bringing to the entire network the shared, deeply programmable environment that the cloud has brought to the datacenter. This deeply programmable environment will support the GENI research mission and as well as enabling research in a wide variety of application areas. (C) 2014 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** GENI; Future Internet; Next generation networking; Future Internet testbeds; Distributed cloud computing

**KeyWords Plus:** PLANETLAB; INTERNET

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| U.S. National Science Foundation | |

GENI is funded by the U.S. National Science Foundation. Any opinions, findings, conclusions or recommendations expressed in this material are the authors' and do not necessarily reflect the views of the National Science Foundation.

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**第 139 条，共 395 条**

**标题:** The InstaGENI initiative: An architecture for distributed systems and advanced programmable networks

**作者:** Bastin, N (Bastin, Nicholas); Bavier, A (Bavier, Andy); Blaine, J (Blaine, Jessica); Chen, J (Chen, Jim); Krishnan, N (Krishnan, Narayan); Mambretti, J (Mambretti, Joe); McGeer, R (McGeer, Rick); Ricci, R (Ricci, Rob); Watts, N (Watts, Nicki)

**来源出版物:** COMPUTER NETWORKS **卷:** 61 **特刊:** SI **页:** 24-38 **DOI:** 10.1016/j.bjp.2013.12.034 **出版年:** MAR 14 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** In this paper, we describe InstaGENI, a distributed cloud based on programmable networks designed for the GENI Mesoscale deployment and large-scale distributed research projects. The InstaGENI architecture closely integrates a lightweight cluster design with software-defined networking, Hardware-as-a-Service and Containers-as-a-Service, remote monitoring and management, and high-performance inter-site networking. The initial InstaGENI deployment will encompass 34 sites across the United States, interconnected through a specialized GENI backbone network deployed over national, regional and campus research and education networks, with international network extensions to sites across the world. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Software-defined networking; Programmable networks; Distributed systems; Overlay networks; Cloud architecture; Virtualization

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| GENI Project Office under National Science Foundation | |

This work is supported by the GENI Project Office under contract to the National Science Foundation. The authors wish to thank the anonymous reviewers for thoughtful and insightful comments on the manuscript, the issue editor, Prof. James P.G. Sterbenz, for help in shepherding this paper through, to Harry Rudin for editorial comments, to the staff at the GENT Project Office for assistance in deploying and testing the racks, to the 32 InstaGENI rack sites for their help in deploying the InstaGENI racks and making this deployment a success, Michaela Mezo, Larry Singer, Bill Burns, Randy Anderson, Shannon Champion, Rob Courtney, Jim Kovach, Craig Hinkley, and Bethany Mayer for their support in making InstaGENI a solid product, Glenn Ricart for tireless advocacy, Niky Riga, Stephen Tredger, Chris Matthews, Chris Pearson, Yvonne Coady and Yanyan Zhuang for their efforts in developing early experiments and demonstrations on the InstaGENI racks.

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**第 140 条，共 395 条**

**标题:** K-GENI testbed deployment and federated meta operations experiment over GENI and KREONET
**作者:** Kim, D (Kim, Dongkyun); Kim, J (Kim, Joobum); Wang, G (Wang, Gicheol); Park, JH (Park, Jin-Hyung); Kim, SH (Kim, Seung-Hae)
**来源出版物:** COMPUTER NETWORKS **卷:** 61 **特刊:** SI **页:** 39-50 **DOI:** 10.1016/j.bjp.2013.11.016 **出版年:** MAR 14 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4
**摘要:** The classical Internet has confronted many drawbacks in terms of network security, scalability, and performance, although it has strongly influenced the development and evolution of diverse network technologies, applications, and services. Therefore, new innovative research on the Future Internet has been performed to resolve the inherent weaknesses of the traditional Internet, which, in turn, requires new at-scale network testbeds and research infrastructure for large-scale experiments. In this context, K-GENI has been developed as an international programmable Future Internet testbed in the GENI spiral-2 program, and it has been operational between the USA (GENI) and Korea (KREONET) since 2010. The K-GENI testbed and the related collaborative efforts will be introduced with two major topics in this paper: (1) the design and deployment of the K-GENI testbed and (2) the federated meta operations between the K-GENI and GENI testbeds. Regarding the second topic in particular, we will describe how meta operations are federated across K-GENI between GMOC (GENI Meta Operations Center) and DvNOC (Distributed virtual Network Operations Center on KREONET/K-GENI), which is the first trial of an international experiment on the federated network operations over GENI. (C) 2013 Elsevier B.V. All rights reserved.
**文献类型:** Article
**作者关键词:** GENI; K-GENI; KREONET; Federation; DvNOC
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**第 141 条，共 395 条**
**标题:** The GpENI testbed: Network infrastructure, implementation experience, and experimentation
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**来源出版物:** COMPUTER NETWORKS **卷:** 61 **特刊:** SI **页:** 51-74 **DOI:** 10.1016/j.bjp.2013.12.027 **出版年:** MAR 14 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5
**摘要:** The Great Plains Environment for Network Innovation (GpENI) is an international programmable network testbed centered initially in the Midwest US with the goal to provide programmability across the entire protocol stack. In this paper, we present the overall GpENI framework and our implementation experience for the programmable routing environment and the dynamic circuit network (DCN). GpENI is built to provide a collaborative research infrastructure enabling the research community to conduct experiments in Future Internet architecture. We present illustrative examples of our experimentation in the GpENI platform. (C) 2014 Elsevier B.V. All rights reserved.
**文献类型:** Article
**作者关键词:** Programmable future Internet testbed; Network virtualization; Dynamic circuit network
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| US National Science Foundation GENI program (GPO) | 9500009441 |
| EU FP7 FIRE programme ResumeNet project | 224619 |
| participating institutions | |

This work is funded in part by the US National Science Foundation GENI program (GPO Contract No. 9500009441), by the EU FP7 FIRE programme ResumeNet project (Grant Agreement No. 224619), and in large part, by the participating institutions. GpENI is made possible by the involvement of many people in the participating institutions. We particularly acknowledge the following people: Tricha Anjali, Torsten Braun, Richard Becker, Baek-Young Choi, Kent G. Christensen, Riddhiman Das, Joseph Evans, Robert Fines, Dale M. Finkelson, Brad Fleming, Don Gruenbacher, Ajita Gupta, Sam Hays, Mary Lou Hines Fritts, David Hutchison, Michael Hulet, Parikshit Juluri, Can Kanli, George Koffler, Sean Korzdorfer, Yunzhao Li, Lin Liu, Wesley Mason, Rick McMullen, Greg Monaco, Andrew Moore, Bernard Plattner, Adam Pullen, Haiyang Qian, A. Scott, James Schonemann II, John Sherrell, Mukesh Subedee, Ali Sydney, Tim Sylvester, Nidhi Tare, David Wolfinbarger, and Dongsheng Zhang.

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**第 142 条，共 395 条**

**标题:** Future Internet research and experimentation: The G-Lab approach

**作者:** Schwerdel, D (Schwerdel, Dennis); Reuther, B (Reuther, Bernd); Zinner, T (Zinner, Thomas); Muller, P (Mueller, Paul); Tran-Gia, P (Phouc Tran-Gia)

**来源出版物:** COMPUTER NETWORKS **卷:** 61 **特刊:** SI **页:** 102-117 **DOI:** 10.1016/j.bjp.2013.12.023 **出版年:** MAR 14 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** The German Lab (G-Lab) project aims to investigate architectural concepts and technologies for a new inter-networking architecture as an integrated approach between theoretic and experimental studies. Thus G-Lab consists of two major fields of activities: research studies of future network components and the design and setup of experimental facilities. Both are controlled by the same community to ensure that the experimental facility meets the demands of the researchers. Researchers gain access to virtualized resources or may gain exclusive access to resources if necessary. We present the current setup of the experimental facility, describing the available hardware, management of the platform, the utilization of the PlanetLab software and the user management. Moreover, a new approach to setup and deploy virtual network topologies will be described. (C) 2014 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Future Internet; Research; Experimentation; Simulation; Experimental facility; Virtualization

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Federal Ministry of Education and Research (BMBF) | |

Funded by Federal Ministry of Education and Research (BMBF) 2008-2012.

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**第 143 条，共 395 条**

**标题:** Creating environments for innovation: Designing and implementing advanced experimental network research testbeds based on the Global Lambda Integrated Facility and the Star Light Exchange

**作者:** Mambretti, J (Mambretti, Joe); Chen, J (Chen, Jim); Yeh, F (Yeh, Fei)

**来源出版物:** COMPUTER NETWORKS **卷:** 61 **特刊:** SI **页:** 118-131 **DOI:** 10.1016/j.bjp.2013.12.024 **出版年:** MAR 14 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Large scale national and international experimental research environments are required to advance communication services and supporting network architecture, technology, and infrastructure. Theories and concepts are often explored using simulation and modeling techniques within labs or on small scale testbeds. However, while such testbeds are valuable resources for the research process, these facilities alone cannot provide an appropriate approximation of the real world conditions required to explore ideas at scale. Very large scale global, experimental network research capabilities are required to deeply investigate innovative concepts. For many years, network testbeds were created to address fairly specific, well defined, limited research goals, and they were implemented for fairly short periods. Recently, taking advantage of a number of macro information technology trends, such as virtualization and programmable resources, several network research communities have been developing innovative types of network research environments. Instead of designing traditional network testbeds, research communities are designing large scale, highly flexible distributed platforms that can be used to create many different types of testbeds. Also, rather than creating short term testbeds for limited research objectives, these new environments are being designed as long term persistent resources to support many types of experimental research. This paper describes the motivations for this trend, provides several examples of large scale distributed network research environments based on the Global Lambda Integrated Facility (GLIF) and the StarLight Exchange Facility, including the Global Environment for Network Innovation (GENI), and indicates emerging future trends for these types of environments. (C) 2014 Published by Elsevier B.V.

**文献类型:** Article

**作者关键词:** Experimental network testbeds; Network research; Experimental network environments; Programmable networks; SDN; GENI; Global Lambda Integrated Facility; OpenFlow; Dynamic network provisioning; Optical networking

**KeyWords Plus:** OPTICAL NETWORKS; SERVICES; ARCHITECTURE; OPTIPUTER

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Science Foundation | |
| Department of Energy's Office of Science | |
| Global Lambda Integrated Facility (GLIF) | |
| National Lambda Rail | |
| Star Light consortium | |
| Metropolitan Research and Education Network | |
| Illinois Wired/Wireless Infrastructure for Research and Education (I-WIRE) | |
| Energy Science Network (ESnet) | |
| GENI | |
| iGENI | |
| HPDM-net | |
| Open Science Testbed | |
| OptIPuter | |
| Trans Cloud | |
| StarWave | |
| 100 G research partnership | |

For their excellent support, the authors would like to thank the National Science Foundation, the Department of Energy's Office of Science, and members of their research partnership consortiums, including members of the Global Lambda Integrated Facility (GLIF), the National Lambda Rail, the Star Light consortium, the Metropolitan Research and Education Network, the Illinois Wired/Wireless Infrastructure for Research and Education (I-WIRE), the Energy Science Network (ESnet), GENI, iGENI, HPDM-net, Open Science Testbed, OptIPuter, Trans Cloud, StarWave, and the 100 G research partnership.

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**第 144 条，共 395 条**

**标题:** Maturing of OpenFlow and Software-defined Networking through deployments

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**来源出版物:** COMPUTER NETWORKS **卷:** 61 **特刊:** SI **页:** 151-175 **DOI:** 10.1016/j.bjp.2013.10.011 **出版**

**年:** MAR 14 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5
**摘要:** Software-defined Networking (SDN) has emerged as a new paradigm of networking that enables network operators, owners, vendors, and even third parties to innovate and create new capabilities at a faster pace. The SON paradigm shows potential for all domains of use, including data centers, cellular providers, service providers, enterprises, and homes. Over a three-year period, we deployed SDN technology at our campus and at several other campuses nation-wide with the help of partners. These deployments included the first-ever SON prototype in a lab for a (small) global deployment. The four-phased deployments and demonstration of new networking capabilities enabled by SDN played an important role in maturing SDN and its ecosystem. We share our experiences and lessons learned that have to do with demonstration of SDN's potential; its influence on successive versions of OpenFlow specification; evolution of SON architecture; performance of SDN and various components; and growing the ecosystem. (C) 2013 Elsevier B.V. All rights reserved.
**文献类型:** Article
**作者关键词:** OpenFlow; SDN; GENI; Deployments; Experience
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| GENI Project Office (GPO) | |

Many individuals from vendor organizations, university IT departments, GENI Project Office (GPO), and researchers and experimenters from various universities supported various deployments reported in this paper. We want to thank the following people based on their primary contribution to this work:

---

**第 145 条，共 395 条**
**标题:** The FEDERICA infrastructure and experience
**作者:** Campanella, M (Campanella, M.); Farina, F (Farina, F.)
**来源出版物:** COMPUTER NETWORKS **卷:** 61 **特刊:** SI **页:** 176-183 **DOI:** 10.1016/j.bjp.2013.12.029 **出版年:** MAR 14 2014
**Web of Science 核心合集中的 "被引频次":** 6
**被引频次合计:** 6
**摘要:** The European Commission co-funded project FEDERICA started in 2008 with the objective to support Future Internet research and experimentation. The project created a Europe-wide infrastructure based on virtualization in wired networks and computing elements, offering fully configurable and controllable virtual testbeds as a service to researchers. This article reviews the architecture, its deployment and current active status, usage experience, including virtual resource reproducibility and elaborates on challenges for Future Internet testbed support facilities. (C) 2014 Elsevier B.V. All rights reserved.
**文献类型:** Article
**作者关键词:** Future Internet; Network architectures; NREN; Virtualization; Distributed systems; Infrastructure as a Service
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Project GEANT | 238875 |
| FP7 project FEDERICA | RI-213107 |
| GARR | |
| CESNET | |
| Verein zur Forderung eines Deutschen Forschungsnetzes DFN | |
| Fundacao para a Computacao Cientifica Nacional FCCN | |

| | |
|---|---|
| Greek Research and Technology Network SA GRNET | |
| Nemzeti Informacios Infrastruktura Fejlesztesi Intezet NII-FL | |
| Instytut Chemii Bioorganicznej PAN W Poznaniu PSNC | |
| Entitad Publica Empreserial RED.ES | |
| Teleinformatikdienste fur Lehre und Forschung SWITCH | |
| Trans-European research and education networking association TERENA | |
| Internet i Innovacio digital a Catalunya i2CAT | |
| Kungliga Tekniska Hogskolan KTH | |
| National Technical University of Athens NTUA | |
| Universitat Politecnica de Catalunya UPC | |
| Juniper Networks Ireland | |
| Martel GmbH | |
| HEAnet Ltd. | |
| Delivery of Advanced Networking Technologies | |
| Politecnico di Torino NORDUnet | |

The FEDERICA infrastructure FP7 is since November 2011 partially supported by the Project GEANT under the Grant Agreement No. 238875. The authors acknowledges the fundamental contribution of all partners of the FP7 project FEDERICA (RI-213107) Consortium GARR, CESNET, Verein zur Forderung eines Deutschen Forschungsnetzes DFN, Fundacao para a Computacao Cientifica Nacional FCCN, Greek Research and Technology Network SA GRNET, Nemzeti Informacios Infrastruktura Fejlesztesi Intezet NII-FL, Instytut Chemii Bioorganicznej PAN W Poznaniu PSNC, Entitad Publica Empreserial RED.ES, Teleinformatikdienste fur Lehre und Forschung SWITCH, Trans-European research and education networking association TERENA, Internet i Innovacio digital a Catalunya i2CAT, Kungliga Tekniska Hogskolan KTH, National Technical University of Athens NTUA, Universitat Politecnica de Catalunya UPC, Juniper Networks Ireland, Martel GmbH, HEAnet Ltd., Delivery of Advanced Networking Technologies to Europe DANTE, Politecnico di Torino NORDUnet.

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**第 146 条，共 395 条**

**标题:** Evaluating knee replacement mechanics during ADL with PID-controlled dynamic finite element analysis

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**来源出版物:** COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING **卷:** 17 **期:** 4 **页:** 360-369 **DOI:** 10.1080/10255842.2012.684242 **出版年:** MAR 12 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Validated computational knee simulations are valuable tools for design phase development of knee replacement devices. Recently, a dynamic finite element (FE) model of the Kansas knee simulator was kinematically validated during gait and deep flexion cycles. In order to operate the computational simulator in the same manner as the experiment, a proportional-integral-derivative (PID) controller was interfaced with the FE model to control the quadriceps actuator excursion and produce a target flexion profile regardless of implant geometry or alignment conditions. The controller was also expanded to operate multiple actuators simultaneously in order to produce in vivo loading conditions at the joint during dynamic activities. Subsequently, the fidelity of the computational model was improved through additional muscle representation and inclusion of relative hip-ankle anterior-posterior (A-P) motion. The PID-controlled model was able to successfully recreate in vivo loading conditions (flexion angle, compressive joint load, medial-lateral load distribution or varus-valgus torque, internal-external torque, A-P force) for deep knee bend, chair rise, stance-phase gait and step-down activities.

**文献类型:** Article

**作者关键词:** knee simulator; finite element analysis; proportional-integral-derivative control; tibiofemoral joint loading

**KeyWords Plus:** PATELLOFEMORAL JOINT; ARTHROPLASTY; FORCES; QUADRICEPS; CONSTRAINT; SIMULATION; WEAR

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| DePuy, a Johnson & Johnson company | |

This study was supported, in part, by DePuy, a Johnson & Johnson company.

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**第 147 条，共 395 条**

**标题:** Biomechanical behaviour of ankle ligaments: constitutive formulation and numerical modelling

**作者:** Forestiero, A (Forestiero, A.); Carniel, EL (Carniel, E. L.); Natali, AN (Natali, A. N.)

**来源出版物:** COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING **卷:** 17 **期:** 4 **页:** 395-404 **DOI:** 10.1080/10255842.2012.688105 **出版年:** MAR 12 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** This study was aimed at the definition of a constitutive formulation of ankle ligaments and of a procedure for the constitutive parameters evaluation, for the biomechanical analysis by means of numerical models. To interpret the typical features of ligaments mechanical response, as anisotropic configuration, geometric non-linearity, non-linear elasticity and time-dependent behaviour, a specific fibre-reinforced visco-hyperelastic model is provided. The identification of constitutive parameters is performed by a stochastic-deterministic procedure that minimises the discrepancy between experimental and computational results. A preliminary evaluation of parameters is performed by analytical models in order to define reference values. Afterwards, solid models are developed to consider the complex histo-tnorphometric configuration of samples as a basis for the definition of numerical models. The results obtained are adopted for upgrading parameter values by comparison with specific mechanical tests. Assuming the new parameters set, the final numerical results are compared with the overall set of experimental data, to assess the reliability and efficacy of the analysis developed for the interpretation of the mechanical response of ankle ligaments.

**文献类型:** Article

**作者关键词:** ankle ligaments; constitutive model; viscoelasticity; constitutive parameters; numerical analysis

**KeyWords Plus:** ANTERIOR TALOFIBULAR LIGAMENT; COLLATERAL LIGAMENTS; VISCOELASTICITY; ANATOMY; FOOT; JOINT

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**第 148 条，共 395 条**

**标题:** Homotopy semi-numerical simulation of peristaltic flow of generalised Oldroyd-B fluids with slip effects

**作者:** Tripathi, D (Tripathi, Dharmendra); Beg, OA (Beg, O. Anwar); Curiel-Sosa, JL (Curiel-Sosa, J. L.)

**来源出版物:** COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING **卷:** 17 **期:** 4 **页:** 433-442 **DOI:** 10.1080/10255842.2012.688109 **出版年:** MAR 12 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** This investigation deals with the peristaltic flow of generalised Oldroyd-B fluids (with the fractional model) through a cylindrical tube under the influence of wall slip conditions. The analysis is carried out under the assumptions of long wavelength and low Reynolds number. Analytical approximate solutions are obtained by using the highly versatile and rigorous semi-numerical procedure known as the homotopy analysis method. It is assumed that the cross section of the tube varies sinusoidally along the length of the tube. The effects of the dominant hydromechanical parameters, i.e. fractional parameters, material constants, slip parameter, time and amplitude on the pressure difference across one wavelength, are studied. Graphical plots reveal that the influence of both fractional parameters on pressure is opposite to each other. Interesting responses to a variation in the constants are obtained. Pressure is shown to be reduced by increasing the slip parameter. Furthermore, the pressure in the case of fractional models (fractional Oldroyd-B model and fractional Maxwell model) of viscoelastic fluids is considerably more substantial than that in the corresponding classical viscoelastic models (Oldroyd-B and Maxwell models). Applications of the study arise in biophysical food processing, embryology and gastro-fluid dynamics.

**文献类型:** Article

**作者关键词:** peristaltic flow; generalised Oldroyd-B fluids; slip condition; homotopy analysis method; amplitude; biophysics

**KeyWords Plus:** FRACTIONAL MAXWELL MODEL; VISCOELASTIC FLUID; UNIDIRECTIONAL FLOWS; UNSTEADY-FLOW; HEAT-TRANSFER; MOTION; TRANSPORT; PUMP; CYLINDERS; CHANNEL

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**第 149 条，共 395 条**

**标题:** Evaluation of a transient, simultaneous, arbitrary Lagrange-Euler based multi-physics method for simulating the mitral heart valve

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**来源出版物:** COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING **卷:** 17 **期:** 4 **页:** 450-458 **DOI:** 10.1080/10255842.2012.688818 **出版年:** MAR 12 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** A transient multi-physics model of the mitral heart valve has been developed, which allows simultaneous calculation of fluid flow and structural deformation. A recently developed contact method has been applied to enable simulation of systole (the stage when blood pressure is elevated within the heart to pump blood to the body). The geometry was simplified to represent the mitral valve within the heart walls in two dimensions. Only the mitral valve undergoes deformation. A moving arbitrary Lagrange-Euler mesh is used to allow true fluid-structure interaction (FSI). The FSI model requires blood flow to induce Valve closure by inducing strains in the region of 10-20%. Model predictions were found to be consistent with existing literature and will undergo further development.

**文献类型:** Article

**作者关键词:** fluid-structure interaction; Hertzian contact; large strain; mitral valve; multi-physics modelling

**KeyWords Plus:** FLUID-STRUCTURE INTERACTION; STRESS-STRAIN CHARACTERISTICS; STRUCTURE INTERACTION-MODELS; CHORDAE TENDINEAE; COMPUTATIONAL ANALYSIS; MECHANICAL-PROPERTIES; ANTERIOR LEAFLET; LEFT-VENTRICLE; AORTIC-VALVE; REPAIR

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| British Heart Foundation | FS/05/32 |
| European Community | 252278 |

The authors would like to thank the British Heart Foundation for a Junior Fellowship (FS/05/32) awarded to DME during the early stages of this investigation. The research leading to these results has received funding from the [European Community's] Seventh Framework Programme [FP7/2007-2013] under a Marie Curie Intra-European Fellowship for Career Development, grant agreement No. [252278], awarded to DME.

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**第 150 条，共 395 条**

**标题:** Reinforcement learning algorithms with function approximation: Recent advances and applications

**作者:** Xu, X (Xu, Xin); Zuo, L (Zuo, Lei); Huang, ZH (Huang, Zhenhua)

**来源出版物:** INFORMATION SCIENCES **卷:** 261 **页:** 1-31 **DOI:** 10.1016/j.ins.2013.08.037 **出版年:** MAR 10 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** In recent years, the research on reinforcement learning (RL) has focused on function approximation in learning prediction and control of Markov decision processes (MDPs). The usage of function approximation techniques in RL will be essential to deal with MDPs with large or continuous state and action spaces. In this paper, a comprehensive survey is given on recent developments in RL algorithms with function approximation. From a theoretical point of view, the convergence and feature representation of RL algorithms are analyzed. From an empirical aspect, the performance of different RL algorithms was evaluated and compared in several benchmark learning prediction and learning control tasks. The applications of RL with function approximation are also discussed. At last, future works on RL with function approximation are suggested. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Reinforcement learning; Function approximation; Approximate dynamic programming; Learning

control; Generalization

**KeyWords Plus:** TRAFFIC SIGNAL CONTROL; COGNITIVE RADIO NETWORKS; ADAPTIVE CRITIC DESIGNS; ZERO-SUM GAMES; GAUSSIAN-PROCESSES; STATE ABSTRACTION; POLICY ITERATION; GRAPH KERNELS; POWER; FRAMEWORK

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61075072<br>91220301 |
| New-Century Excellent Talent Plan of the Ministry of Education of China | NCET-10-0901 |

This work is supported by the National Natural Science Foundation of China under Grant 61075072, 91220301, and New-Century Excellent Talent Plan of the Ministry of Education of China (Grant No. NCET-10-0901). The authors would like to thank Prof. Richard S. Sutton for his comments and suggestions.

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**第 151 条，共 395 条**

**标题:** A quality based recommender system to disseminate information in a university digital library

**作者:** Tejeda-Lorente, A (Tejeda-Lorente, Alvaro); Porcel, C (Porcel, Carlos); Peis, E (Peis, Eduardo); Sanz, R (Sanz, Rosa); Herrera-Viedma, E (Herrera-Viedma, Enrique)

**来源出版物:** INFORMATION SCIENCES **卷:** 261 **页:** 52-69 **DOI:** 10.1016/j.ins.2013.10.036 **出版年:** MAR 10 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** Recommender systems evaluate and filter the great amount of information available on the Web, so they could be used in an academic environment to help users in their searches of relevant information. In the literature, a lot of approaches for generating personalized recommendations of information items in such environment can be found. Usually, these approaches use user profiles and/or features of items to predict those relevant items, but they do not take into account the quality of these items. To overcome this problem, in this paper we propose a new recommender system based on quality. This system uses the quality of the items to estimate their relevance. The system measures the item quality and takes into account this measure like a new factor to be considered in the recommendation process. In such a way, we present a recommender system based on items' quality, to help users to access relevant research resources. This recommender systems is developed by using a fuzzy linguistic approach and it has been tested satisfactorily in a university digital library. 

**文献类型:** Article

**作者关键词:** Recommender system; Item quality; Fuzzy linguistic modeling; Digital library

**KeyWords Plus:** LINGUISTIC PREFERENCE RELATIONS; DECISION-MAKING; MODEL; WORDS; WEB; REPRESENTATION; ALGORITHMS; EVALUATE; SETS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| | TIN2010-17876 |
| | TIN2010-22145-C02-01 |
| | TIC5299 |
| | TIC-5991 |

This paper has been developed with the financing of Projects TIN2010-17876, TIN2010-22145-C02-01, TIC5299 and TIC-5991.

**第 152 条，共 395 条**

**标题:** Application of ANFIS and LR in prediction of scour depth in bridges

**作者:** Akib, S (Akib, Shatirah); Mohammadhassani, M (Mohammadhassani, Mohammad); Jahangirzadeh, A (Jahangirzadeh, Afshin)

**来源出版物:** COMPUTERS & FLUIDS **卷:** 91 **页:** 77-86 **DOI:** 10.1016/j.compfluid.2013.12.004 **出版年:** MAR 5 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** This study uses the Adaptive Network-based Fuzzy Inference System (ANFIS) as a modeling tool to predict the scour depth in bridges. Experiments involved different sediment sizes, flow rates, and time evolution with and without Epipremnum aureum for predicting the effects of scouring on integral bridge piers. A total of 2500 data were taken at the maximum location of scour, and 17,500 scour data were taken at every pile for each time interval. Single row and double row pile integral bridge piers with pile group model were embedded in the two floodplains. The input data and its corresponding scour depth in bridges as output data were recorded at all testing stages. Results from ANFIS were compared with the classical linear regression (LR). ANFIS's results were highly accurate, precise, and satisfactory. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Scour depth; Integral bridge; Bridge pier; Bridge pile; ANFIS; LR

**KeyWords Plus:** ARTIFICIAL NEURAL-NETWORKS; SKEWED INTEGRAL BRIDGE; LOCAL SCOUR; FUZZY-LOGIC; PIERS; FLOW; CHANNEL; WATER

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Ministry of Education | UM.C/625/1/HIR/116<br>UM.C/625/1/HIR/MOHE/ENG/61 |
| University of Malaya | |

Financial support by the High Impact Research Grants from the University of Malaya and Ministry of Education (UM.C/625/1/HIR/116 and UM.C/625/1/HIR/MOHE/ENG/61) are gratefully acknowledged.

**第 153 条，共 395 条**

**标题:** Scope for industrial applications of production scheduling models and solution methods

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**来源出版物:** COMPUTERS & CHEMICAL ENGINEERING **卷:** 62 **页:** 161-193 **DOI:** 10.1016/j.compchemeng.2013.12.001 **出版年:** MAR 5 2014

**Web of Science 核心合集中的 "被引频次":** 14

**被引频次合计:** 14

**摘要:** This paper gives a review on existing scheduling methodologies developed for process industries. Above all, the aim of the paper is to focus on the industrial aspects of scheduling and discuss the main characteristics, including strengths and weaknesses of the presented approaches. It is claimed that optimization tools of today can effectively support the plant level production. However there is still clear potential for improvements, especially in transferring academic results into industry. For instance, usability, interfacing and integration are some aspects discussed in the paper. After the introduction and problem classification, the paper discusses some lessons learned from industry, provides an overview of models and methods and concludes with general guidelines and examples on the modeling and solution of industrial problems. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Review

**作者关键词:** Scheduling; Industrial applications; Best practices; Integration; Challenges

**KeyWords Plus:** CONTINUOUS-TIME FORMULATION; MULTIPURPOSE BATCH PLANTS; CONTINUOUS MULTIPRODUCT PLANTS; OF-THE-ART; SEQUENCE-DEPENDENT CHANGEOVERS; ROBUST OPTIMIZATION APPROACH; INTEGER NONLINEAR PROGRAMS; TASK NETWORK FORMULATION; SHORT-TERM; MIXED-INTEGER

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| FEDER (Programa Operacional Factores de Competitividade - COMPETE) | |
| Fundacao para a Ciencia e Tecnologia | FCOMP-01-0124-FEDER-020764 |
| National Science Foundation | CBET-1066206<br>CBET-1159443 |

Pedro Castro acknowledges financial support from FEDER (Programa Operacional Factores de Competitividade - COMPETE) and Fundacao para a Ciencia e Tecnologia through project FCOMP-01-0124-FEDER-020764. Christos Maravelias acknowledges support from the National Science Foundation under Grant CBET-1066206. Ignacio Grossmann acknowledges support from the National Science Foundation under Grant CBET-1159443. We also want to acknowledge Dr. Arturo Cervantes for providing us valuable information on Optience planning and scheduling tools.

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**第 154 条，共 395 条**

**标题:** Cloud manufacturing: a new manufacturing paradigm

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**来源出版物:** ENTERPRISE INFORMATION SYSTEMS **卷:** 8 **期:** 2 **页:** 167-187 **DOI:** 10.1080/17517575.2012.683812 **出版年:** MAR 4 2014
**Web of Science 核心合集中的 "被引频次":** 11
**被引频次合计:** 11

**摘要:** Combining with the emerged technologies such as cloud computing, the Internet of things, service-oriented technologies and high performance computing, a new manufacturing paradigm - cloud manufacturing (CMfg) - for solving the bottlenecks in the informatisation development and manufacturing applications is introduced. The concept of CMfg, including its architecture, typical characteristics and the key technologies for implementing a CMfg service platform, is discussed. Three core components for constructing a CMfg system, i.e. CMfg resources, manufacturing cloud service and manufacturing cloud are studied, and the constructing method for manufacturing cloud is investigated. Finally, a prototype of CMfg and the existing related works conducted by the authors' group on CMfg are briefly presented.

**文献类型:** Article
**作者关键词:** cloud manufacturing (CMfg); concept; manufacturing cloud service; manufacturing cloud; cloud manufacturing service platform
**KeyWords Plus:** VIRTUAL ENTERPRISE; GRID SYSTEM; POLYCHROMATIC SETS; CONCEPTUAL DESIGN; MANAGEMENT; ARCHITECTURE; INTEGRATION; TECHNOLOGY; FRAMEWORK

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| 863 Program project in China | 2011AA040501 |
| National Science Foundation of China | 61074144<br>51005012 |
| Doctoral Fund of Ministry of Education | 20101102110009 |
| Fundamental Research Funds for the Central Universities in China | |

This work is supported in part by the 863 Program project in China (No.2011AA040501), the National Science Foundation of China (No.61074144 and No.51005012), the Doctoral Fund of Ministry of Education (NO.20101102110009) and the Fundamental Research Funds for the Central Universities in China. Thanks for the help from the master students Y.J. Laili, D.J. He, Lan Mu, Z.Y. Ren and Y. Bao at the Laboratory of Manufacturing Integration and Simulation Technology (MIST) at Beihang University.

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**第 155 条，共 395 条**

**标题:** A system framework of inter-enterprise machining quality control based on fractal theory

**作者:** Zhao, LP (Zhao, Liping); Qin, YT (Qin, Yongtao); Yao, YY (Yao, Yiyong); Yan, P (Yan, Peng)

**来源出版物:** ENTERPRISE INFORMATION SYSTEMS **卷:** 8 **期:** 2 **页:** 336-353 **DOI:** 10.1080/17517575.2012.688541 **出版年:** MAR 4 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** In order to meet the quality control requirement of dynamic and complicated product machining processes among enterprises, a system framework of inter-enterprise machining quality control based on fractal was proposed. In this system framework, the fractal-specific characteristic of inter-enterprise machining quality control function was analysed, and the model of inter-enterprise machining quality control was constructed by the nature of fractal structures. Furthermore, the goal-driven strategy of inter-enterprise quality control and the dynamic organisation strategy of inter-enterprise quality improvement were constructed by the characteristic analysis on this model. In addition, the architecture of inter-enterprise machining quality control based on fractal was established by means of Web service. Finally, a case study for application was presented. The result showed that the proposed method was available, and could provide guidance for quality control and support for product reliability in inter-enterprise machining processes.

**文献类型:** Article

**作者关键词:** inter-enterprise; product machining; quality control; fractal

**KeyWords Plus:** ENTERPRISE ARCHITECTURE; MANUFACTURING SYSTEMS; FUZZY-LOGIC; IMPLEMENTATION; OPTIMIZATION; PERFORMANCE; DESIGN

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National High-Tech | |
| R&D Program for Contemporary Manufacturing Integrated Technology, China | 2006AA04Z149 |
| Project of Enterprise Service from Ministry of Science and Technology of China | 2009GJG00021 |

This work was supported by grant from the National High-Tech. R&D Program for Contemporary Manufacturing Integrated Technology, China (No. 2006AA04Z149). This work also was supported by the Project of Enterprise Service from Ministry of Science and Technology of China (No. 2009GJG00021). The authors hereby thank them for the financial aids. The authors also want to thank the editor and two anonymous referees for providing constructive comments that greatly improved the contents and presentation of this paper.

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**第 156 条，共 395 条**

**标题:** Trusting Humans and Avatars: A Brain Imaging Study Based on Evolution Theory

**作者:** Riedl, R (Riedl, Rene); Mohr, PNC (Mohr, Peter N. C.); Kening, PH (Kening, Peter H.); Davis, FD (Davis, Fred D.); Hekeren, HR (Hekeren, Hauke R.)

**来源出版物:** JOURNAL OF MANAGEMENT INFORMATION SYSTEMS **卷:** 30 **期:** 4 **特刊:** SI **页:** 83-113 **DOI:** 10.2753/MIS0742-1222300404 **出版年:** SPR 2014

**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5
**摘要:** Avatars, as virtual humans possessing realistic faces, are increasingly used for social and economic interaction on the Internet. Research has already determined that avatar-based communication may increase perceived interpersonal trust in anonymous online environments. Despite this trust-inducing potential of avatars, however, we hypothesize that in trust situations, people will perceive human faces differently than they will perceive avatar faces. This prediction is based on evolution theory, because throughout human history the majority of interaction among people has taken place in face-to-face settings. Therefore, unlike perception of an avatar face, perception of a human face and the related trustworthiness discrimination abilities must be part of the genetic makeup of humans. Against this background, we conducted a functional magnetic resonance imaging experiment based on a multiround trust game to gain insight into the differences and similarities of interactions between humans versus human interaction with avatars. Our results indicate that (1) people are better able to predict the trustworthiness of humans than the trustworthiness of avatars; (2) decision making about whether or not to trust another actor activates the medial frontal cortex significantly more during interaction with humans, if compared to interaction with avatars; this brain area is of paramount importance for the prediction of other individuals' thoughts and intentions (mentalizing), a notably important ability in trust situations; and (3) the trustworthiness learning rate is similar, whether interacting with humans or avatars. Thus, the major implication of this study is that although interaction on the Internet may have benefits, the lack of real human faces in communication may serve to reduce these benefits, in turn leading to reduced levels of collaboration effectiveness.
**文献类型:** Article
**作者关键词:** agent; avatar; brain; cognitive neuroscience; evolutionary psychology; evolution theory; functional magnetic resonance imaging (fMRI); medial frontal cortex (MFC); mentalizing; NeuroIS; theory-of-mind (TOM)
**KeyWords Plus:** FUSIFORM FACE AREA; VIRTUAL WORLDS; INFORMATION-SYSTEMS; COGNITIVE NEUROSCIENCE; RECOMMENDATION AGENTS; FACIAL EXPRESSIONS; GENETIC INFLUENCES; SOCIAL PRESENCE; MEDIA RICHNESS; HUMAN-BEHAVIOR
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| "Collaborative Research Center 649: Economic Risk" - German Research Foundation (DFG) | |
| Sogang Business School's World Class University Project - Korean Research Foundation | R32-20002 |

The authors thank the guest editors, Ting-Peng Liang and Jan vom Brocke, as well as three anonymous reviewers for their excellent work in providing guidance on ways to improve the paper. Moreover, they are grateful to Cornelia Huber for her support in developing the avatars. They also appreciate the generous and visionary support of Novomind AG, Germany (www.novomind.com). They appreciate the generous support of Schindler Parent Meersburg who, through the Schindler Parent Distinguished Guest Lecturer for Marketing, supported Rene Riedl's work on NeuroIS and consumer neuroscience projects at Zeppelin University Friedrichshafen. Peter N.C. Mohr's work on this project was supported by the "Collaborative Research Center 649: Economic Risk" funded by the German Research Foundation (DFG). Fred D. Davis's work on this paper was partially supported by Sogang Business School's World Class University Project (R32-20002) funded by the Korean Research Foundation. The authors acknowledge the support of Hock Hai Teo and Hock Chuan Chan, who served as chairs of the track "Human-Computer Interaction" at the 2011 International Conference on Information Systems (ICIS, Shanghai, December 4-7), where an earlier version of this paper was presented. They also thank the conference participants who provided useful comments. Finally, they thank Deborah C. Nester for proofreading the manuscript.

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**第 157 条，共 395 条**
**标题:** Blind prediction of solvation free energies from the SAMPL4 challenge
**作者:** Mobley, DL (Mobley, David L.); Wymer, KL (Wymer, Karisa L.); Lim, NM (Lim, Nathan M.); Guthrie, JP (Guthrie, J. Peter)
**来源出版物:** JOURNAL OF COMPUTER-AIDED MOLECULAR DESIGN **卷:** 28 **期:** 3 **特**

**刊:** SI **页:** 135-150 **DOI:** 10.1007/s10822-014-9718-2 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 7
**被引频次合计:** 7
**摘要:** Here, we give an overview of the small molecule hydration portion of the SAMPL4 challenge, which focused on predicting hydration free energies for a series of 47 small molecules. These gas-to-water transfer free energies have in the past proven a valuable test of a variety of computational methods and force fields. Here, in contrast to some previous SAMPL challenges, we find a relatively wide range of methods perform quite well on this test set, with RMS errors in the 1.2 kcal/mol range for several of the best performing methods. Top-performers included a quantum mechanical approach with continuum solvent models and functional group corrections, alchemical molecular dynamics simulations with a classical all-atom force field, and a single-conformation Poisson-Boltzmann approach. While 1.2 kcal/mol is still a significant error, experimental hydration free energies covered a range of nearly 20 kcal/mol, so methods typically showed substantial predictive power. Here, a substantial new focus was on evaluation of error estimates, as predicting when a computational prediction is reliable versus unreliable has considerable practical value. We found, however, that in many cases errors are substantially underestimated, and that typically little effort has been invested in estimating likely error. We believe this is an important area for further research.
**文献类型:** Article
**作者关键词:** Hydration free energy; Transfer free energy; SAMPL; Free energy calculation
**KeyWords Plus:** HYDRATION FREE-ENERGIES; CONFORMER GENERATION; EXPLICIT SOLVENT; SIMULATIONS; VALIDATION; CHEMISTRY; SET
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Institutes of Health | 1R15GM096257-01A1 |
| NSF | CHE-0840513 |

We acknowledge the financial support of the National Institutes of Health (1R15GM096257-01A1), and computing support from the UCI GreenPlanet cluster, supported in part by NSF Grant CHE-0840513. We also thank J. Peter Guthrie for help with sorting out structure and naming confusion in SAMPL preparation, several SAMPL participants including Jens Reinisch and Samuel Genheden for helpful exchanges on issues with the guaiacol series, and Andreas Klamt for help on data relating to 1-benzylimidazole. We also thank OpenEye for their support of the SAMPL meeting and for running the web server, and Matt Geballe (OpenEye) for help managing the web site and automated submission system.

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**第 158 条，共 395 条**
**标题:** Chaotic bat algorithm
**作者:** Gandomi, AH (Gandomi, Amir H.); Yang, XS (Yang, Xin-She)
**来源出版物:** JOURNAL OF COMPUTATIONAL SCIENCE **卷:** 5 **期:** 2 **特刊:** SI **页:** 224-232 **DOI:** 10.1016/j.jocs.2013.10.002 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5
**摘要:** Bat algorithm (BA) is a recent metaheuristic optimization algorithm proposed by Yang. In the present study, we have introduced chaos into BA so as to increase its global search mobility for robust global optimization. Detailed studies have been carried out on benchmark problems with different chaotic maps. Here, four different variants of chaotic BA are introduced and thirteen different chaotic maps are utilized for validating each of these four variants. The results show that some variants of chaotic BAs can clearly outperform the standard BA for these benchmarks.

**文献类型:** Article
**作者关键词:** Bat algorithm; Chaos; Metaheuristic; Global optimization
**KeyWords Plus:** GLOBAL OPTIMIZATION; INSPIRED ALGORITHM
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**第 159 条，共 395 条**

**标题:** FFAS-3D: improving fold recognition by including optimized structural features and template re-ranking

**作者:** Xu, D (Xu, Dong); Jaroszewski, L (Jaroszewski, Lukasz); Li, ZW (Li, Zhanwen); Godzik, A (Godzik, Adam)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 5 **页:** 660-667 **DOI:** 10.1093/bioinformatics/btt578 **出版年:** MAR 1 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5

**摘要:** Motivation: Homology detection enables grouping proteins into families and prediction of their structure and function. The range of application of homology-based predictions can be significantly extended by using sequence profiles and incorporation of local structural features. However, incorporation of the latter terms varies a lot between existing methods, and together with many examples of distant relations not recognized even by the best methods, suggests that further improvements are still possible.
Results: Here we describe recent improvements to the fold and function assignment system (FFAS) method, including adding optimized structural features (experimental or predicted), 'symmetrical' Z-score calculation and re-ranking the templates with a neural network. The alignment accuracy in the new FFAS-3D is now 11% higher than the original and comparable with the most accurate template-based structure prediction algorithms. At the same time, FFAS-3D has high success rate at the Structural Classification of Proteins (SCOP) family, superfamily and fold levels. Importantly, FFAS-3D results are not highly correlated with other programs suggesting that it may significantly improve meta-predictions. FFAS-3D does not require 3D structures of the templates, as using predicted features instead of structure-derived does not lead to the decrease of accuracy. Because of that, FFAS-3D can be used for databases other than Protein Data Bank (PDB) such as Protein families database or Clusters of orthologous groups thus extending its applications to functional annotations of genomes and protein families.

**文献类型:** Article
**KeyWords Plus:** PROTEIN-STRUCTURE PREDICTION; SECONDARY STRUCTURE; SEQUENCE PROFILES; ALIGNMENT; QUALITY; IDENTIFICATION; SIMILARITIES; INFORMATION; STABILITY; FRAGMENTS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Institute of Health | GM087218<br>GM101457 |

National Institute of Health (GM087218 and GM101457).

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**第 160 条，共 395 条**

**标题:** Grey Wolf Optimizer

**作者:** Mirjalili, S (Mirjalili, Seyedali); Mirjalili, SM (Mirjalili, Seyed Mohammad); Lewis, A (Lewis, Andrew)

**来源出版物:** ADVANCES IN ENGINEERING SOFTWARE **卷:** 69 **页:** 46-61 **DOI:** 10.1016/j.advengsoft.2013.12.007 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 12
**被引频次合计:** 12

**摘要:** This work proposes a new meta-heuristic called Grey Wolf Optimizer (GWO) inspired by grey wolves (Canis lupus). The GWO algorithm mimics the leadership hierarchy and hunting mechanism of grey wolves in nature. Four types of grey wolves such as alpha, beta, delta, and omega are employed for simulating the leadership hierarchy. In addition, the three main steps of hunting, searching for prey, encircling prey, and attacking prey, are implemented. The algorithm is then benchmarked on 29 well-known test functions, and the results are verified by a comparative study with Particle Swarm Optimization (PSO), Gravitational Search Algorithm (GSA), Differential Evolution (DE), Evolutionary Programming (EP), and Evolution Strategy (ES). The results show that the GWO algorithm is able to

provide very competitive results compared to these well-known meta-heuristics. The paper also considers solving three classical engineering design problems (tension/compression spring, welded beam, and pressure vessel designs) and presents a real application of the proposed method in the field of optical engineering. The results of the classical engineering design problems and real application prove that the proposed algorithm is applicable to challenging problems with unknown search spaces. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Optimization; Optimization techniques; Heuristic algorithm; Metaheuristics; Constrained optimization; GWO

**KeyWords Plus:** PARTICLE SWARM OPTIMIZATION; GRAVITATIONAL SEARCH ALGORITHM; ENGINEERING DESIGN-PROBLEMS; CRYSTAL WAVE-GUIDES; GENETIC ALGORITHMS; GLOBAL OPTIMIZATION; CONSTRAINED OPTIMIZATION; DIFFERENTIAL EVOLUTION; SLOW LIGHT; STRATEGIES

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**第 161 条，共 395 条**

**标题:** Shoulder impingement revisited: evolution of diagnostic understanding in orthopedic surgery and physical therapy

**作者:** Braman, JP (Braman, Jonathan P.); Zhao, KD (Zhao, Kristin D.); Lawrence, RL (Lawrence, Rebekah L.); Harrison, AK (Harrison, Alicia K.); Ludewig, PM (Ludewig, Paula M.)

**来源出版物:** MEDICAL & BIOLOGICAL ENGINEERING & COMPUTING **卷:** 52 **期:** 3 **页:** 211-219 **DOI:** 10.1007/s11517-013-1074-1 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** "Impingement syndrome" is a common diagnostic label for patients presenting with shoulder pain. Historically, it was believed to be due to compression of the rotator cuff tendons beneath the acromion. It has become evident that "impingement syndrome" is not likely an isolated condition that can be easily diagnosed with clinical tests or most successfully treated surgically. Rather, it is likely a complex of conditions involving a combination of intrinsic and extrinsic factors. A mechanical impingement phenomenon as an etiologic mechanism of rotator cuff disease may be distinct from the broad diagnostic label of "impingement syndrome". Acknowledging the concepts of mechanical impingement and movement-related impairments may better suit the diagnostic and interventional continuum as they support the existence of potentially modifiable impairments within the conservative treatment paradigm. Therefore, it is advocated that the clinical diagnosis of "impingement syndrome" be eliminated as it is no more informative than the diagnosis of "anterior shoulder pain". While both terms are ambiguous, the latter is less likely to presume an anatomical tissue pathology that may be difficult to isolate either with a clinical examination or with diagnostic imaging and may prevent potentially inappropriate surgical interventions. We further recommend investigation of mechanical impingement and movement patterns as potential mechanisms for the development of shoulder pain, but clearly distinguished from a clinical diagnostic label of "impingement syndrome". For shoulder researchers, we recommend investigations of homogenous patient groups with accurately defined specific pathologies, or with subgrouping or classification based on specific movement deviations. Diagnostic labels based on the movement system may allow more effective subgrouping of patients to guide treatment strategies.

**文献类型:** Article

**作者关键词:** Diagnostic classification; Biomechanics; Physical examination

**KeyWords Plus:** ROTATOR CUFF TEARS; SUBACROMIAL-IMPINGEMENT; SCAPULAR KINEMATICS; INTERNAL IMPINGEMENT; ANIMAL-MODEL; MUSCULOSKELETAL DISORDERS; ASYMPTOMATIC SHOULDERS; ARTHROSCOPIC FINDINGS; SUPRASPINATUS TENDON; GLENOHUMERAL JOINT

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**第 162 条，共 395 条**

**标题:** micrOMEGAs_3: A program for calculating dark matter observables

**作者:** Belanger, G (Belanger, G.); Boudjema, F (Boudjema, F.); Pukhov, A (Pukhov, A.); Semenov, A (Semenov, A.)

**来源出版物:** COMPUTER PHYSICS COMMUNICATIONS **卷:** 185 **期:** 3 **页:** 960-985 **DOI:** 10.1016/j.cpc.2013.10.016 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 63

**被引频次合计:** 63

**摘要:** micrOMEGAs is a code to compute dark matter observables in generic extensions of the standard model. This new version of micrOMEGAs is a major update which includes a generalization of the Boltzmann equations to accommodate models with asymmetric dark matter or with semi-annihilation and a first approach to a generalization of the thermodynamics of the Universe in the relic density computation. Furthermore a switch to include virtual vector bosons in the final states in the annihilation cross sections or relic density computations is added. Effective operators to describe loop-induced couplings of Higgses to two-photons or two-gluons are introduced and reduced couplings of the Higgs are provided allowing for a direct comparison with recent LHC results. A module that computes the signature of DM captured in celestial bodies in neutrino telescopes is also provided. Moreover the direct detection module has been improved as concerns the implementation of the strange "content" of the nucleon. New extensions of the standard model are included in the distribution.

Program summary

Title of program: micrOMEGAs3.

Program obtainable from: http://lapth.cnrs.fr/micromegas

Computers for which the program is designed and others on which it has been tested: PC, Mac

Operating systems under which the program has been tested : UNIX (Linux, Darwin)

Programming language used: C and Fortran

Memory required to execute with typical data: 50 MB depending on the number of processes required.

No. of processors used: 1

Has the code been vectorized or parallelized: no

No. of bytes in distributed program, including test data: 70736 kB

External routines/libraries used: no

CPC Program Library subprograms used: CalcHEP, SuSpect, NMSSMTools, CPSuperH, LoopTools, Higgs-Bounds

Catalogue identifier of previous version: ADQR_v1_3

Journal reference of previous version: Comput. Phys. Comm. 182 (2011) 842

Does the new version supersede the previous version: yes

Nature of physical problem: Calculation of the relic density and direct and indirect detection rates of the lightest stable particle in a generic new model of particle physics.

Method of solution: In numerically solving the evolution equation for the density of dark matter, relativistic formulae for the thermal average are used. All tree-level processes for annihilation and coannihilation of new particles in the model are included as well as some 3-body final states. The cross-sections for all processes are calculated exactly with CalcHEP after definition of a model file. The propagation of the charged cosmic rays is solved within a semi-analytical two-zone model.

Reasons for the new version: There are many experiments that are currently searching for the remnants of dark matter annihilation and the relic density is determined precisely from cosmological measurements. In this version we add the computation of dark matter signals in neutrino telescopes, we generalize the Boltzmann equations so as to take into account a larger class of dark matter models and improve the precision in the prediction of the relic density for DM masses that are below the W mass. We compute the signal strength for Higgs production in different channels to compare with the results of the LHC.

Summary of revisions:

Generalization of the Boltzmann equations to include asymmetric dark matter and semi-annihilations: the DM asymmetry is taken into account when computing direct/indirect detection rates.

Incorporating loop-induced decays of Higgs particles to two-photons and two-gluons, and computing the signal strength for Higgs production in various channels that can be compared to results from LHC searches.

New module for neutrino signature from DM capture in the Sun and the Earth

Annihilation cross sections for some selected 3-body processes in addition to the 2-body tree-level processes. The 3-body option can be included in the computation of the relic density and/or for annihilation of dark matter in the galaxy.

Possibility of using different tables for the effective degrees of freedom in the early Universe

Annihilation cross sections for the loop induced processes gamma gamma and gamma Z(0) in the NMSSM and the CPVMSSM

New function for incorporating DM clumps

New function to define the strange quark content of the nucleon

The LanHEP source code for new models is included

New models with scalar DM are included (Inert doublet model and model with Z(3) symmetry)
New implementation of the NMSSM which uses the Higgs self-couplings and the particle spectrum calculated in NMSSMTools_4.1
New versions of spectrum generators used in the MSSM (Suspect_2.4.1) and in the CPVMSSM (CPsuperH2.3)
Extended routines for flavor physics in the MSSM
New facilities to compute DM observables independently of the model
Update in interface tools to read files produced by other codes, this allows easy interface to other codes
Typical running time: 4 s
Unusual features of the program: Depending on the parameters of the model, the program generates additional new code, compiles it and loads it dynamically. 

**文献类型:** Article

**作者关键词:** Dark matter; Relic density; Indirect detection; MSSM; Beyond standard model

**KeyWords Plus:** ELECTROWEAK SYMMETRY-BREAKING; STANDARD MODEL; RELIC DENSITY; FORTRAN CODE; HIGGS-BOSON; SUPERSYMMETRIC SPECTRA; GENERIC MODEL; PARTICLE; MSSM; SEARCH

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| LIA-TCAP of CNRS | |
| French ANR | |
| Programme BLANC/DMAstroLHC | |
| Russian foundation for Basic Research, | RFBR-12-02-93108-CNRSL-a |
| Galileo Galilei Institute for Theoretical Physics (GGI Florence) | |
| INFN | |

We thank C. Hugonie for providing the new NMSSMTools interface. We also thank A. Anandakrishnan, J. Da Silva, G. Drieu La Rochelle, A. Goudelis, B. Dumont, and S. Kulkarni for testing the beta versions of the code. This work was supported in part by the LIA-TCAP of CNRS, by the French ANR, Programme BLANC/DMAstroLHC and was performed within the Labex ENIGMASS. The work of AP was also supported by the Russian foundation for Basic Research, grant RFBR-12-02-93108-CNRSL-a. GB and AP also thank the Galileo Galilei Institute for Theoretical Physics (GGI Florence) for hospitality and the INFN for partial support.

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**第 163 条，共 395 条**

**标题:** Adaptive neural network tracking design for a class of uncertain nonlinear discrete-time systems with dead-zone

**作者:** Liu, YJ (Liu YanJun); Liu, L (Liu Lei); Tong, SC (Tong ShaoCheng)

**来源出版物:** SCIENCE CHINA-INFORMATION SCIENCES **卷:** 57 **期:** 3 **文献号:** 032206 **DOI:** 10.1007/s11432-012-4779-0 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** In this paper, the stability and control issues of a class of uncertain nonlinear discrete-time systems in the strict feedback form are investigated. The dead-zone input in the systems, whose property is non-symmetric and discretized, is investigated. The unknown functions in the systems are approximated by using the radial basis function neural networks (RBFNNs). Backstepping design procedure is employed in the controller and the adaptation laws design. Lyapunov analysis method is utilized to prove the stability of the closed-loop system. A simulation example is given to illustrate the effectiveness of the proposed approach.

**文献类型:** Article

**作者关键词:** adaptive control; RBF neural network; non-symmetric dead-zone; backstepping design; uncertain nonlinear systems

**KeyWords Plus:** OUTPUT-FEEDBACK CONTROL; FUZZY-LOGIC CONTROL; BACKSTEPPING CONTROL; NN CONTROL; COMPENSATION; DELAYS; MOTION; INPUT; PLANTS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61074014<br>61104017 |
| Program for Liaoning Innovative Research Team in University | LT2012013 |
| Program for Liaoning Excellent Talents in University | LJQ2011064 |

This work was supported in part by National Natural Science Foundation of China (Grant Nos. 61074014, 61104017), Program for Liaoning Innovative Research Team in University (Grant No. LT2012013), and Program for Liaoning Excellent Talents in University (Grant No. LJQ2011064).

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**第 164 条，共 395 条**

**标题:** Values in socio-environmental modelling: Persuasion for action or excuse for inaction

**作者:** Voinov, A (Voinov, Alexey); Seppelt, R (Seppelt, Ralf); Reis, S (Reis, Stefan); Nabel, JEMS (Nabel, Julia E. M. S.); Shokravi, S (Shokravi, Samaneh)

**来源出版物:** ENVIRONMENTAL MODELLING & SOFTWARE **卷:** 53 **页:** 207-212 **DOI:** 10.1016/j.envsoft.2013.12.005 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** Science in general and modelling in particular provide in-depth understanding of environmental processes and clearly demonstrate the present unsustainable use of resources on a global scale. The latest report by the Intergovernmental Panel on Climate Change (IPCC), for instance, shows that climate is changing and with a 95% certainty it is the humans have caused the change. The future climatic conditions are shown to be largely adversely affecting human wellbeing on this planet. Yet we see in numerous examples that societies are very slow in reacting to this rapid depletion of natural resources. What still seems lacking is the translation of scientific reports and the results of analysis and modelling into corrective actions. We argue that one of the reasons for this is the traditional workflow of environmental modelling, which starts with the purpose, the goal formulation, and ends with problem solutions or decision support tools. Instead, modelling, and applied science in general, has to enhance its scope beyond the problem solving stage, to do more on the problem definition and solution implementation phases. Modelling can be also used for identification of societal values and for setting purposes by appropriate communication of the modelling process and results. We believe this new approach for modelling can impact and bring the social values to the forefront of socio-environmental debate and hence turn scientific results into actions sooner rather than later. Instead of being separated from the modelling process, the translation of results should be an intrinsic part of it. We discuss several challenges for recent socio-environmental modelling and conclude with ten propositions that modellers and scientists in general can follow to improve their communication with the society and produce results that can be understood and used to improve awareness and education and spur action. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Policy making; Decision support; Social values; Action; Participatory modelling; Science and policy interface

**KeyWords Plus:** KNOWLEDGE SYSTEMS; CLIMATE-CHANGE; SCIENCE; POLICY; CHALLENGES; SUPPORT

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| EU-FP7-308601 COMPLEX project | |

| | |
|---|---|
| "Global Assessment of Land Use Dynamics, Greenhouse Gas Emissions and Ecosystem Services - GLUES" (German Ministry of Research and Technology) | 01LL0901A |
| Helmholtz Programme "Terrestrial Environmental Research" | |

The authors are grateful to the five reviewers of this paper, and especially to Dr. Joan David Tabara. A. Voinov was in part supported by the EU-FP7-308601 COMPLEX project. Grant 01LL0901A "Global Assessment of Land Use Dynamics, Greenhouse Gas Emissions and Ecosystem Services - GLUES" (German Ministry of Research and Technology) and the Helmholtz Programme "Terrestrial Environmental Research" supported R. Seppelt.

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**第 165 条，共 395 条**

**标题:** Concept, Principle and Application of Dynamic Configuration for Intelligent Algorithms

**作者:** Tao, F (Tao, Fei); Laili, YJ (Laili, Yuanjun); Liu, YL (Liu, Yilong); Feng, Y (Feng, Ying); Wang, QN (Wang, Qining); Zhang, L (Zhang, Lin); Xu, LD (Xu, Lida)

**来源出版物:** IEEE SYSTEMS JOURNAL **卷:** 8 **期:** 1 **页:** 28-42 **DOI:** 10.1109/JSYST.2013.2275619 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Since genetic algorithm (GA) presented decades ago, large amount of intelligent algorithms and their improvements and mixtures have been putting forward one after another. However, little works have been done to extend their applications and verify their competence in different problems. For each specific complex problem, people always take a long time to find appropriate intelligent algorithm and develop improvements. To overcome these shortcomings, new dynamic configuration methods for intelligent algorithms (DC-IA) is presented in this paper on the basis of the requirements of three kinds of algorithm users. It separates the optimization problems and intelligent algorithms, modularizes each step of algorithms and extracts their core operators. Based on the coarse-grained operator modules, three-layer dynamical configurations, i.e., parameter-based configuration, operator-based configuration and algorithm-based configuration, are fully exploited and implemented. Under these methods, dozens of hybrid and improved intelligent algorithms can be easily produced in a few minutes just based on several configurable operator modules. Also, problem-oriented customizations in configurations can further extend the application range and advance the efficiency of the existing operators enormously. Experiments based on the established configuration platform verify the new configuration ways of applying and improving intelligent algorithm for both numerical and combinatorial optimization problems in industries on aspects of flexibility, robustness, and reusability.

**文献类型:** Article

**作者关键词:** Algorithm-based configuration; dynamic configuration; intelligent algorithms; operator-based configuration; optimization; parameter-based configuration

**KeyWords Plus:** ANT COLONY OPTIMIZATION; ENGINEERING DESIGN OPTIMIZATION; PARTICLE SWARM OPTIMIZATION; MANUFACTURING GRID SYSTEM; GENETIC ALGORITHM; SEARCH STRATEGIES; SERVICE; RESOURCE; SELECTION; METAHEURISTICS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Science Foundation of China | 51005012 |
| National Key Technology Research and Development Program | 2011BAK16B03 |
| Fundamental Research Funds for the Central Universities in China | |

This work was supported in part by the National Science Foundation of China (No. 51005012), the National Key Technology Research and Development Program (No. 2011BAK16B03), and the Fundamental Research Funds for the Central Universities in China.

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**第 166 条，共 395 条**

**标题:** An Efficient Interval Type-2 Fuzzy CMAC for Chaos Time-Series Prediction and Synchronization

**作者:** Lee, CH (Lee, Ching-Hung); Chang, FY (Chang, Feng-Yu); Lin, CM (Lin, Chih-Min)

**来源出版物:** IEEE TRANSACTIONS ON

CYBERNETICS **卷:** 44 **期:** 3 **页:** 329-341 **DOI:** 10.1109/TCYB.2013.2254113 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4
**摘要:** This paper aims to propose a more efficient control algorithm for chaos time-series prediction and synchronization. A novel type-2 fuzzy cerebellar model articulation controller (T2FCMAC) is proposed. In some special cases, this T2FCMAC can be reduced to an interval type-2 fuzzy neural network, a fuzzy neural network, and a fuzzy cerebellar model articulation controller (CMAC). So, this T2FCMAC is a more generalized network with better learning ability, thus, it is used for the chaos time-series prediction and synchronization. Moreover, this T2FCMAC realizes the un-normalized interval type-2 fuzzy logic system based on the structure of the CMAC. It can provide better capabilities for handling uncertainty and more design degree of freedom than traditional type-1 fuzzy CMAC. Unlike most of the interval type-2 fuzzy system, the type-reduction of T2FCMAC is bypassed due to the property of un-normalized interval type-2 fuzzy logic system. This causes T2FCMAC to have lower computational complexity and is more practical. For chaos time-series prediction and synchronization applications, the training architectures with corresponding convergence analyses and optimal learning rates based on Lyapunov stability approach are introduced. Finally, two illustrated examples are presented to demonstrate the performance of the proposed T2FCMAC.
**文献类型:** Article
**作者关键词:** Cerebellar model articulation controller (CMAC); chaos prediction; chaos synchronization; interval type-2 fuzzy system
**KeyWords Plus:** MODEL ARTICULATION CONTROLLER; NEURAL-NETWORKS; LOGIC SYSTEMS; DESIGN; INFERENCE; OPTIMIZATION; FCMAC; ROBOT
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Science Council, Taiwan | NSC-100-2221-E-005-093-MY2 |

This work was supported in part by the National Science Council, Taiwan, under Contract NSC-100-2221-E-005-093-MY2. This paper was recommended by Associate Editor P. De Wilde.

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**第 167 条，共 395 条**

**标题:** Reinforcement Learning Output Feedback NN Control Using Deterministic Learning Technique
**作者:** Xu, B (Xu, Bin); Yang, CG (Yang, Chenguang); Shi, ZK (Shi, Zhongke)
**来源出版物:** IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS **卷:** 25 **期:** 3 **页:** 635-641 **DOI:** 10.1109/TNNLS.2013.2292704 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 8
**被引频次合计:** 8
**摘要:** In this brief, a novel adaptive-critic-based neural network (NN) controller is investigated for nonlinear pure-feedback systems. The controller design is based on the transformed predictor form, and the actor-critic NN control architecture includes two NNs, whereas the critic NN is used to approximate the strategic utility function, and the action NN is employed to minimize both the strategic utility function and the tracking error. A deterministic learning technique has been employed to guarantee that the partial persistent excitation condition of internal states is satisfied during tracking control to a periodic reference orbit. The uniformly ultimate boundedness of closed-loop signals is shown via Lyapunov stability analysis. Simulation results are presented to demonstrate the effectiveness of the proposed control.
**文献类型:** Article
**作者关键词:** Approximate dynamic programming; discrete-time system; output feedback control; pure-feedback system; radial basis function neural network (RBF NN)
**KeyWords Plus:** DISCRETE-TIME-SYSTEMS; NONLINEAR-SYSTEMS; NEURAL-NETWORK; IDENTIFICATION
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Science Foundation of China | 61304098<br>61134004 |
| Foundation of Key Laboratory of Autonomous Systems and Networked Control (Ministry of Education, China) | 2012A04 |
| EU | PIIFR-GA-2010-910078-H2R |
| NWPU | JC20120236 |

This work was supported in part by the National Science Foundation of China under Grant 61304098 and Grant 61134004, in part by the Foundation of Key Laboratory of Autonomous Systems and Networked Control (Ministry of Education, China) under Grant 2012A04, in part by the EU FP-7 (PIIFR-GA-2010-910078-H2R) project, and in part by the NWPU Basic Research Funding under Grant JC20120236.

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**第 168 条，共 395 条**

**标题:** Incorporating mutation scheme into krill herd algorithm for global numerical optimization

**作者:** Wang, GG (Wang, Gaige); Guo, LH (Guo, Lihong); Wang, HQ (Wang, Heqi); Duan, H (Duan, Hong); Liu, L (Liu, Luo); Li, J (Li, Jiang)

**来源出版物:** NEURAL COMPUTING & APPLICATIONS **卷:** 24 **期:** 3-4 **页:** 853-871 **DOI:** 10.1007/s00521-012-1304-8 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** Recently, Gandomi and Alavi proposed a robust meta-heuristic optimization algorithm, called Krill Herd (KH), for global optimization. To improve the performance of the KH algorithm, harmony search (HS) is applied to mutate between krill during the process of krill updating instead of physical diffusion used in KH. A novel hybrid meta-heuristic optimization approach HS/KH is proposed to solve global numerical optimization problem. HS/KH combines the exploration of harmony search (HS) with the exploitation of KH effectively, and hence, it can generate the promising candidate solutions. The detailed implementation procedure for this improved meta-heuristic method is also described. Fourteen standard benchmark functions are applied to verify the effects of these improvements, and it is demonstrated that, in most cases, the performance of this hybrid meta-heuristic method (HS/KH) is superior to, or at least highly competitive with, the standard KH and other population-based optimization methods, such as ACO, BBO, DE, ES, GA, HS, KH, PSO, and SGA. The effect of the HS/FA parameters is also analyzed.

**文献类型:** Article

**作者关键词:** Global optimization problem; Krill herd (KH); Harmony search (HS); Multimodal function

**KeyWords Plus:** PARTICLE SWARM OPTIMIZER; DIFFERENTIAL EVOLUTION; HARMONY SEARCH; FIREFLY ALGORITHM; STRATEGY; SYSTEM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| State Key Laboratory of Laser Interaction | |
| Material Research Fund | SKLLIM0902-01 |
| Key Research Technology of Electric-discharge Non-chain Pulsed DF Laser | LXJJ-11-Q80 |

This work was supported by State Key Laboratory of Laser Interaction with Material Research Fund under Grant No. SKLLIM0902-01 and Key Research Technology of Electric-discharge Non-chain Pulsed DF Laser under Grant No. LXJJ-11-Q80.

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**第 169 条，共 395 条**

**标题:** MHD natural convection in a nanofluid filled inclined enclosure with sinusoidal wall using CVFEM

**作者:** Sheikholeslami, M (Sheikholeslami, M.); Gorji-Bandpy, M (Gorji-Bandpy, M.); Ganji, D (Ganji, D. D.); Soleimani, S (Soleimani, Soheil)

**来源出版物:** NEURAL COMPUTING & APPLICATIONS **卷:** 24 **期:** 3-4 **页:** 873-882 **DOI:** 10.1007/s00521-012-1316-4 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 29
**被引频次合计:** 29

**摘要:** Magnetohydrodynamic flow in a nanofluid filled inclined enclosure is investigated numerically using the Control Volume based Finite Element Method. The cold wall of cavity is assumed to mimic a sinusoidal profile with different dimensionless amplitude, and the fluid in the enclosure is a water-based nanofluid containing Cu nanoparticles. The effective thermal conductivity and viscosity of nanofluid are calculated using the Maxwell-Garnetts and Brinkman models, respectively. Numerical simulations were performed for different governing parameters namely the Hartmann number, Rayleigh number, nanoparticle volume fraction and inclination angle of enclosure. The results show that in presence of magnetic field, velocity field retarded, and hence, convection and Nusselt number decreases. At Ra = 10(3), maximum value of enhancement for low Hartmann number is obtained at gamma = 0A degrees, but for higher values of Hartmann number, maximum values of E occurs at gamma = 90A degrees. Also, it can be found that for all values of Hartmann number, at Ra = 10(4) and 10(5), maximum value of E is obtained at gamma = 60A degrees and gamma = 0A degrees, respectively.

**文献类型:** Article
**作者关键词:** Magnetic field; Nanofluid; CVFEM; Sinusoidal wall; Inclined enclosure
**KeyWords Plus:** LATTICE-BOLTZMANN METHOD; MAGNETIC-FIELD; HEAT-TRANSFER; CAVITY; FLOW; CYLINDER

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**第 170 条，共 395 条**

**标题:** Stable optimal control applied to a cylindrical robotic arm

**作者:** Torres, C (Torres, Cesar); Rubio, JD (de Jesus Rubio, Jose); Aguilar-Ibanez, CF (Aguilar-Ibanez, Carlos F.); Perez-Cruz, JH (Perez-Cruz, J. Humberto)

**来源出版物:** NEURAL COMPUTING & APPLICATIONS **卷:** 24 **期:** 3-4 **页:** 937-944 **DOI:** 10.1007/s00521-012-1294-6 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4

**摘要:** In this paper, an asymptotically stable optimal control is proposed for the trajectory tracking of a cylindrical robotic arm. The proposed controller uses the linear quadratic regulator method and its Riccati equation is considered as an adaptive function. The tracking error of the proposed controller is guaranteed to be asymptotically stable. A simulation shows the effectiveness of the proposed algorithm.

**文献类型:** Article
**作者关键词:** Optimal control; Cylindrical robotic arm; Stability
**KeyWords Plus:** OPTIMIZATION; DISCRETE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Mexican National Council for Science and Technology (CONACYT) | |

The authors are grateful to the editors and the reviewers for their valuable comments and insightful suggestions, which helped to improve this research significantly. The authors thank the Secretaria de Investigacion y Posgrado, Comision de Operacion y Fomento de Actividades Academicas del IPN, and Consejo Nacional de Ciencia y Tecnologia for their help in this research. The fourth author would like to thank the financial support through a postdoctoral fellowship from Mexican National Council for Science and Technology (CONACYT).

**第 171 条，共 395 条**

**标题:** Global Mittag-Leffler stability and synchronization of memristor-based fractional-order neural networks

**作者:** Chen, JJ (Chen, Jiejie); Zeng, ZG (Zeng, Zhigang); Jiang, P (Jiang, Ping)

**来源出版物:** NEURAL NETWORKS **卷:** 51 **页:** 1-8 **DOI:** 10.1016/j.neunet.2013.11.016 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 12

**被引频次合计:** 12

**摘要:** The present paper introduces memristor-based fractional-order neural networks. The conditions on the global Mittag-Leffler stability and synchronization are established by using Lyapunov method for these networks. The analysis in the paper employs results from the theory of fractional-order differential equations with discontinuous right-hand sides. The obtained results extend and improve some previous works on conventional memristor-based recurrent neural networks. Crown Copyright (C) 2013 Published by Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Fractional-order; Memristor-based neural networks; Global Mittag-Leffler stability; Synchronization; Filippov's solution

**KeyWords Plus:** TIME-VARYING DELAYS; CHAOS; CALCULUS; MODEL; ELEMENT; FLUID

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Natural Science Foundation of China | 61125303 |
| 973 Program of China | 2011CB710606 |
| Fund for Distinguished Young Scholars of Hubei Province | 2010CDA081 |

The work is supported by the Natural Science Foundation of China under Grant 61125303, the 973 Program of China under Grant 2011CB710606, the Fund for Distinguished Young Scholars of Hubei Province under Grant 2010CDA081.

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**第 172 条，共 395 条**

**标题:** Development of head detection and tracking systems for visual surveillance

**作者:** Kang, SK (Kang, Sung-Kwan); Chung, KY (Chung, Kyung-Yong); Lee, JH (Lee, Jung-Hyun)

**来源出版物:** PERSONAL AND UBIQUITOUS COMPUTING **卷:** 18 **期:** 3 **特刊:** SI **页:** 515-522 **DOI:** 10.1007/s00779-013-0668-9 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** This paper proposes a technique for the detection of head nod and shake gestures based on eye tracking and head motion decision. The eye tracking step is divided into face detection and eye location. Here, we apply a motion segmentation algorithm that examines differences in moving people's faces. This system utilizes a Hidden Markov Model-based head detection module that carries out complete detection in the input images, followed by the eye tracking module that refines the search based on a candidate list provided by the preprocessing module. The novelty of this paper is derived from differences in real-time input images, preprocessing to remove noises (morphological operators and so on), detecting edge lines and restoration, finding the face area, and cutting the head candidate. Moreover, we adopt a K-means algorithm for finding the head region. Real-time eye tracking extracts the location of eyes from the detected face region and is performed at close to a pair of eyes. After eye tracking, the coordinates of the detected eyes are transformed into a normalized vector of x-coordinate and y-coordinate. Head nod and shake detector uses three hidden Markov models (HMMs). HMM representation of the head detection can estimate the underlying HMM states from a sequence of face images. Head nod and shake can be detected by three HMMs that are adapted by a directional vector. The directional vector represents the direction of the head movement. The vector is HMMs for determining neutral as well as head nod and shake. These techniques are implemented on images, and notable success is notified.

**文献类型:** Article

**作者关键词:** Head detection; Head location; Eye location; Hidden Markov Models

**KeyWords Plus:** HIDDEN MARKOV-MODELS; RECOGNITION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Basic Science Research Program through the National Research Foundation of Korea | |
| Ministry of Education, Science and Technology | 2012-0004478 |

This research was supported by Basic Science Research Program through the National Research Foundation of Korea funded by the Ministry of Education, Science and Technology (No. 2012-0004478).

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**第 173 条，共 395 条**
**标题:** Methodology for materiality: interaction design research through a material lens
**作者:** Wiberg, M (Wiberg, Mikael)
**来源出版物:** PERSONAL AND UBIQUITOUS COMPUTING **卷:** 18 **期:** 3 **特刊:** SI **页:** 625-636 **DOI:** 10.1007/s00779-013-0686-7 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3
**摘要:** Increasingly, human-computer interaction (HCI) is acknowledging the material dimensions of our subject. In doing so, a wide repertoire of methods is currently being explored for conducting interaction design research through a material lens. These methods range from material studies and studies in material cultures to methods borrowed from craft, designerly approaches to interaction design, sketching in hardware approaches, and so on. While we acknowledge these important attempts to approach the material dimensions of interaction design, it should also be noted that there is a lack of more systematic studies of methods that are, can be, or have been applied within HCI and interaction design to specifically explore interaction design through a material lens. So, there is a need for a methodology that acts as a guideline to material-centered interaction design research. In this paper, we address this need. More specifically, this paper contributes to this current state by presenting a methodology for methodological explorations in material-centered interaction design research. The development of this proposed methodology takes a point of departure in the methods available and applied so far. With grounding in design theory, this paper organizes these methods into a four-dimensional structure to guide deliberate choices of methods in different phases of interaction design research projects-that is, it serves as a framework for research design. The organizing structure for the proposed methodology follows the simple dialectic tradition in design to work back and forth between details and wholeness, materials and textures. In this paper, we describe the four dimensions of our framework and how these can be useful to guide research design aimed at advancing our understanding of the material dimensions of HCI. We illustrate how the proposed structure can be practically useful-both in advancing our studies of interaction design through a material lens and show how it brings us back to the roots of our profession-that is, back to a focus on the materials, the fundamental components of any computational composition.
**文献类型:** Article
**作者关键词:** Interaction design research; Materiality; Material lens; Methods; Methodology
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**第 174 条，共 395 条**
**标题:** Structures, forms, and stuff: the materiality and medium of interaction
**作者:** Gross, S (Gross, Shad); Bardzell, J (Bardzell, Jeffrey); Bardzell, S (Bardzell, Shaowen)
**来源出版物:** PERSONAL AND UBIQUITOUS COMPUTING **卷:** 18 **期:** 3 **特刊:** SI **页:** 637-649 **DOI:** 10.1007/s00779-013-0689-4 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3
**摘要:** Though information is popularly, and often academically, understood to be immaterial, nonetheless, we only encounter it in material forms, in books, on laptops, in our brains, in spoken language, and so forth. In the past decade, HCI has increasingly focused on the material dimensions of interacting with computational devices and information. This paper explores three major strands of this research-tangible user interfaces, theories of computational materiality, and craft-oriented approaches to HCI. We argue that each of these offers a formulation of the materiality of interaction: as physical, as metaphysical, or as tradition communicating. We situate these three formulations in relation to debates on the nature of media, from philosophical aesthetics (the ontology of art, in

particular), media studies, and visual cultural studies. We argue that the formulations of materiality, information, and meaning from HCI and those from the humanities have deeper underlying similarities than may be expected and that exploring these similarities have two significant benefits. Such an analysis can benefit these differing threads in different ways, taking their current theories and adding to them. It also serves as a basis to import philosophical art concepts in a robust way into HCI, that is, not simply as prepackaged ideas to be applied to HCI, but rather as ideas always already enmeshed in productive and living debates that HCI is now poised to enter-to the benefit of both HCI and the humanities.

**文献类型:** Article

**作者关键词:** Materiality; Medium; HCI; Design; Art; Philosophy; Aesthetic interaction

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**第 175 条，共 395 条**

**标题:** Parameter estimation in high dimensional Gaussian distributions

**作者:** Aune, E (Aune, Erlend); Simpson, DP (Simpson, Daniel P.); Eidsvik, J (Eidsvik, Jo)

**来源出版物:** STATISTICS AND COMPUTING **卷:** 24 **期:** 2 **页:** 247-263 **DOI:** 10.1007/s11222-012-9368-y **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** In order to compute the log-likelihood for high dimensional Gaussian models, it is necessary to compute the determinant of the large, sparse, symmetric positive definite precision matrix. Traditional methods for evaluating the log-likelihood, which are typically based on Cholesky factorisations, are not feasible for very large models due to the massive memory requirements. We present a novel approach for evaluating such likelihoods that only requires the computation of matrix-vector products. In this approach we utilise matrix functions, Krylov subspaces, and probing vectors to construct an iterative numerical method for computing the log-likelihood.

**文献类型:** Article

**作者关键词:** Gaussian distribution; Krylov methods; Matrix functions; Numerical linear algebra; Estimation

**KeyWords Plus:** MARKOV RANDOM-FIELDS; MATRIX FUNCTIONS; SPATIAL DATA; LIKELIHOOD; SYSTEMS; MODELS; BOUNDS

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**第 176 条，共 395 条**

**标题:** An interoperable and self-adaptive approach for SLA-based service virtualization in heterogeneous Cloud environments

**作者:** Kertesz, A (Kertesz, A.); Kecskemeti, G (Kecskemeti, G.); Brandic, I (Brandic, I.)

**来源出版物:** FUTURE GENERATION COMPUTER SYSTEMS-THE INTERNATIONAL JOURNAL OF GRID COMPUTING AND ESCIENCE **卷:** 32 **页:** 54-68 **DOI:** 10.1016/j.future.2012.05.016 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Cloud computing is a newly emerged computing infrastructure that builds on the latest achievements of diverse research areas, such as Grid computing, Service-oriented computing, business process management and virtualization. An important characteristic of Cloud-based services is the provision of non-functional guarantees in the form of Service Level Agreements (SLAs), such as guarantees on execution time or price. However, due to system malfunctions, changing workload conditions, hard- and software failures, established SLAs can be violated. In order to avoid costly SLA violations, flexible and adaptive SLA attainment strategies are needed. In this paper we present a self-manageable architecture for SLA-based service virtualization that provides a way to ease interoperable service executions in a diverse, heterogeneous, distributed and virtualized world of services. We demonstrate in this paper that the combination of negotiation, brokering and deployment using SLA-aware extensions and autonomic computing principles are required for achieving reliable and efficient service operation in distributed environments. 

**文献类型:** Article

**作者关键词:** Cloud computing; Service virtualization; SLA negotiation; Service brokering; On-demand deployment; Self-management

**KeyWords Plus:** GRIDS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| European Community | 215483 |

The research leading to these results has received funding from the European Community's Seventh Framework Programme FP7/2007-2013 under grant agreement 215483 (S-Cube).

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**第 177 条，共 395 条**

**标题:** Energy-credit scheduler: An energy-aware virtual machine scheduler for cloud systems

**作者:** Kim, N (Kim, Nakku); Cho, J (Cho, Jungwook); Seo, E (Seo, Euiseong)

**来源出版物:** FUTURE GENERATION COMPUTER SYSTEMS-THE INTERNATIONAL JOURNAL OF GRID COMPUTING AND ESCIENCE **卷:** 32 **页:** 128-137 **DOI:** 10.1016/j.future.2012.05.019 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3

**摘要:** Virtualization facilitates the provision of flexible resources and improves energy efficiency through the consolidation of virtualized servers into a smaller number of physical servers. As an increasingly essential component of the emerging cloud computing model, virtualized environments bill their users based on processor time or the number of virtual machine instances. However, accounting based only on the depreciation of server hardware is not sufficient because the cooling and energy costs for data centers will exceed the purchase costs for hardware. This paper suggests a model for estimating the energy consumption of each virtual machine without dedicated measurement hardware. Our model estimates the energy consumption of a virtual machine based on in-processor events generated by the virtual machine. Based on this estimation model, we also propose a virtual machine scheduling algorithm that can provide computing resources according to the energy budget of each virtual machine. The suggested schemes are implemented in the Xen virtualization system, and an evaluation shows that the suggested schemes estimate and provide energy consumption with errors of less than 5% of the total energy consumption. (C) 2012 Elsevier B.V. All rights reserved.

**文献类型:** Article
**作者关键词:** Virtualization; Scheduling; Energy-aware computing; Cloud computing; Resource accounting

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**第 178 条，共 395 条**

**标题:** Informal learning recognition through a cloud ecosystem

**作者:** Garcia-Penalvo, FJ (Jose Garcia-Penalvo, Francisco); Johnson, M (Johnson, Mark); Alves, GR (Alves, Gustavo Ribeiro); Minovic, M (Minovic, Miroslav); Conde-Gonzalez, MA (Angel Conde-Gonzalez, Miguel)

**来源出版物:** FUTURE GENERATION COMPUTER SYSTEMS-THE INTERNATIONAL JOURNAL OF GRID COMPUTING AND ESCIENCE **卷:** 32 **页:** 282-294 **DOI:** 10.1016/j.future.2013.08.004 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3

**摘要:** Learning and teaching processes, like all human activities, can be mediated through the use of tools. Information and communication technologies are now widespread within education. Their use in the daily life of teachers and learners affords engagement with educational activities at any place and time and not necessarily linked to an institution or a certificate. In the absence of formal certification, learning under these circumstances is known as informal learning. Despite the lack of certification, learning with technology in this way presents opportunities to gather information about and present new ways of exploiting an individual's learning. Cloud technologies provide ways to achieve this through new architectures, methodologies, and workflows that facilitate semantic tagging, recognition, and acknowledgment of informal learning activities. The transparency and accessibility of cloud services mean that institutions and learners can exploit existing knowledge to their mutual benefit. The TRAILER project facilitates this aim by providing a technological framework using cloud services, a workflow, and a methodology. The services facilitate the exchange of information and knowledge associated with informal learning activities ranging from the use of social software through widgets, computer gaming, and remote laboratory experiments. Data from these activities are shared among institutions, learners, and workers. The project demonstrates the possibility of gathering information related to informal learning activities independently of the context or tools used to carry them

out. (C) 2013 Elsevier B.V. All rights reserved.
**文献类型:** Article
**作者关键词:** Informal learning recognition; Cloud-based information systems; Competence; Integration; TRAILER
**KeyWords Plus:** LABORATORIES; EDUCATION; GAME; WEB
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| European Union | 519141-LLP-1-2011-1-ES-KA3-KA3MP |
| European Commission | |

This work was supported by the Lifelong Learning Program of the European Union under Project 519141-LLP-1-2011-1-ES-KA3-KA3MP with support from the European Commission. This publication only reflects the views of the authors and the Commission cannot be held responsible for any use that may be made of the information contained therein. We would like to thank the other members of the partnership who participated during project development and do not appear as authors of the paper.

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**第 179 条，共 395 条**
**标题:** Semantic-based QoS management in cloud systems: Current status and future challenges
**作者:** Kourtesis, D (Kourtesis, Dimitrios); Alvarez-Rodriguez, JM (Alvarez-Rodriguez, Jose Maria); Paraskakis, I (Paraskakis, Iraklis)
**来源出版物:** FUTURE GENERATION COMPUTER SYSTEMS-THE INTERNATIONAL JOURNAL OF GRID COMPUTING AND ESCIENCE **卷:** 32 **页:** 307-323 **DOI:** 10.1016/j.future.2013.10.015 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 6
**被引频次合计:** 6
**摘要:** Cloud Computing and Service Oriented Architectures have seen a dramatic increase of the amount of applications, services, management platforms, data, etc. gaining momentum for the necessity of new complex methods and techniques to deal with the vast heterogeneity of data sources or services. In this sense Quality of Service (QoS) seeks for providing an intelligent environment of self-management components based on domain knowledge in which cloud components can be optimized easing the transition to an advanced governance environment. On the other hand, semantics and ontologies have emerged to afford a common and standard data model that eases the interoperability, integration and monitoring of knowledge-based systems. Taking into account the necessity of an interoperable and intelligent system to manage QoS in cloud-based systems and the emerging application of semantics in different domains, this paper reviews the main approaches for semantic-based QoS management as well as the principal methods, techniques and standards for processing and exploiting diverse data providing advanced real-time monitoring services. A semantic-based framework for QoS management is also outlined taking advantage of semantic technologies and distributed datastream processing techniques. Finally a discussion of existing efforts and challenges is also provided to suggest future directions. Crown Copyright (C) 2013 Published by Elsevier B.V. All rights reserved.
**文献类型:** Article
**作者关键词:** Cloud systems; Quality of service; Service oriented architectures; Semantics; Ontologies; Linked data; Sensor data; Big data
**KeyWords Plus:** ONTOLOGY; SERVICES; WEB; SELECTION; RANKING; FRAMEWORK; STREAMS; ENGINE
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| European Union | 264840 |

The research leading to these results has received funding from the European Union's Seventh Framework Programme (FP7-PEOPLE-2010-ITN) under grant agreement no. 264840 and developed in the context of the workpackage 4 and more specifically under the project "Quality Management in Service-based systems and Cloud Applications".


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**第 180 条，共 395 条**

**标题:** Features extraction for soccer video semantic analysis: current achievements and remaining issues

**作者:** Rehman, A (Rehman, Amjad); Saba, T (Saba, Tanzila)

**来源出版物:** ARTIFICIAL INTELLIGENCE REVIEW **卷:** 41 **期:** 3 **页:** 451-461 **DOI:** 10.1007/s10462-012-9319-1 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** This paper presents a state of the art review of features extraction for soccer video summarization research. The all existing approaches with regard to event detection, video summarization based on video stream and application of text sources in event detection have been surveyed. As regard the current challenges for automatic and real time provision of summary videos, different computer vision approaches are discussed and compared. Audio, video feature extraction methods and their combination with textual methods have been investigated. Available commercial products are presented to better clarify the boundaries in this domain and future directions for improvement of existing systems have been suggested.

**文献类型:** Article

**作者关键词:** Low level features; High level features; Features selection; Video summarization; Video classification; Video contents; Survey

**KeyWords Plus:** BROADCAST SPORTS VIDEO; BALL DETECTION; EVENT; HIGHLIGHTS; FRAMEWORK; ALGORITHM; SYSTEM

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**第 181 条，共 395 条**

**标题:** A Tool for Facilitating the Teaching of Smart Home Applications

**作者:** Jimenez, M (Jimenez, Manuel); Sanchez, P (Sanchez, Pedro); Rosique, F (Rosique, Francisca); Alvarez, B (Alvarez, Barbara); Iborra, A (Iborra, Andres)

**来源出版物:** COMPUTER APPLICATIONS IN ENGINEERING EDUCATION **卷:** 22 **期:** 1 **页:** 178-186 **DOI:** 10.1002/cae.20521 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** This article presents a new tool that can be used to improve the teaching methods of smart home systems development. The main contribution of this tool is that it allows stakeholders to develop home automation (HA) systems using platform-independent graphical elements. Teachers can use this tool to introduce the development of smart home applications and to demonstrate concepts and theories pertaining to this domain. In addition, students can use the tool as an autonomous-learning environment. From the students' point of view, the development of a new system starts with the use of a smart home-specific graphical language, instead of using platform-dependent tools. The article is not only concerned with the description of the tool but also with the methodology to be followed by teachers and students. An example of use is also included illustrating the usefulness of the tool in engineering education. In order to evaluate the benefits of the approach, we conducted a survey amongst students who used the tool. The analysis of the outcome of this survey shows the chance to enable the development of HA applications with improved usability quality factors. (c) 2011 Wiley Periodicals, Inc. Comput Appl Eng Educ 22: 178-186, 2014

**文献类型:** Review

**作者关键词:** home automation; tool for education; graphical language

**KeyWords Plus:** MODEL

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**第 182 条，共 395 条**

**标题:** The effects of technology use in postsecondary education: A meta-analysis of classroom applications

**作者:** Schmid, RF (Schmid, Richard F.); Bernard, RM (Bernard, Robert M.); Borokhovski, E (Borokhovski, Eugene); Tamim, RM (Tamim, Rana M.); Abrami, PC (Abrami, Philip C.); Surkes, MA (Surkes, Michael A.); Wade, CA (Wade, C. Anne); Woods, J (Woods, Jonathan)

**来源出版物:** COMPUTERS & EDUCATION **卷:** 72 **页:** 271-291 **DOI:** 10.1016/j.compedu.2013.11.002 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** This meta-analysis is a study of the experimental literature of technology use in postsecondary education from 1990 up to 2010 exclusive of studies of online or distance education previously reviewed by Bernard et al. (2004). It reports the overall weighted average effects of technology use on achievement and attitude outcomes and explores moderator variables in an attempt to explain how technology treatments lead to positive or negative effects. Out of an initial pool of 11,957 study abstracts, 1105 were chosen for analysis, yielding 879 achievement and 181 attitude effect sizes after pre-experimental designs and studies with obvious methodological confounds were removed. The random effects weighted average effect size for achievement was g+ = 0.27, k = 879, p < .05, and for attitude outcomes it was g+ = 0.20, k = 181, p <.05. The collection of achievement outcomes was divided into two sub-collections, according to the amount of technology integration in the control condition. These were no technology in the control condition (k = 479) and some technology in the control condition (k = 400). Random effects multiple meta-regression analysis was run on each sub-collection revealing three significant predictors (subject matter, degree of difference in technology use between the treatment and the control and pedagogical uses of technology). The set of predictors for each sub-collection was both significant and homogeneous. Differences were found among the levels of all three moderators, but particularly in favor of cognitive support applications. There were no significant predictors for attitude outcomes. Crown Copyright (C) 2013 Published by Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Technology integration; Postsecondary education; Meta-analysis; Cognitive support tools

**KeyWords Plus:** INSTRUCTION; SIMULATION; DESIGN; MEDIA; STRATEGIES; EFFICACY; IMPACT

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Social Sciences and Humanities Research Council of Canada | |
| Fonds de recherche sur la societe et la culture, Province of Quebec | |

This research was supported by grants to Schmid, Bernard and Abrami from the Social Sciences and Humanities Research Council of Canada, and Fonds de recherche sur la societe et la culture, Province of Quebec. We would also like to acknowledge the work of David Pickup and Anna Sokolovskaya.

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**第 183 条，共 395 条**

**标题:** Hesitant triangular fuzzy information aggregation based on Einstein operations and their application to multiple attribute decision making

**作者:** Zhao, XF (Zhao, Xiaofei); Lin, R (Lin, Rui); Wei, GW (Wei, Guiwu)

**来源出版物:** EXPERT SYSTEMS WITH APPLICATIONS **卷:** 41 **期:** 4 **页:** 1086-1094 **DOI:** 10.1016/j.eswa.2013.07.104 **子辑:** 1 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** In this paper, we investigate the multiple attribute decision making (MADM) problems in which attribute values take the form of hesitant triangular fuzzy information. Firstly, definition and some operational laws of hesitant

triangular fuzzy elements and score function of hesitant triangular fuzzy elements are introduced. Then, we have developed some hesitant triangular fuzzy aggregation operators based on the Einstein operation: the hesitant triangular fuzzy Einstein weighted averaging (HTFEWA) operator, hesitant triangular fuzzy Einstein weighted geometric (HTFEWG) operator, hesitant triangular fuzzy Einstein ordered weighted averaging (HTFEOWA) operator, hesitant triangular fuzzy Einstein ordered weighted geometric (HTFEOWG) operator, hesitant triangular fuzzy Einstein hybrid average (HTFEHA) operator and hesitant triangular fuzzy Einstein hybrid geometric (HTFEHG) operator. We have applied the hesitant triangular fuzzy Einstein weighted averaging (HTFEWA) operator, hesitant triangular fuzzy Einstein weighted geometric (HTFEWG) operators to multiple attribute decision making with hesitant triangular fuzzy information. Finally an illustrative example has been given to show the developed method. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Multiple attribute decision making (MADM); Hesitant triangular fuzzy elements; Operational laws; Hesitant triangular fuzzy Einstein weighted average (HTFEWA); operator; Hesitant triangular fuzzy Einstein weighted geometric (HTFEWG) operator

**KeyWords Plus:** BONFERRONI MEANS; VAGUE SETS; OPERATORS; DISTANCE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
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| National Natural Science Foundation of China | 61174149 |

The work was supported by the National Natural Science Foundation of China under Grant No. 61174149.

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**第 184 条，共 395 条**

**标题:** Survey of Green Vehicle Routing Problem: Past and future trends

**作者:** Lin, CH (Lin, Canhong); Choy, KL (Choy, K. L.); Ho, GTS (Ho, G. T. S.); Chung, SH (Chung, S. H.); Lam, HY (Lam, H. Y.)

**来源出版物:** EXPERT SYSTEMS WITH APPLICATIONS **卷:** 41 **期:** 4 **页:** 1118-1138 **DOI:** 10.1016/j.eswa.2013.07.107 **子辑:** 1 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** Green Logistics has emerged as the new agenda item in supply chain management. The traditional objective of distribution management has been upgraded to minimizing system-wide costs related to economic and environmental issues. Reflecting the environmental sensitivity of vehicle routing problems (VRP), an extensive literature review of Green Vehicle Routing Problems (GVRP) is presented. We provide a classification of GVRP that categorizes GVRP into Green-VRP, Pollution Routing Problem, VRP in Reverse Logistics, and suggest research gaps between its state and richer models describing the complexity in real-world cases. The purpose is to review the most up-to-date state-of-the-art of GVRP, discuss how the traditional VRP variants can interact with GVRP and offer an insight into the next wave of research into GVRP. It is hoped that OR/MS researchers together with logistics practitioners can be inspired and cooperate to contribute to a sustainable industry. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Vehicle routing; Green vehicle routing; Reverse logistics; Green Logistics; Literature review

**KeyWords Plus:** VARIABLE NEIGHBORHOOD SEARCH; TRAVELING SALESMAN PROBLEM; ANT COLONY OPTIMIZATION; SOFT TIME WINDOWS; 2-DIMENSIONAL LOADING CONSTRAINTS; HYBRID GENETIC ALGORITHM; TABU SEARCH; REVERSE LOGISTICS; MULTICOMPARTMENT VEHICLE; FLEET SIZE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |

Research Office of The Hong Kong Polytechnic University RT6B

The authors wish to thank the Research Office of The Hong Kong Polytechnic University for supporting the project (Project Code: RT6B).

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**第 185 条，共 395 条**

**标题:** Performance evaluation of microbial fuel cell by artificial intelligence methods

**作者:** Garg, A (Garg, A.); Vijayaraghavan, V (Vijayaraghavan, V.); Mahapatra, SS (Mahapatra, S. S.); Tai, K (Tai, K.); Wong, CH (Wong, C. H.)

**来源出版物:** EXPERT SYSTEMS WITH APPLICATIONS **卷:** 41 **期:** 4 **页:** 1389-1399 **DOI:** 10.1016/j.eswa.2013.08.038 **子辑:** 1 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** In the present study, performance of microbial fuel cell (MFC) has been modeled using three potential artificial intelligence (AI) methods such as multi-gene genetic programming (MGGP), artificial neural network and support vector regression. The effect of two input factors namely, temperature and ferrous sulfate concentrations on the output voltage were studied independently during two operating conditions (before and after start-up) using the three AI models. The data is randomly divided into training and testing samples containing 80% and 20% sets respectively and then trained and tested by three AI models. Based on the input factor, the proposed AI models predict output voltage of MFC at two operating conditions. Out of three methods, the MGGP method not only evolve model with better generalization ability but also represents an explicit relationship between the output voltage and input factors of MFC. The models generated by MGGP approach have shown an excellent potential to predict the performance of MFC and can be used to gain better insights into the performance of MFC. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** MFC modeling; MFC prediction; Multi-gene genetic programming; GPTIPS; LS-SVM

**KeyWords Plus:** MOLECULAR-DYNAMICS SIMULATION; SUPPORT VECTOR REGRESSION; NEURAL-NETWORKS; CARBON NANOTUBES; OPTIMIZATION; TEMPERATURE; PREDICTION; SYSTEM; NANOMECHANICS; COMPRESSION

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**第 186 条，共 395 条**

**标题:** Identification time-delayed fractional order chaos with functional extrema model via differential evolution

**作者:** Gao, F (Gao, Fei); Lee, XJ (Lee, Xue-jing); Fei, FX (Fei, Feng-xia); Tong, HQ (Tong, Heng-qing); Deng, YF (Deng, Yan-fang); Zhao, HL (Zhao, Hua-ling)

**来源出版物:** EXPERT SYSTEMS WITH APPLICATIONS **卷:** 41 **期:** 4 **页:** 1601-1608 **DOI:** 10.1016/j.eswa.2013.08.057 **子辑:** 2 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** In this paper, a novel inversion mechanism of functional extrema model via the differential evolution algorithms (DE), is proposed to exactly identify time-delays fractional order chaos systems. With the functional extrema model, the unknown time-delays, systematic parameters and fractional-orders of the fractional chaos, are converted into independent variables of a non-negative multiple modal functions' minimization, as a particular case of the functional extrema model's minimization. And the objective of the model is to find their optimal combinations by DE in the predefined intervals, such that the objective functional is minimized. Simulations are done to identify two classical time-delayed fractional chaos, Logistic and Chen system, both in cases with noise and without. The experiments' results show that the proposed inversion mechanism for time-delay fractional-order chaotic systems is a successful methods, with the advantages of high precision and robustness. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Identification time-delayed fractional chaos; Functional extrema model; Differential evolution algorithm; Unknown time-delays; Systematic parameters and fractional-orders; Nonlinear optimization

**KeyWords Plus:** PARTICLE SWARM OPTIMIZATION; BEE COLONY ALGORITHM; PARAMETER-IDENTIFICATION; PROJECTIVE SYNCHRONIZATION; GLOBAL OPTIMIZATION; NUMERICAL-SOLUTION; COMPLEX NETWORKS; ACTIVE CONTROL; LORENZ SYSTEM; NON-LYAPUNOV

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| NSFC of China | 81271513 |
| Fundamental Research Funds for the Central Universities of China | |
| WUT | 2012-Ia-035<br>2013-Ia-040<br>2012-Ia-041<br>2010-1a-004 |
| Scientific Research Foundation for Returned Scholars from Ministry of Education of China | 20111j0032 |
| HOME Program | 11044 |
| China Association for Science and Technology | |
| Natural Science Foundation of Hubei Province of China | 2009CBD213 |
| National Soft Science Research Program of China | 2009GXS1D012 |
| National Science Foundation for Post-doctoral Scientists of China | 20080431004 |
| ERCIM Alain Bensoussan Fellowship Programme from the Marie Curie | |
| Regional, National and International Programmes (COFUND) of the European Commission | |

The work is partially supported by the NSFC projects No. 81271513 of China, the Fundamental Research Funds for the Central Universities of China, the self-determined and innovative research funds of WUT No. 2012-Ia-035, 2013-Ia-040, 2012-Ia-041, 2010-1a-004, Scientific Research Foundation for Returned Scholars from Ministry of Education of China (No. 20111j0032), the HOME Program No. 11044 (Help Our Motherland through Elite Intellectual Resources from Overseas) funded by China Association for Science and Technology, the Natural Science Foundation No. 2009CBD213 of Hubei Province of China, The National Soft Science Research Program 2009GXS1D012 of China, the National Science Foundation for Post-doctoral Scientists of China No. 20080431004. The work was partially supported by the ERCIM Alain Bensoussan Fellowship Programme from the Marie Curie Co-funding of Regional, National and International Programmes (COFUND) of the European Commission.

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**第 187 条，共 395 条**

**标题:** RFID technology investment evaluation model for the stochastic joint replenishment and delivery problem

**作者:** Cui, LG (Cui, Ligang); Wang, L (Wang, Lin); Deng, J (Deng, Jie)

**来源出版物:** EXPERT SYSTEMS WITH APPLICATIONS **卷:** 41 **期:** 4 **页:** 1792-1805 **DOI:** 10.1016/j.eswa.2013.08.078 **子辑:** 2 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 6
**被引频次合计:** 6

**摘要:** Radio Frequency Identification (RFID) can help to share information in real time, detect and trace multi-item simultaneously, with which the joint replenishment can be efficiently realized, and proper RFID adoptions can also improve the delivery efficiencies. To investigate the effects of RFID investment, we firstly propose an RFID-based investment evaluation model for the joint replenishment and delivery problem (JRD) under stochastic demand. Unlike existing study on the JRD, we also adopt an effective multi-stage delivery policy in replenishment cycles which can result in delivery cost savings. Secondly, a differential evolution algorithm (DE) is adopted to solve the proposed JRD, which can find the best cycle time of each item, the best basic cycle time and the best and longest delivery route simultaneously, and can dynamically generate the service routes under different number of visiting supplier(s). Thirdly, the effectiveness and efficiency of the proposed JRD model and DE-based solution were verified by a classic case and sensitivity analyses on RFID investment related parameters were performed. At last, the proposed model and solution were further tested by a larger scale case. Results and implications from the experiments show great benefits can be obtained if the RFID investment scale is controlled in a proper range. Crown Copyright (C) 2013 Published by Elsevier Ltd. All rights reserved.

**文献类型:** Article
**作者关键词:** RFID investment; Joint replenishment and delivery; Differential evolution algorithm
**KeyWords Plus:** DIFFERENTIAL EVOLUTION ALGORITHM; SUPPLY CHAIN; RETAIL STORES; SYSTEM; FREQUENCY; INFORMATION; MANAGEMENT; INVENTORY; IMPACT; POLICY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 70801030<br>71371080<br>71131004 |
| Humanities and Social Sciences Foundation of Chinese Ministry of Education | 11YJC630275 |
| Fundamental Research Funds for the Central Universities | HUST: 2012TS065<br>HUST: CXY12Q043 |

This research is partially supported by National Natural Science Foundation of China (Nos. 70801030; 71371080; 71131004), Humanities and Social Sciences Foundation of Chinese Ministry of Education (No. 11YJC630275), and Fundamental Research Funds for the Central Universities (HUST: 2012TS065; HUST: CXY12Q043).

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**第 188 条，共 395 条**

**标题:** Emergency railway wagon scheduling by hybrid biogeography-based optimization

**作者:** Zheng, YJ (Zheng, Yu-Jun); Ling, HF (Ling, Hai-Feng); Shi, HH (Shi, Hai-He); Chen, HS (Chen, Hai-Song); Chen, SY (Chen, Sheng-Yong)

**来源出版物:** COMPUTERS & OPERATIONS RESEARCH **卷:** 43 **页:** 1-8 **DOI:** 10.1016/j.cor.2013.09.002 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** Railway transportation plays an important role in many disaster relief and other emergency supply chains. Based on the analysis of several recent disaster rescue operations in China, the paper proposes a mathematical model for emergency railway wagon scheduling, which considers multiple target stations requiring relief supplies, source stations for providing supplies, and central stations for allocating railway wagons. Under the emergency environment, the aim of the problem is to minimize the weighted time for delivering all the required supplies to the targets. For efficiently solving the problem, we develop a new hybrid biogeography-based optimization (BBO) algorithm, which uses a local ring topology of population to avoid premature convergence, includes the differential evolution (DE) mutation operator to perform effective exploration, and takes some problem-specific mechanisms for fine-tuning the search process and handling the constraints. Computational experiments show that our algorithm is robust and scalable, and outperforms some state-of-the-art heuristic algorithms on a set of problem instances. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Emergency relief supply; Railway wagon scheduling; Biogeography-based optimization (BBO); Ring topology; Differential evolution (DE)

**KeyWords Plus:** INTEGER PROGRAMMING-PROBLEMS; DIFFERENTIAL EVOLUTION; ALGORITHM; MODELS; SYSTEM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61020106009<br>61105073<br>61103140<br>61173096<br>61272075 |

The work was partly supported by Grants from National Natural Science Foundation (Grant nos. 61020106009, 61105073, 61103140, 61173096, 61272075) of China. The authors wish to thank the anonymous reviewers for their detailed comments that improve the paper to a great extent.

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**第 189 条，共 395 条**

**标题:** Computation and application of the paired combinatorial logit stochastic user equilibrium problem

**作者:** Chen, A (Chen, Anthony); Ryu, S (Ryu, Seungkyu); Xu, XD (Xu, Xiangdong); Choi, K (Choi, Keechoo)

**来源出版物:** COMPUTERS & OPERATIONS RESEARCH **卷:** 43 **页:** 68-77 **DOI:** 10.1016/j.cor.2013.08.022 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** The paired combinatorial logit (PCL) model is one of the recent extended logit models adapted to resolve the overlapping problem in the route choice problem, while keeping the analytical tractability of the logit choice probability function. However, the development of efficient algorithms for solving the PCL model under congested and realistic networks is quite challenging, since it has large-dimensional solution variables as well as a complex objective function. In this paper, we examine the computation and application of the PCL stochastic user equilibrium (SUE) problem under congested and realistic networks. Specifically, we develop an improved path-based partial linearization algorithm for solving the PCL SUE problem by incorporating recent advances in line search strategies to enhance the computational efficiency required to determine a suitable stepsize that guarantees convergence. A real network in the city of Winnipeg is applied to examine the computational efficiency of the proposed algorithm and the robustness of various line search strategies. In addition, in order to acquire the practical implications of the PCL SUE model, we investigate the effectiveness of how the PCL model handles the effects of congestion, stochasticity, and similarity in comparison with the multinomial logit stochastic traffic equilibrium problem and the deterministic traffic equilibrium problem. Published by Elsevier Ltd.

**文献类型:** Article

**作者关键词:** Logit; Paired combinatorial logit; Stochastic user equilibrium; Traffic assignment; Partial linearization; Line search

**KeyWords Plus:** PATH FLOW ESTIMATOR; TRAFFIC COUNT INCONSISTENCIES; ROUTE CHOICE MODELS; ASSIGNMENT MODEL; OVERLAPPING PROBLEM; ALGORITHMS; ENUMERATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Science Foundation (NSF) CAREER | |
| United States, the Oriental Scholar Professorship Program | |
| Shanghai Ministry of Education in China | |
| National Research Foundation of Korea | |
| Korea Government (MEST) | NRF-2010-0029443 |

This research was partly supported by the National Science Foundation (NSF) CAREER grant by the United States, the Oriental Scholar Professorship Program sponsored by the Shanghai Ministry of Education in China, and the National Research Foundation of Korea grant funded by the Korea Government (MEST) (NRF-2010-0029443). These supports are gratefully acknowledged. The authors are also grateful to the editor, Professor Stefan Nickel, and two referees for providing useful comments and suggestions for improving the quality and clarity of the paper.

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**第 190 条，共 395 条**

**标题:** A derandomized approximation algorithm for the critical node detection problem

**作者:** Ventresca, M (Ventresca, Mario); Aleman, D (Aleman, Dionne)

**来源出版物:** COMPUTERS & OPERATIONS RESEARCH **卷:** 43 **页:** 261-270 **DOI:** 10.1016/j.cor.2013.09.012 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** In this paper we propose an efficient approximation algorithm for determining solutions to the critical node

detection problem (CNDP) on unweighted and undirected graphs. Given a user-defined number of vertices k > 0, the problem is to determine which k nodes to remove such as to minimize pairwise connectivity in the induced subgraph. We present a simple, yet powerful, algorithm that is derived from a randomized rounding of the relaxed linear programming solution to the CNDP. We prove that the expected solution quality obtained by the linear-time algorithm is bounded by a constant. To highlight the algorithm quality four common complex network models are utilized, in addition to four real-world networks. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Critical node detection problem; Randomized rounding; Complex network

**KeyWords Plus:** UNDIRECTED GRAPHS; NETWORKS; STRATEGIES

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**第 191 条，共 395 条**

**标题:** Model-based clustering of high-dimensional data: A review

**作者:** Bouveyron, C (Bouveyron, Charles); Brunet-Saumard, C (Brunet-Saumard, Camille)

**来源出版物:** COMPUTATIONAL STATISTICS & DATA ANALYSIS **卷:** 71 **特刊:** SI **页:** 52-78 **DOI:** 10.1016/j.csda.2012.12.008 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** Model-based clustering is a popular tool which is renowned for its probabilistic foundations and its flexibility. However, high-dimensional data are nowadays more and more frequent and, unfortunately, classical model-based clustering techniques show a disappointing behavior in high-dimensional spaces. This is mainly due to the fact that model-based clustering methods are dramatically over-parametrized in this case. However, high-dimensional spaces have specific characteristics which are useful for clustering and recent techniques exploit those characteristics. After having recalled the bases of model-based clustering, dimension reduction approaches, regularization-based techniques, parsimonious modeling, subspace clustering methods and clustering methods based on variable selection are reviewed. Existing softwares for model-based clustering of high-dimensional data will be also reviewed and their practical use will be illustrated on real-world data sets. (C) 2012 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Model-based clustering; High-dimensional data; Dimension reduction; Regularization; Parsimonious models; Subspace clustering; Variable selection; Software; R package

**KeyWords Plus:** GAUSSIAN MIXTURE-MODELS; SAMPLE-SIZE DATA; DISCRIMINANT-ANALYSIS; VARIABLE SELECTION; EM ALGORITHM; COVARIANCE MATRICES; FACTOR ANALYZERS; MICROARRAY DATA; CONVERGENCE PROPERTIES; PRINCIPAL COMPONENTS

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**第 192 条，共 395 条**

**标题:** Model-based clustering for multivariate functional data

**作者:** Jacques, J (Jacques, Julien); Preda, C (Preda, Cristian)

**来源出版物:** COMPUTATIONAL STATISTICS & DATA ANALYSIS **卷:** 71 **特刊:** SI **页:** 92-106 **DOI:** 10.1016/j.csda.2012.12.004 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** The first model-based clustering algorithm for multivariate functional data is proposed. After introducing multivariate functional principal components analysis (MFPCA), a parametric mixture model, based on the assumption of normality of the principal component scores, is defined and estimated by an EM-like algorithm. The main advantage of the proposed model is its ability to take into account the dependence among curves. Results on simulated and real datasets show the efficiency of the proposed method. (C) 2012 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Multivariate functional data; Density approximation; Model-based clustering; Multivariate functional principal component analysis; EM-algorithm

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**第 193 条，共 395 条**

**标题:** Parsimonious skew mixture models for model-based clustering and classification

**作者:** Vrbik, I (Vrbik, Irene); McNicholas, PD (McNicholas, Paul D.)

**来源出版物:** COMPUTATIONAL STATISTICS & DATA ANALYSIS **卷:** 71 **特刊:** SI **页:** 196-210 **DOI:** 10.1016/j.csda.2013.07.008 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3

**摘要:** Robust mixture modeling approaches using skewed distributions have recently been explored to accommodate asymmetric data. Parsimonious skew-t and skew-normal analogues of the GPCM family that employ an eigenvalue decomposition of a scale matrix are introduced. The methods are compared to existing models in both unsupervised and semi-supervised classification frameworks. Parameter estimation is carried out using the expectation-maximization algorithm and models are selected using the Bayesian information criterion. The efficacy of these extensions is illustrated on simulated and real data sets. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article
**作者关键词:** Eigenvalue decomposition; EM algorithm; GPCM; MCLUST; Mixture models; Model-based clustering; Skew-normal distribution; Skew-t distribution
**KeyWords Plus:** T-FACTOR ANALYZERS; DISCRIMINANT-ANALYSIS; EM ALGORITHM; MULTIVARIATE; DISTRIBUTIONS; LIKELIHOOD; DIMENSION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Ontario Graduate Scholarship | |
| Natural Sciences and Engineering Research Council of Canada | |
| Ontario Ministry of Research and Innovation | |

The authors gratefully acknowledge the helpful comments of a guest editor and two anonymous reviewers. This work was supported by an Ontario Graduate Scholarship (Vrbik), a Discovery Grant from the Natural Sciences and Engineering Research Council of Canada (McNicholas), and an Early Researcher Award from the Ontario Ministry of Research and Innovation (McNicholas).

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**第 194 条，共 395 条**

**标题:** Reversible jump MCMC for nonparametric drift estimation for diffusion processes

**作者:** van der Meulen, F (van der Meulen, Frank); Schauer, M (Schauer, Moritz); van Zanten, H (van Zanten, Harry)

**来源出版物:** COMPUTATIONAL STATISTICS & DATA ANALYSIS **卷:** 71 **特刊:** SI **页:** 615-632 **DOI:** 10.1016/j.csda.2013.03.002 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3

**摘要:** In the context of nonparametric Bayesian estimation a Markov chain Monte Carlo algorithm is devised and implemented to sample from the posterior distribution of the drift function of a continuously or discretely observed one-dimensional diffusion. The drift is modeled by a scaled linear combination of basis functions with a Gaussian prior on the coefficients. The scaling parameter is equipped with a partially conjugate prior. The number of basis functions in the drift is equipped with a prior distribution as well. For continuous data, a reversible jump Markov chain algorithm enables the exploration of the posterior over models of varying dimension. Subsequently, it is explained how data-augmentation can be used to extend the algorithm to deal with diffusions observed discretely in time. Some examples illustrate that the method can give satisfactory results. In these examples a comparison is made with another existing method as well. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article
**作者关键词:** Reversible jump Markov chain Monte Carlo; Discretely observed diffusion process; Data augmentation; Nonparametric Bayesian inference; Multiplicative scaling parameter; Series prior
**KeyWords Plus:** BAYESIAN-INFERENCE; POSTERIOR DISTRIBUTIONS; MODELS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Netherlands Organization for Scientific Research (NWO) via the STAR Mathematics Cluster | |

Supported in part by the Netherlands Organization for Scientific Research (NWO) via the STAR Mathematics Cluster.

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**第 195 条，共 395 条**

**标题:** Basic Singular Spectrum Analysis and forecasting with R

**作者:** Golyandina, N (Golyandina, Nina); Korobeynikov, A (Korobeynikov, Anton)

**来源出版物:** COMPUTATIONAL STATISTICS & DATA ANALYSIS **卷:** 71 **特刊:** SI **页:** 934-954 **DOI:** 10.1016/j.csda.2013.04.009 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5

**摘要:** Singular Spectrum Analysis (SSA) is a powerful tool of analysis and forecasting of time series. The main features of the RSSA package, which efficiently implements the SSA algorithms and methodology in R, are described. Analysis, forecasting and parameter estimation are demonstrated using case studies. These studies are supplemented with accompanying code fragments. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article
**作者关键词:** Singular Spectrum Analysis; Time series; Time series analysis; Forecasting; Frequency estimation; R package
**KeyWords Plus:** PARAMETERS; SIGNAL

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**第 196 条，共 395 条**

**标题:** RcppArmadillo: Accelerating R with high-performance C plus plus linear algebra

**作者:** Eddelbuettel, D (Eddelbuettel, Dirk); Sanderson, C (Sanderson, Conrad)

**来源出版物:** COMPUTATIONAL STATISTICS & DATA ANALYSIS **卷:** 71 **特刊:** SI **页:** 1054-1063 **DOI:** 10.1016/j.csda.2013.02.005 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 8
**被引频次合计:** 8

**摘要:** The R statistical environment and language has demonstrated particular strengths for interactive development of statistical algorithms, as well as data modelling and visualisation. Its current implementation has an interpreter at its core which may result in a performance penalty in comparison to directly executing user algorithms in the native machine code of the host CPU. In contrast, the C++ language has no built-in visualisation capabilities, handling of linear algebra or even basic statistical algorithms; however, user programs are converted to high-performance machine code, ahead of execution. A new method avoids possible speed penalties in R by using the Rcpp extension package in conjunction with the Armadillo C++ matrix library. In addition to the inherent performance advantages of compiled code, Armadillo provides an easy-to-use template-based meta-programming framework, allowing the automatic pooling of several linear algebra operations into one, which in turn can lead to further speedups. With the aid of Rcpp and Armadillo, conversion of linear algebra centred algorithms from R to C++ becomes straightforward. The algorithms retain the overall structure as well as readability, all while maintaining a bidirectional link with the host R environment. Empirical timing comparisons of R and C++ implementations of a Kalman filtering algorithm indicate a speedup of several orders of magnitude. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article
**作者关键词:** Software; R; C plus; Linear algebra
**KeyWords Plus:** INTEGRATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Australian Government | |

NICTA is funded by the Australian Government as represented by the Department of Broadband, Communications and the Digital Economy, as well as the Australian Research Council through the ICT Centre of Excellence program.

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**第 197 条，共 395 条**

**标题:** A survey of multiple classifier systems as hybrid systems

**作者:** Wozniak, M (Wozniak, Michal); Grana, M (Grana, Manuel); Corchado, E (Corchado, Emilio)

**来源出版物:** INFORMATION FUSION **卷:** 16 **特刊:** SI **页:** 3-17 **DOI:** 10.1016/j.inffus.2013.04.006 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 35

**被引频次合计:** 35

**摘要:** A current focus of intense research in pattern classification is the combination of several classifier systems, which can be built following either the same or different models and/or datasets building approaches. These systems perform information fusion of classification decisions at different levels overcoming limitations of traditional approaches based on single classifiers. This paper presents an up-to-date survey on multiple classifier system (MCS) from the point of view of Hybrid Intelligent Systems. The article discusses major issues, such as diversity and decision fusion methods, providing a vision of the spectrum of applications that are currently being developed. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Combined classifier; Multiple classifier system; Classifier ensemble; Classifier fusion; Hybrid classifier

**KeyWords Plus:** SUPPORT VECTOR MACHINES; DYNAMIC ENSEMBLE SELECTION; LAND-COVER CLASSIFICATION; NEURAL-NETWORKS ENSEMBLES; PROTEIN FOLD RECOGNITION; CREDIT RISK-ASSESSMENT; RANDOM SUBSPACE METHOD; REMOTE-SENSING IMAGES; RECOMMENDER SYSTEMS; DATA STREAMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Polish National Science Centre | N519 576638 |

Michal Wozniak was supported by The Polish National Science Centre under the Grant No. N519 576638 which is being realized in years 2010-2013.

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**第 198 条，共 395 条**

**标题:** Some hybrid weighted averaging operators and their application to decision making

**作者:** Lin, J (Lin, Jian); Jiang, Y (Jiang, Yong)

**来源出版物:** INFORMATION FUSION **卷:** 16 **特刊:** SI **页:** 18-28 **DOI:** 10.1016/j.inffus.2011.06.001 **出版年:** MAR 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** Two new hybrid weighted averaging operators for aggregating crisp and fuzzy information are proposed, some of which desirable properties are studied. These operators helps us to overcome the drawback in the existed reference. With respect to the proposed operators, three special types of preferred centroid of triangular fuzzy number are defined. On the base of these preferred centroid, we develop two algorithms to deal with decision making problems. Two numerical examples are provided to illustrate the practicality and validity of the proposed methods. (C) 2011 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** OWA operator; Hybrid weighted averaging operator; Fuzzy number; Decision making
**KeyWords Plus:** LINGUISTIC AGGREGATION OPERATORS; PREFERENCE RELATIONS; INFORMATION
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Science and Technique Foundation of Fujian Education Office | JB09300 |

This work was supported by the Science and Technique Foundation of Fujian Education Office (JB09300).

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**第 199 条，共 395 条**
**标题:** A Lattice-Computing ensemble for reasoning based on formal fusion of disparate data types, and an industrial dispensing application
**作者:** Kaburlasos, VG (Kaburlasos, Vassilis G.); Pachidis, T (Pachidis, Theodore)
**来源出版物:** INFORMATION FUSION **卷:** 16 **特刊:** SI **页:** 68-83 **DOI:** 10.1016/j.inffus.2011.04.003 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5
**摘要:** By "fusion" this work means integration of disparate types of data including (intervals of) real numbers as well as possibility/probability distributions defined over the totally-ordered lattice (R, <=) of real numbers. Such data may stem from different sources including (multiple/multimodal) electronic sensors and/or human judgement. The aforementioned types of data are presented here as different interpretations of a single data representation, namely Intervals' Number (IN). It is shown that the set F of INs is a partially-ordered lattice (F, <=) originating, hierarchically, from (R, <=). Two sound, parametric inclusion measure functions sigma:F-N x F-N -> [0,1] result in the Cartesian product lattice (F-N, <=) towards decision-making based on reasoning. In conclusion, the space (F-N, <=) emerges as a formal framework for the development of hybrid intelligent fusion systems/schemes. A fuzzy lattice reasoning (FLR) ensemble scheme, namely FLR pairwise ensemble, or FLRpe for short, is introduced here for sound decision-making based on descriptive knowledge (rules). Advantages include the sensible employment of a sparse rule base, employment of granular input data (to cope with imprecision/uncertainty/vagueness), and employment of all-order data statistics. The advantages as well as the performance of our proposed techniques are demonstrated, comparatively, by computer simulation experiments regarding an industrial dispensing application. (C) 2011 Elsevier B.V. All rights reserved.
**文献类型:** Article
**作者关键词:** Disparate data fusion; Ensemble of experts; Fuzzy lattice reasoning (FLR); Granular data; Inclusion measure; Intervals' Number (IN); Lattice-Computing; Lattice theory; Sparse rules
**KeyWords Plus:** ARTMAP NEURAL-NETWORKS; SYSTEM FIS ANALYSIS; FUZZY-ARTMAP; MULTISENSORY INTEGRATION; INFORMATION FUSION; CLASSIFIER; IDENTIFICATION; PREDICTION; INTERVALS; DESIGN
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**第 200 条，共 395 条**
**标题:** Loops, constitution, and cognitive extension
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**来源出版物:** COGNITIVE SYSTEMS RESEARCH **卷:** 27 **页:** 25-41 **DOI:** 10.1016/j.cogsys.2013.04.002 **出版年:** MAR 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5
**摘要:** The 'causal-constitution' fallacy, the 'cognitive bloat' worry, and the persisting theoretical confusion about the fundamental difference between the hypotheses of embedded (HEMC) and extended (HEC) cognition are three interrelated worries, whose common point-and the problem they accentuate-is the lack of a principled criterion of

constitution. Attempting to address the 'causal-constitution' fallacy, mathematically oriented philosophers of mind have previously suggested that the presence of non-linear relations between the inner and the outer contributions is sufficient for cognitive extension. The abstract idea of non-linearity, however, can be easily misunderstood and has, in the past, led to incorrect and counterintuitive conclusions about what may count as part of one's overall cognitive system. In order to prevent any further mistakes I revisit dynamical systems theory to study the nature of the continuous mutual interactions that give rise to the aforementioned non-linear relations. Moreover, focusing on these interactions will allow us to provide two distinct arguments in support of the ontological postulation of extended cognitive systems, as well as an objective criterion of constitution. Accordingly, I put forward a version of HEC that treats continuous mutual interactions (and the resultant non-linear relations) not just as sufficient but also as necessary for cognitive extension. Such a qualified version of HEC may exclude certain alleged cases of cognitive extension where the agent does not mutually interact with his artifacts (e. g., shopping lists and directory services), but it is immune both to the 'causal-constitution' fallacy and the 'cognitive bloat' worry, and it can be sharply distinguished from HEMC. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Dynamical systems theory; Hypothesis of extended cognition; 'Causal-constitution' fallacy; 'Cognitive bloat'; Continuous mutual interactions

**KeyWords Plus:** EXTENDED MIND; DYNAMICS; SUBSTITUTION; COORDINATION; BOUNDS

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**第 201 条，共 395 条**

**标 题 :** Progressive intercarrier and co-channel interference mitigation for underwater acoustic multi-input multi-output orthogonal frequency-division multiplexing

**作者:** Huang, JZ (Huang, Jianzhong); Zhou, SL (Zhou, Shengli); Huang, J (Huang, Jie); Preisig, J (Preisig, James); Freitag, L (Freitag, Lee); Willett, P (Willett, Peter)

**来 源 出 版 物 :** WIRELESS COMMUNICATIONS & MOBILE COMPUTING **卷:** 14 **期:** 3 **页:** 321-338 **DOI:** 10.1002/wcm.1251 **出版年:** FEB 25 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Multi-input multi-output orthogonal frequency-division multiplexing (MIMO-OFDM) has been actively studied for high data rate communications over the bandwidth-limited underwater acoustic (UWA) channels. Unlike existing receivers that treat the intercarrier interference (ICI) as additive noise, in this paper, the proposed receiver considers ICI explicitly together with the co-channel interference (CCI) due to parallel transmissions in MIMO-OFDM. Using a recently developed progressive receiver framework, the proposed receiver starts with low-complexity ICI-ignorant processing and then progresses to ICI-aware processing with increasing ICI levels. The key components of the proposed receiver include the following: (1) compressed sensing-based sparse channel estimation, (2) soft-input soft-output minimum mean square error/Markov chain Monte Carlo detector for interference mitigation, and (3) soft nonbinary low-density parity check decoding. In addition to simulation, we use real data from the Surface Processes and Acoustic Communications Experiment 2008 (SPACE08) and the Mobile Acoustic Communications Experiment 2010 (MACE10) to verify the system performance, where the transmitter in SPACE08 was stationary and that in MACE10 was slowly moving. Simulation and experimental results show that explicitly addressing ICI and CCI significantly improves the performance of MIMO-OFDM in UWA systems. Copyright (c) 2012 John Wiley & Sons, Ltd.

**文献类型:** Article

**作 者 关 键 词 :** iterative receiver; sparse channel estimation; intercarrier interference; co-channel interference; underwater acoustic communications

**KeyWords Plus:** CHANNEL ESTIMATION; MULTICARRIER COMMUNICATION; TURBO EQUALIZATION; SYMBOL DETECTION; MIMO-OFDM; SYSTEMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |

| | |
|---|---|
| ONR | N00014-09-1-0704<br>N00014-10-10412<br>N00014-09-10613<br>N00014-07-10738<br>N00014-07-10184 |

The work by J-Z. Huang, S. Zhou, and J. Huang is supported by the ONR grant N00014-09-1-0704 (PECASE). P. Willett's work is supported by ONR under contracts N00014-10-10412 and N00014-09-10613. The work by J. Preisig is supported by the ONR grants N00014-07-10738 and N00014-07-10184. This work was presented in part at the 44th Asilomar Conference on Signals, Systems, and Computers, Pacific Grove, CA, in 2010 [35].

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**第 202 条，共 395 条**

**标题:** Group decision making using incomplete fuzzy preference relations based on the additive consistency and the order consistency

**作者:** Chen, SM (Chen, Shyi-Ming); Lin, TE (Lin, Tsung-En); Lee, LW (Lee, Li-Wei)

**来源出版物:** INFORMATION SCIENCES **卷:** 259 **页:** 1-15 **DOI:** 10.1016/j.ins.2013.08.042 **出版年:** FEB 20 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** In this paper, we present a new method for group decision making using incomplete fuzzy preference relations based on the additive consistency and the order consistency with consistency degrees to overcome the drawbacks of Lee's method [15], where Lee's method cannot obtain the correct preference order of alternatives in some situations. First, we estimate unknown preference values of incomplete fuzzy preference relations based on the additive consistency. Then, we construct modified consistency matrices of experts which satisfy the additive consistency and the order consistency simultaneously. We also prove some properties of the constructed modified consistency matrices. Finally, based on the constructed modified consistency matrices of experts, we present a new method for group decision making. The proposed method provides us with a useful way for group decision making using incomplete fuzzy preference relations based on the additive consistency and the order consistency with consistency degrees. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Additive consistency; Consistency degree; Group decision making; Incomplete fuzzy preference relation; Order consistency

**KeyWords Plus:** CONSENSUS SUPPORT-SYSTEM; MULTIPLICATIVE TRANSITIVITY; MODEL; ATTRIBUTES; VALUES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Science Council, Republic of China | NSC 100-2213-E-011-118-MY2 |

This work was supported in part by the National Science Council, Republic of China, under Grant NSC 100-2213-E-011-118-MY2.

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**第 203 条，共 395 条**

**标题:** Joint image denoising using adaptive principal component analysis and self-similarity

**作者:** Zhang, YQ (Zhang, Yongqin); Liu, JY (Liu, Jiaying); Li, MD (Li, Mading); Guo, ZM (Guo, Zongming)

**来源出版物:** INFORMATION SCIENCES **卷:** 259 **页:** 128-141 **DOI:** 10.1016/j.ins.2013.08.002 **出版年:** FEB 20 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 4

**摘要:** The non-local means (NLM) has attracted enormous interest in image denoising problem in recent years. In this paper, we propose an efficient joint denoising algorithm based on adaptive principal component analysis (PCA) and self-similarity that improves the predictability of pixel intensities in reconstructed images. The proposed algorithm consists of two successive steps without iteration: the low-rank approximation based on parallel analysis,

and the collaborative filtering. First, for a pixel and its nearest neighbors, the training samples in a local search window are selected to form the similar patch group by the block matching method. Next, it is factorized by singular value decomposition (SVD), whose left and right orthogonal basis denote local and non-local image features, respectively. The adaptive PCA automatically chooses the local signal subspace dimensionality of the noisy similar patch group in the SVD domain by the refined parallel analysis with Monte Carlo simulation. Thus, image features can be well preserved after dimensionality reduction, and simultaneously the noise is almost eliminated. Then, after the inverse SVD transform, the denoised image is reconstructed from the aggregate filtered patches by the weighted average method. Finally, the collaborative Wiener filtering is used to further remove the noise. The experimental results validate its generality and effectiveness in a wide range of the noisy images. The proposed algorithm not only produces very promising denoising results that outperforms the state-of-the-art methods in most cases, but also adapts to a variety of noise levels. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作 者 关 键 词 :** Image denoising; Dimensionality reduction; Principal component analysis; Singular value decomposition; Parallel analysis

**KeyWords Plus:** TO-NOISE RATIOS; NONLOCAL MEANS; MR-IMAGES; QUALITY ASSESSMENT; FILTER; RECONSTRUCTION; DICTIONARIES; ENHANCEMENT; TRANSFORM; SPARSE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61201442 |
| China Postdoctoral Science Foundation | 2013M530481 |
| Ministry of Education of China | 20110001120117 |

This work was supported by National Natural Science Foundation of China under Contract No. 61201442, China Postdoctoral Science Foundation funded project under Contract No. 2013M530481 and Doctoral Fund of Ministry of Education of China under Contract No. 20110001120117.

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**第 204 条，共 395 条**

**标题:** Intuitionistic fuzzy geometric interaction averaging operators and their application to multi-criteria decision making

**作者:** He, YD (He, Yingdong); Chen, HY (Chen, Huayou); Zhou, LG (Zhou, Ligang); Liu, JP (Liu, Jinpei); Tao, ZF (Tao, Zhifu)

**来源出版物:** INFORMATION SCIENCES **卷:** 259 **页:** 142-159 **DOI:** 10.1016/j.ins.2013.08.018 **出版年:** FEB 20 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 9

**摘要:** This paper proposes some new geometric operations on intuitionistic fuzzy sets (IFSs) based on probability non-membership (PN) function operator, probability membership (PM) function operator and probability hetergeneous (PH) operator, which are constructed from the probability point of view. The geometric interpretations of these operations are given. Moreover, we develop some intuitionistic fuzzy geometric interaction averaging (IFGIA) operators. The properties of these aggregation operators are investigated. The key advantage of the IFGIA operators is that the interactions between non-membership function and membership function of different IFSs are considered. Finally, an approach to multiple attributes decision making is given based on the proposed aggregation operators under intuitionistic fuzzy environment, and an example is illustrated to show the validity and feasibility of the proposed approach. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Intuitionistic fuzzy set; Probability non-membership (PN) function operator; Probability hetergeneous (PH) operator; Intuitionistic fuzzy geometric interaction averaging operator; Decision making

**KeyWords Plus:** VAGUE SET-THEORY; AGGREGATION OPERATORS; PREFERENCE RELATIONS; WEIGHTS; INFORMATION; OPERATIONS; ENTROPY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 71071002<br>71371011<br>71301001 |
| Higher School Specialized Research Fund for the Doctoral Program | 20123401110001 |
| Scientific Research Foundation of the Returned Overseas Chinese Scholars | |
| Anhui Provincial Natural Science Foundation | 1308085QG127 |
| Provincial Natural Science Research Project of Anhui Colleges | KJ2012A026 |
| Humanity and Social Science Youth foundation of Ministry of Education | 13YJC630092 |
| Humanities and social science Research Project of Department of Education of Anhui Province | SK2013B041 |
| Natural Science Foundation of Anhui Provincial Higher School | |
| Foundation for the Young Scholar of Anhui University | 2009QN022B |

This work was supported by National Natural Science Foundation of China (71071002, 71371011, 71301001), Higher School Specialized Research Fund for the Doctoral Program (20123401110001), The Scientific Research Foundation of the Returned Overseas Chinese Scholars, Anhui Provincial Natural Science Foundation (1308085QG127), Provincial Natural Science Research Project of Anhui Colleges (KJ2012A026), Humanity and Social Science Youth foundation of Ministry of Education (13YJC630092), Humanities and social science Research Project of Department of Education of Anhui Province (SK2013B041), Natural Science Foundation of Anhui Provincial Higher School and Foundation for the Young Scholar of Anhui University (2009QN022B). The authors are thankful to the anonymous reviewers and the editor for their valuable comments and constructive suggestions that have led to an improved version of this paper.

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**第 205 条，共 395 条**

**标题:** EasySOC: Making web service outsourcing easier

**作者:** Crasso, M (Crasso, Marco); Mateos, C (Mateos, Cristian); Zunino, A (Zunino, Alejandro); Campo, M (Campo, Marcelo)

**来源出版物:** INFORMATION SCIENCES **卷:** 259 **页:** 452-473 **DOI:** 10.1016/j.ins.2010.01.013 **出版年:** FEB 20 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘 要:** Service-oriented computing has been widely recognized as a revolutionary paradigm for software development. Despite the important benefits this paradigm provides, current approaches for service-enabling applications still lead to high costs for outsourcing services with regard to two phases of the software life cycle. During the implementation phase, developers have to invest much effort into manually discovering services and then providing code to invoke them. Mostly, the outcome of the second task is software containing service-aware code, therefore it is more difficult to modify and to test during the maintenance phase. This paper describes EasySOC, an approach that aims to decrease the costs of creating and maintaining service-oriented applications. EasySOC combines text mining, machine learning, and best practices from component-based software development to allow developers to quickly discover and non-invasively invoke services. We evaluated the performance of the EasySOC discovery mechanism using 391 services. In addition, through a case study, we conducted a comparative analysis of the software technical quality achieved by employing EasySOC versus not using it. (C) 2010 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Service-oriented computing; Service outsourcing; Text mining; Machine learning; Dependency injection

**KeyWords Plus:** SEMANTIC WEB; DISCOVERY; ARCHITECTURE; SIMILARITY; METRICS; DESIGN

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|

| | |
|---|---|
| ANPCyT | PAE-PICT 2007-02311<br>PAE-PICT 2007-02312 |

We deeply thank the anonymous reviewers for their helpful comments and suggestions to improve the quality of the paper. We acknowledge the financial support provided by ANPCyT through grants PAE-PICT 2007-02311 and PAE-PICT 2007-02312.


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**第 206 条，共 395 条**

**标题:** An empirical study of the classification performance of learners on imbalanted and noisy software quality data

**作者:** Seiffert, C (Seiffert, Chris); Khoshgoftaar, TM (Khoshgoftaar, Taghi M.); Van Hulse, J (Van Hulse, Jason); Folleco, A (Folleco, Andres)

**来源出版物:** INFORMATION SCIENCES **卷:** 259 **页:** 571-595 **DOI:** 10.1016/j.ins.2010.12.016 **出版年:** FEB 20 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** Data mining techniques are commonly used to construct models for identifying software modules that are most likely to contain faults. In doing so, an organization's limited resources can be intelligently allocated with the goal of detecting and correcting the greatest number of faults. However, there are two characteristics of software quality datasets that can negatively impact the effectiveness of these models: class imbalance and class noise. Software quality datasets are, by their nature, imbalanced. That is, most of a software system's faults can be found in a small percentage of software modules. Therefore, the number of fault-prone, fp, examples (program modules) in a software project dataset is much smaller than the number of not fault-prone, nfp, examples. Data sampling techniques attempt to alleviate the problem of class imbalance by altering a training dataset's distribution. A program module contains class noise if it is incorrectly labeled. While several studies have been performed to evaluate data sampling methods, the impact of class noise on these techniques has not been adequately addressed. This work presents a systematic set of experiments designed to investigate the impact of both class. noise and class imbalance on classification models constructed to identify fault-prone program modules. We analyze the impact of class noise and class imbalance on 11 different learning algorithms (learners) as well as 7 different data sampling techniques. We identify which learners and which data sampling techniques are most robust when confronted with noisy and imbalanced data. (C) 2011 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Imbalance; Class noise; Sampling; Binary classification

**KeyWords Plus:** TRAINING DATA; SMOTE

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**第 207 条，共 395 条**

**标题:** Combining evolutionary information extracted from frequency profiles with sequence-based kernels for protein remote homology detection

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**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 4 **页:** 472-479 **DOI:** 10.1093/bioinformatics/btt709 **出版年:** FEB 15 2014

**Web of Science 核心合集中的 "被引频次":** 35

**被引频次合计:** 35

**摘要:** Motivation: Owing to its importance in both basic research (such as molecular evolution and protein attribute prediction) and practical application (such as timely modeling the 3D structures of proteins targeted for drug development), protein remote homology detection has attracted a great deal of interest. It is intriguing to note that the profile-based approach is promising and holds high potential in this regard. To further improve protein remote homology detection, a key step is how to find an optimal means to extract the evolutionary information into the profiles.

Results: Here, we propose a novel approach, the so-called profile-based protein representation, to extract the evolutionary information via the frequency profiles. The latter can be calculated from the multiple sequence alignments generated by PSI-BLAST. Three top performing sequence-based kernels (SVM-Ngram, SVM-pairwise and SVM-LA) were combined with the profile-based protein representation. Various tests were conducted on a SCOP benchmark dataset that contains 54 families and 23 superfamilies. The results showed that the new approach is

promising, and can obviously improve the performance of the three kernels. Furthermore, our approach can also provide useful insights for studying the features of proteins in various families. It has not escaped our notice that the current approach can be easily combined with the existing sequence-based methods so as to improve their performance as well.

**文献类型:** Article

**KeyWords Plus:** AMINO-ACID-COMPOSITION; SUPPORT VECTOR MACHINE; CYCLIN-DEPENDENT KINASE-5; LATENT SEMANTIC ANALYSIS; ENZYME SUBFAMILY CLASSES; NEURONAL CDK5 ACTIVATOR; FOLD RECOGNITION; PREDICTION; ALIGNMENT; DOMAINS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61300112<br>61370165<br>61173075<br>61272383<br>61370010 |
| Natural Science Foundation of Guangdong Province | S2012040007390<br>S2013010014475 |
| Scientific Research Innovation Foundation in Harbin Institute of Technology | HIT.NSRIF.2013103 |
| Shanghai Key Laboratory of Intelligent Information Processing, China | IIPL-2012-002 |

National Natural Science Foundation of China [numbers 61300112, 61370165, 61173075, 61272383 and 61370010), the Natural Science Foundation of Guangdong Province [numbers S2012040007390 and S2013010014475], the Scientific Research Innovation Foundation in Harbin Institute of Technology (project number HIT.NSRIF.2013103), the Shanghai Key Laboratory of Intelligent Information Processing, China [grant number IIPL-2012-002].

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**第 208 条，共 395 条**

**标题:** Causal analysis approaches in Ingenuity Pathway Analysis

**作者:** Kramer, A (Kraemer, Andreas); Green, J (Green, Jeff); Pollard, J (Pollard, Jack, Jr.); Tugendreich, S (Tugendreich, Stuart)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 4 **页:** 523-530 **DOI:** 10.1093/bioinformatics/btt703 **出版年:** FEB 15 2014

**Web of Science 核心合集中的 "被引频次":** 24

**被引频次合计:** 25

**摘要:** Motivation: Prior biological knowledge greatly facilitates the meaningful interpretation of gene-expression data. Causal networks constructed from individual relationships curated from the literature are particularly suited for this task, since they create mechanistic hypotheses that explain the expression changes observed in datasets.
Results: We present and discuss a suite of algorithms and tools for inferring and scoring regulator networks upstream of gene-expression data based on a large-scale causal network derived from the Ingenuity Knowledge Base. We extend the method to predict downstream effects on biological functions and diseases and demonstrate the validity of our approach by applying it to example datasets.

**文献类型:** Article

**KeyWords Plus:** BREAST-CANCER CELLS; TRANS-RETINOIC ACID; BIOLOGICAL NETWORKS; EXPRESSION; MOUSE; MCF-7

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基金资助致谢:

| 基金资助机构 | 授权号 |
| --- | --- |
| QIAGEN company | |
| Sanofi-Aventis | |

Authors AK, JG, and ST were funded as employees of Ingenuity Systems (a QIAGEN company). JP was funded as an employee of Sanofi-Aventis.

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**第 209 条，共 395 条**

**标题:** Globally convergent exact and inexact parametric algorithms for solving large-scale mixed-integer fractional programs and applications in process systems engineering

**作者:** Zhong, ZX (Zhong, Zhixia); You, FQ (You, Fengqi)

**来源出版物:** COMPUTERS & CHEMICAL ENGINEERING **卷:** 61 **页:** 90-101 **DOI:** 10.1016/j.compchemeng.2013.10.017 **出版年:** FEB 11 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** This paper is concerned with the parametric algorithms for solving large-scale mixed-integer linear and nonlinear fractional programming problems, as well as their application in process systems engineering. By developing an equivalent parametric formulation of the general mixed-integer fractional program (MIFP), we propose four exact parametric algorithms based on the root-finding methods, including bisection method, Newton's method, secant method and false position method, respectively, for the global optimization of MIFPs. We also propose an inexact parametric algorithm that can potentially outperform the exact parametric algorithms for some types of MIFPs. Extensive computational studies are performed to demonstrate the efficiency of these parametric algorithms and to compare them with some general-purpose mixed-integer nonlinear programming methods. The applications of the proposed algorithms are illustrated through two case studies on process scheduling. Computational results show that the proposed exact and inexact parametric algorithms are more computationally efficient than several general-purpose solvers for solving MIFPs. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Global optimization; Parametric approach; Inexact algorithms; Process scheduling; Mixed-integer fractional programming

**KeyWords Plus:** OPTIMIZATION PROBLEMS; NONLINEAR PROGRAMS; MINLP OPTIMIZATION; BRANCH; INTEGRATION

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**第 210 条，共 395 条**

**标题:** Dynamic modelling and optimisation of flexible operation in post-combustion CO2 capture plants-A review

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**来源出版物:** COMPUTERS & CHEMICAL ENGINEERING **卷:** 61 **页:** 245-265 **DOI:** 10.1016/j.compchemeng.2013.11.015 **出版年:** FEB 11 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** The drive for efficiency improvements in post-combustion CO2 capture (PCC) technologies continues to grow, with recent attention being directed towards flexible operation of PCC plants. However, there is a lack of research into the effect of process disturbances when operating flexibly, justifying a need for validated dynamic models of the PCC process. This review critically examines the dynamic PCC process models developed to date and analyses the different approaches used, as well as the model complexity and their limitations. Dynamic process models coupled with economic analysis will play a crucial role in process control and optimisation. Also discussed are key areas that need to be addressed in future dynamic models, including the lack of reliable dynamic experimental data for their validation, development of feasible flexible operation and process control strategies, as well as process optimisation by integrating accurate process models with established economic analysis tools. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Review

**作者关键词:** Dynamic modelling; Flexible operation; Post-combustion carbon capture; Coal-fired power stations

**KeyWords Plus:** FIRED POWER-PLANTS; NONEQUILIBRIUM STAGE MODEL; MULTICOMPONENT

SEPARATION PROCESSES; MAXWELL-STEFAN EQUATIONS; POST COMBUSTION CAPTURE; FLUE-GAS; CARBON-DIOXIDE; AQUEOUS MONOETHANOLAMINE; EXPERIMENTAL VALIDATION; SOLVENT REGENERATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| CSIRO Energy Technology | |
| Monash University | |

The authors appreciate the helpful suggestions, comments and contributions to this paper from Dr Niall Mac Dowell, Centre for Process Systems Engineering, Department of Chemical Engineering, Imperial College London, UK. Also, Mai Bui acknowledges the financial support provided by CSIRO Energy Technology for her research project and the Australian Postgraduate Research Award provided by Monash University.

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**第 211 条，共 395 条**

**标题:** Stabilization of nonlinear systems with time-varying delays via impulsive control

**作者:** Yu, J (Yu, Juan); Hu, C (Hu, Cheng); Jiang, HJ (Jiang, Haijun); Teng, ZD (Teng, Zhidong)

**来源出版物:** NEUROCOMPUTING **卷:** 125 **特刊:** SI **页:** 68-71 **DOI:** 10.1016/j.neucom.2012.06.052 **出版年:** FEB 11 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** In this paper, the stabilization for a class of nonlinear systems with time-varying delays is proposed via impulsive control. Using some analysis techniques such as reduction to absurdity, some new and useful criteria for global exponential stability are established. Furthermore, an example and some numerical simulations are presented to verify the effectiveness of the theoretical results. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Nonlinear system; Time-delay; Impulsive control; Exponential stability

**KeyWords Plus:** SYNCHRONIZATION; STABILITY; DESIGN; CHAOS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of People's Republic of China | 61164004 |
| Natural Science Foundation of Xinjiang | 2010211A07 |
| Excellent Doctor Innovation Program of Xinjiang University | XJUBSCX-2011003 |

This work was supported by the National Natural Science Foundation of People's Republic of China (Grant no. 61164004), the Natural Science Foundation of Xinjiang (Grant no. 2010211A07), and the Excellent Doctor Innovation Program of Xinjiang University (Grant no. XJUBSCX-2011003).

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**第 212 条，共 395 条**

**标题:** Second-order consensus of multi-agent systems with nonlinear dynamics via impulsive control

**作者:** Qian, YF (Qian, Yufeng); Wu, XQ (Wu, Xiaoqun); Lu, JH (Lu, Jinhu); Lu, JA (Lu, Jun-An)

**来源出版物:** NEUROCOMPUTING **卷:** 125 **特刊:** SI **页:** 142-147 **DOI:** 10.1016/j.neucom.2012.10.027 **出版年:** FEB 11 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** In many real-world multi-agent systems, the intrinsic dynamics of velocity for each agent is usually nonlinear

dynamic rather than static. Moreover, it is often difficult to obtain the continuous velocity information of multi-agent systems. To overcome the above essential difficulties, this paper aims at investigating the second-order consensus problem of multi-agents systems with nonlinear dynamics by using impulsive control signal protocol. In detail, by using the impulsive signals from agents and virtual leaders, several impulsive control protocols are designed for reaching the second-order consensus of multi-agent systems with fixed or switching topologies. The theoretical analysis is also given to guarantee the second-order consensus based on algebraic graph theory and stability theory of impulsive differential equations. Finally, two typical examples are used to validate the above developed theoretical results. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Second-order consensus; Multi-agent systems; Impulsive control; Virtual leader

**KeyWords Plus:** SWITCHING TOPOLOGY; NETWORKS; SYNCHRONIZATION; AGENTS; FLOCKING; DELAYS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61025017<br>11072254<br>61174028<br>11172215<br>61203148 |

This work was supported by the National Natural Science Foundation of China under Grants 61025017, 11072254, 61174028, 11172215, and 61203148.

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**第 213 条，共 395 条**

**标题:** Integrating the artificial bee colony and bees algorithm to face constrained optimization problems

**作者:** Tsai, HC (Tsai, Hsing-Chih)

**来源出版物:** INFORMATION SCIENCES **卷:** 258 **页:** 80-93 **DOI:** 10.1016/j.ins.2013.09.015 **出版年:** FEB 10 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** Swarm intelligence (SI) has generated growing interest in recent decades as an algorithm replicating biological and other natural systems. Several SI algorithms have been developed that replicate the behavior of honeybees. This study integrates two of these, the artificial bee colony (ABC) and bees algorithms (BA), into a hybrid ABC-BA algorithm. In ABC-BA, an agent can perform as an ABC agent in the ABC sub-swarm and/or a BA agent in the BA sub-swarm. Therefore, the ABC and BA formulations coexist within ABC-BA. Moreover, the population sizes of the ABC and BA sub-swarms vary stochastically based on the current best fitness values obtained by the sub-swarms.
This paper conducts experiments on six constrained optimization problems (COPs) with equality or inequality constraints. In addressing equality constraints, this paper proposes using these constraints to determine function variables rather than directly converting them into inequality constraints, an approach that perfectly satisfies the equality constraints. Experimental results demonstrate that the performance of the ABC-BA approximates or exceeds the winner of either ABC or BA. Therefore, the ABC-BA is recommended as an alternative to ABC and BA for handling COPs. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Constrained optimization problem; Swarm intelligence; Artificial bee colony; Bees algorithm

**KeyWords Plus:** PARTICLE SWARM OPTIMIZATION; GLOBAL OPTIMIZATION; NONLINEAR EQUATIONS; SOLVING SYSTEMS; ABC ALGORITHM; DESIGN

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**第 214 条，共 395 条**

**标题:** A fuzzy envelope for hesitant fuzzy linguistic term set and its application to multicriteria decision making

**作者:** Liu, HB (Liu, Hongbin); Rodriguez, RM (Rodriguez, Rosa M.)

**来源出版物:** INFORMATION SCIENCES **卷:** 258 **页:** 220-238 **DOI:** 10.1016/j.ins.2013.07.027 **出版年:** FEB 10 2014

**Web of Science 核心合集中的 "被引频次":** 13

**被引频次合计:** 15

**摘要:** Decision making is a process common to human beings. The uncertainty and fuzziness of problems demand the use of the fuzzy linguistic approach to model qualitative aspects of problems related to decision. The recent proposal of hesitant fuzzy linguistic term sets supports the elicitation of comparative linguistic expressions in hesitant situations when experts hesitate among different linguistic terms to provide their assessments. The use of linguistic intervals whose results lose their initial fuzzy representation was introduced to facilitate the computing processes in which such expressions are used. The aim of this paper is to present a new representation of the hesitant fuzzy linguistic term sets by means of a fuzzy envelope to carry out the computing with words processes. This new fuzzy envelope can be directly applied to fuzzy multicriteria decision making models. An illustrative example of its application to a supplier selection problem through the use of fuzzy TOPSIS is presented. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Hesitant fuzzy linguistic term set; Fuzzy envelope; Comparative linguistic expression; OWA operator; Multicriteria decision making

**KeyWords Plus:** OWA OPERATORS; WORDS; MODELS; REPRESENTATION; AGGREGATION; NUMBERS; TOPSIS; ENVIRONMENT; SELECTION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Spain and National Social Science Foundation of China | TIN2012-31263 10BGL022 |

This work is partially supported by the Research Project TIN2012-31263 of Spain and National Social Science Foundation of China (10BGL022).

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**第 215 条，共 395 条**

**标题:** A new linguistic computational model based on discrete fuzzy numbers for computing with words

**作者:** Massanet, S (Massanet, Sebastia); Riera, JV (Riera, Juan Vicente); Torrens, J (Torrens, Joan); Herrera-Viedma, E (Herrera-Viedma, Enrique)

**来源出版物:** INFORMATION SCIENCES **卷:** 258 **页:** 277-290 **DOI:** 10.1016/j.ins.2013.06.055 **出版年:** FEB 10 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** In recent years, several different linguistic computational models for dealing with linguistic information in processes of computing with words have been proposed. However, until now all of them rely on the special semantics of the linguistic terms, usually fuzzy numbers in the unit interval, and the linguistic aggregation operators are based on aggregation operators in [0,1]. In this paper, a linguistic computational model based on discrete fuzzy numbers whose support is a subset of consecutive natural numbers is presented ensuring the accuracy and consistency of the model. In this framework, no underlying membership functions are needed and several aggregation operators defined on the set of all discrete fuzzy numbers are presented. These aggregation operators are constructed from aggregation operators defined on a finite chain in accordance with the granularity of the linguistic term set. Finally, an example of a multi-expert decision-making problem in a hierarchical multi-granular linguistic context is given to illustrate the applicability of the proposed method and its advantages. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Discrete fuzzy number; Subjective evaluation; Multi-granular context; Aggregation function

**KeyWords Plus:** GROUP DECISION-MAKING; TERM SETS; SUBJECTIVE EVALUATIONS; AGGREGATION OPERATORS; REPRESENTATION MODEL; INFORMATION; SYSTEMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| FEDER | FUZZYLING-II Project TIN2010-17876 |
| Andalusian Excellence Projects | TIC-05299<br>TIC-5991 |
| | MTM2009-10320 |
| | MTM2009-10962 |

This paper has been partially supported by the Spanish Grants MTM2009-10320, MTM2009-10962 and also with the financing of FEDER funds in FUZZYLING-II Project TIN2010-17876, Andalusian Excellence Projects TIC-05299 and TIC-5991.

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**第 216 条，共 395 条**

**标题:** Security and privacy for storage and computation in cloud computing

**作者:** Wei, LF (Wei, Lifei); Zhu, HJ (Zhu, Haojin); Cao, ZF (Cao, Zhenfu); Dong, XL (Dong, Xiaolei); Jia, WW (Jia, Weiwei); Chen, YL (Chen, Yunlu); Vasilakos, AV (Vasilakos, Athanasios V.)

**来源出版物:** INFORMATION SCIENCES **卷:** 258 **页:** 371-386 **DOI:** 10.1016/j.ins.2013.04.028 **出版年:** FEB 10 2014

**Web of Science 核心合集中的 "被引频次":** 14

**被引频次合计:** 15

**摘要:** Cloud computing emerges as a new computing paradigm that aims to provide reliable, customized and quality of service guaranteed computation environments for cloud users. Applications and databases are moved to the large centralized data centers, called cloud. Due to resource virtualization, global replication and migration, the physical absence of data and machine in the cloud, the stored data in the cloud and the computation results may not be well managed and fully trusted by the cloud users. Most of the previous work on the cloud security focuses on the storage security rather than taking the computation security into consideration together. In this paper, we propose a privacy cheating discouragement and secure computation auditing protocol, or SecCloud, which is a first protocol bridging secure storage and secure computation auditing in cloud and achieving privacy cheating discouragement by designated verifier signature, batch verification and probabilistic sampling techniques. The detailed analysis is given to obtain an optimal sampling size to minimize the cost. Another major contribution of this paper is that we build a practical secure-aware cloud computing experimental environment, or SecHDFS, as a test bed to implement SecCloud. Further experimental results have demonstrated the effectiveness and efficiency of the proposed SecCloud.


**文献类型:** Article

**作者关键词:** Secure computation auditing; Secure storage; Privacy-cheating discouragement; Designated verifier signature; Batch verification; Cloud computing

**KeyWords Plus:** VERIFIER SIGNATURE SCHEME

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61033014<br>61161140320 |
| National 973 Program | 2012CB723401 |

This work was supported by the National Natural Science Foundation of China (Grant Nos. 61033014 and 61161140320) and the National 973 Program (Grant No. 2012CB723401). We would like to thank anonymous reviewers who helped us in giving comments to this paper.

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**第 217 条，共 395 条**

**标题:** DocCloud: A document recommender system on cloud computing with plausible deniability

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**来源出版物:** INFORMATION SCIENCES **卷:** 258 **页:** 387-402 **DOI:** 10.1016/j.ins.2013.04.007 **出版年:** FEB 10 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Recommender systems select the most interesting products for costumers based on their interests. The move of a recommender system to a cloud faces many challenges from the perspective of the protection of the participants. Little work has been done regarding secure recommender systems or how to cope with the legal liability of the cloud provider and any virtual machine inside the cloud.

We propose DocCloud, a recommender system that focused on the protection of all participants against legal attacks. We present the architecture of DocCloud and analyze the security mechanisms that the system includes. Specifically, we study the properties of plausible deniability and anonymity of the recommenders and intermediate nodes. This way, nodes can recommend products to the customers while deny any knowledge about the product they are recommending or their participation in the recommendation process. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Recommender system; Doccloud; Social cloud; Plausible deniability

**KeyWords Plus:** PRIVATE INFORMATION-RETRIEVAL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Spanish Government research Projects TAMESIS | TEC2011-22746 |
| ARES | CSD2007-00004 |
| FEDER funds WoO | TSI-020400-2011-29 |

This work has been partially supported by the Spanish Government research Projects TAMESIS (TEC2011-22746) and ARES (CSD2007-00004) and by the Project granted with FEDER funds WoO (TSI-020400-2011-29).

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**第 218 条，共 395 条**

**标题:** Development and use of active clinical decision support for preemptive pharmacogenomics

**作者:** Bell, GC (Bell, Gillian C.); Crews, KR (Crews, Kristine R.); Wilkinson, MR (Wilkinson, Mark R.); Haidar, CE (Haidar, Cyrine E.); Hicks, JK (Hicks, J. Kevin); Baker, DK (Baker, Donald K.); Kornegay, NM (Kornegay, Nancy M.); Yang, WJ (Yang, Wenjian); Cross, SJ (Cross, Shane J.); Howard, SC (Howard, Scott C.); Freimuth, RR (Freimuth, Robert R.); Evans, WE (Evans, William E.); Broeckel, U (Broeckel, Ulrich); Relling, MV (Relling, Mary V.); Hoffman, JM (Hoffman, James M.)

**来源出版物:** JOURNAL OF THE AMERICAN MEDICAL INFORMATICS ASSOCIATION **卷:** 21 **期:** E1 **页:** E93-E99 **DOI:** 10.1136/amiajnl-2013-001993 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** Background Active clinical decision support (CDS) delivered through an electronic health record (EHR) facilitates gene-based drug prescribing and other applications of genomics to patient care.

Objective We describe the development, implementation, and evaluation of active CDS for multiple pharmacogenetic test results reported preemptively.

Materials and methods Clinical pharmacogenetic test results accompanied by clinical interpretations are placed into the patient's EHR, typically before a relevant drug is prescribed. Problem list entries created for high-risk phenotypes provide an unambiguous trigger for delivery of post-test alerts to clinicians when high-risk drugs are prescribed. In addition, pre-test alerts are issued if a very-high risk medication is prescribed (eg, a thiopurine), prior to the appropriate pharmacogenetic test result being entered into the EHR. Our CDS can be readily modified to incorporate new genes or high-risk drugs as they emerge.

Results Through November 2012, 35 customized pharmacogenetic rules have been implemented, including rules for TPMT with azathioprine, thioguanine, and mercaptopurine, and for CYP2D6 with codeine, tramadol, amitriptyline, fluoxetine, and paroxetine. Between May 2011 and November 2012, the pre-test alerts were electronically issued 1106 times (76 for thiopurines and 1030 for drugs metabolized by CYP2D6), and the post-test alerts were issued 1552 times (1521 for TPMT and 31 for CYP2D6). Analysis of alert outcomes revealed that the interruptive CDS

appropriately guided prescribing in 95% of patients for whom they were issued.
Conclusions Our experience illustrates the feasibility of developing computational systems that provide clinicians with actionable alerts for gene-based drug prescribing at the point of care.

**文献类型:** Article

**KeyWords Plus:** IMPLEMENTATION CONSORTIUM GUIDELINES; ACUTE LYMPHOBLASTIC-LEUKEMIA; OBSERVATION IDENTIFIER NAMES; PHYSICIAN ORDER ENTRY; PERSONALIZED MEDICINE; B GENOTYPE; SYSTEMS; THERAPY; ALERTS; LOINC

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| NCI | CA 36401<br>CA 21765 |
| NIH/NIGMS Pharmacogenomics Research Network | U01 GM92666<br>U19 GM61388<br>U01 HL105918 |
| American Lebanese Syrian Associated Charities (ALSAC) | |

Supported by NCI grants CA 36401, CA 21765, NIH/NIGMS Pharmacogenomics Research Network (U01 GM92666, U19 GM61388, U01 HL105918), and by the American Lebanese Syrian Associated Charities (ALSAC).

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**第 219 条，共 395 条**

**标题:** Integration of Distributed Enterprise Applications: A Survey

**作者:** He, W (He, Wu); Xu, LD (Xu, Li Da)

**来源出版物:** IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS **卷:** 10 **期:** 1 **页:** 35-42 **DOI:** 10.1109/TII.2012.2189221 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 31

**被引频次合计:** 31

**摘要:** Many industrial enterprises acquire disparate systems and applications over the years. The need to integrate these different systems and applications is often prominent for satisfying business requirements and needs. In an effort to help researchers in industrial informatics understand the state-of-the-art of the enterprise application integration, we examined the architectures and technologies for integrating distributed enterprise applications, illustrated their strengths and weaknesses, and identified research trends and opportunities in this increasingly important area.

**文献类型:** Article

**作者关键词:** Distributed enterprise applications; enterprise application integration; enterprise service bus; industrial informatics; industrial information integration engineering; Internet of things (IoT); middleware; enterprise systems; radio frequency identification (RFID)

**KeyWords Plus:** SERVICE-ORIENTED ARCHITECTURE; INFORMATION-SYSTEMS; WEB SERVICES; MIDDLEWARE; INTERNET; INTEROPERABILITY; REQUIREMENTS; NETWORKS; ENVIRONMENTS; TECHNOLOGIES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China (NSFC) | 71132008 |

| | |
|---|---|
| Changjiang Scholar Program of the Ministry of Education of China | |
| U.S. National Science Foundation | 1044845 |

This work was supported in part by the National Natural Science Foundation of China (NSFC) under Grant 71132008, the Changjiang Scholar Program of the Ministry of Education of China, and the U.S. National Science Foundation under Grant 1044845. Paper no. TII-11-1052.

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**第 220 条，共 395 条**

**标题:** Data Cleaning for RFID and WSN Integration

**作者:** Wang, L (Wang, Li); Xu, LD (Xu, Li Da); Bi, ZM (Bi, Zhuming); Xu, YC (Xu, Yingcheng)

**来源出版物:** IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS **卷:** 10 **期:** 1 **页:** 408-418 **DOI:** 10.1109/TII.2013.2250510 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 11

**被引频次合计:** 11

**摘要:** Today's manufacturing environments are very dynamic and turbulent. Traditional enterprise information systems (EISs) have mostly been implemented upon hierarchical architectures, which are inflexible to adapt changes and uncertainties promptly. Next-generation EISs must be agile and adaptable to accommodate changes without significant time delays. It is essential for an EIS to obtain real-time data from the distributed and dynamic manufacturing environment for decision making. Wireless sensor networks (WSNs) and radio-frequency identification (RFID) systems provide an excellent infrastructure for data acquisition, distribution, and processing. In this paper, some key challenges related to the integration of WSN and RFID technologies are discussed. A five-layer system architecture has been proposed to achieve synergistic performance. For the integration of WSN and RFID, one of the critical issues is the low efficiency of communication due to redundant data as redundant data increases energy consumption and causes time delay. To address it, an improved data cleaning algorithm has been proposed; its feasibility and effectiveness have been verified via simulation and a comparison with a published algorithm. To illustrate the capacity of the developed architecture and new data cleaning algorithm, their application in relief supplies storage management has been discussed.

**文献类型:** Article

**作者关键词:** Data cleaning; enterprise information system (EIS); industrial informatics; networks; radio-frequency identification (RFID); system architecture; system integration; wireless sensor network (WSN)

**KeyWords Plus:** WIRELESS SENSOR NETWORKS; ENTERPRISE SYSTEMS; ENERGY-EFFICIENT; INFORMATION-SYSTEMS; SERVICE WORKFLOW; MACHINE-TOOLS; SUPPLY CHAIN; REAL-TIME; TECHNOLOGY; DESIGN

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 71271013<br>91224007<br>70971005<br>70971004<br>71132008 |
| National Social Science Foundation of China | 11AZD096 |
| Quality Inspection Project | 201010268<br>200910088<br>200910248 |

This work was supported by the National Natural Science Foundation of China under Grant 71271013, Grant 91224007, Grant 70971005, Grant 70971004, and Grant71132008, the National Social Science Foundation of China under Grant 11AZD096, and the Quality Inspection Project under Grant 201010268 and Grant 200910088, 200910248). Paper no. TII-12-0749.

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**第 221 条，共 395 条**

**标题:** An Efficient Recommendation Method for Improving Business Process Modeling

**作者:** Li, Y (Li, Ying); Cao, B (Cao, Bin); Xu, LD (Xu, Lida); Yin, JW (Yin, Jianwei); Deng, SG (Deng, Shuiguang); Yin, YY (Yin, Yuyu); Wu, ZH (Wu, Zhaohui)

**来源出版物:** IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS **卷:** 10 **期:** 1 **页:** 502-513 **DOI:** 10.1109/TII.2013.2258677 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 13

**被引频次合计:** 13

**摘要:** In modern commerce, both frequent changes of custom demands and the specialization of the business process require the capacity of modeling business processes for enterprises effectively and efficiently. Traditional methods for improving business process modeling, such as workflow mining and process retrieval, still requires much manual work. To address this, based on the structure of a business process, a method called workflow recommendation technique is proposed in this paper to provide process designers with support for automatically constructing the new business process that is under consideration. In this paper, with the help of the minimum depth-first search (DFS) codes of business process graphs, we propose an efficient method for calculating the distance between process fragments and select candidate node sets for recommendation purpose. In addition, a recommendation system for improving the modeling efficiency and accuracy was implemented and its implementation details are discussed. At last, based on both synthetic and real-world datasets, we have conducted experiments to compare the proposed method with other methods and the experiment results proved its effectiveness for practical applications.

**文献类型:** Article

**作者关键词:** Business process modeling; enterprise systems; industrial informatics; string edit distance; workflow; workflow recommendation

**KeyWords Plus:** ENTERPRISE SYSTEMS; SERVICE WORKFLOW; SIMILARITY; LOGIC

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61272129<br>71132008 |
| National High Technology Research and Development Program of China | 2013AA01A213 |
| Research Fund for the Doctoral Program by Ministry of Education of China | 20110101110066 |
| New Century Excellent Talents in University | NCET-12-0491 |
| Zhejiang Provincial Natural Science Foundation of China | LY12F02029 |

This work was supported in part by the National Natural Science Foundation of China under Grant 61272129 and Grant 71132008, the National High Technology Research and Development Program of China under Grant 2013AA01A213, the Research Fund for the Doctoral Program by Ministry of Education of China under Grant 20110101110066, New Century Excellent Talents in University under Grant NCET-12-0491, and Zhejiang Provincial Natural Science Foundation of China under Grant LY12F02029. Paper no. TII-12-0871.

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**第 222 条，共 395 条**

**标题:** An Integrated Approach to Snowmelt Flood Forecasting in Water Resource Management

**作者:** Fang, SF (Fang, Shifeng); Xu, LD (Xu, Lida); Pei, H (Pei, Huan); Liu, YQ (Liu, Yongqiang); Liu, ZH (Liu, Zhihui); Zhu, YQ (Zhu, Yunqiang); Yan, JW (Yan, Jianwu); Zhang, HF (Zhang, Huifang)

**来源出版物:** IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS **卷:** 10 **期:** 1 **页:** 548-558 **DOI:** 10.1109/TII.2013.2257807 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 25

**被引频次合计:** 25

**摘要:** Water scarcity and floods are the major challenges for human society both present and future. Effective and scientific management of water resources requires a good understanding of water cycles, and a systematic integration

of observations can lead to better prediction results. This paper presents an integrated approach to water resource management based on geoinformatics including technologies such as Remote Sensing (RS), Geographical Information Systems (GIS), Global Positioning Systems (GPS), Enterprise Information Systems (EIS), and cloud services. The paper introduces a prototype IIS called Water Resource Management Enterprise Information System (WRMEIS) that integrates functions such as data acquisition, data management and sharing, modeling, and knowledge management. A system called SFFEIS (Snowmelt Flood Forecasting Enterprise Information System) based on the WRMEIS structure has been implemented. It includes operational database, Extraction-Transformation-Loading (ETL), information warehouse, temporal and spatial analysis, simulation/prediction models, knowledge management, and other functions. In this study, a prototype water resource management IIS is developed which integrates geoinformatics, EIS, and cloud service. It also proposes a novel approach to information management that allows any participant play the role as a sensor as well as a contributor to the information warehouse. Both users and public play the role for providing data and knowledge. This study highlights the crucial importance of a systematic approach toward IISs for effective resource and environment management.

**文献类型:** Article

**作者关键词:** Cloud services; enterprise information systems (EIS); geoinformatics; industrial information integration engineering (IIIE); information infrastructure; snowmelt flood forecasting; system integration; water resource management

**KeyWords Plus:** DECISION-SUPPORT-SYSTEM; ENTERPRISE INFORMATION-SYSTEMS; QUALITY MANAGEMENT; SERVICE WORKFLOW; FRAMEWORK; KNOWLEDGE; THINKING; DESIGN

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| State Key Laboratory Program of SKLCS, CAS | SKLCS 2011-08 |
| Research Plan of LREIS, CAS | O88RA900PA |
| Key Project for the Strategic Science Plan in IGSNRR, CAS | 2012ZD010 |
| Key Laboratory of Oasis Ecology (Xinjiang University), Ministry of Education | XJDX0206-2011-01 |
| LREIS, CAS | |
| National Natural Science Foundation of China | 41201097<br>41101031<br>71132008 |

This work was supported in part by the State Key Laboratory Program of SKLCS, CAS under Grant SKLCS 2011-08, the Research Plan of LREIS, CAS under Grant O88RA900PA, the Key Project for the Strategic Science Plan in IGSNRR, CAS, under Grant 2012ZD010, the Open Funding of the Key Laboratory of Oasis Ecology (Xinjiang University), Ministry of Education under Grant XJDX0206-2011-01, the Youth Science Funds of LREIS, CAS, and the National Natural Science Foundation of China under Grant 41201097, Grant 41101031, and Grant 71132008. Paper no. TII-13-0020.

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**第 223 条，共 395 条**

**标题:** Real-Time Implementation of a Harmony Search Algorithm-Based Clustering Protocol for Energy-Efficient Wireless Sensor Networks

**作者:** Hoang, DC (Hoang, Duc Chinh); Yadav, P (Yadav, Parikshit); Kumar, R (Kumar, Rajesh); Panda, SK (Panda, Sanjib Kumar)

**来源出版物:** IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS **卷:** 10 **期:** 1 **页:** 774-783 **DOI:** 10.1109/TII.2013.2273739 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 5
**摘要:** In real-life applications of wireless sensor networks (WSNs), optimization of the network operation is required to extend its lifetime. A framework is proposed that enables practical development of centralized cluster-based protocols supported by optimization methods for the WSNs. Based on this framework, a protocol using harmony search algorithm (HSA), a music-based meta-heuristic optimization method, is designed and implemented in real time for the WSNs. It is expected to minimize the intra-cluster distances between the cluster members and their cluster heads (CHs) and optimize the energy distribution of the WSNs. The study of HSA cluster-based protocol is carried out in a real case where the WSNs equipped with the proposed protocol are deployed in an indoor environment to monitor the ambient temperature for fire detection. A comparison is made with the well-known cluster-based protocols developed for WSNs such as low-energy adaptive clustering hierarchy-centralized (LEACH-C) and a cluster-based protocol using Fuzzy C-Means (FCM) clustering algorithm. Experimental results demonstrate that the proposed protocol using HSA can be realized in centralized cluster-based WSNs for safety and surveillance applications in building environments. From the obtained experimental test results, it can be seen that the WSNs lifetime has been extended using the proposed HSA protocol in comparison with that of LEACH-C and FCM protocols.
**文献类型:** Article
**作者关键词:** Cluster-based protocol; harmony search (HS); meta-heuristic; tinyOS; wireless sensor networks (WSNs)
**KeyWords Plus:** OPTIMIZATION; MANAGEMENT; SYSTEMS
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**第 224 条，共 395 条**
**标题:** R3E: Reliable Reactive Routing Enhancement for Wireless Sensor Networks
**作者:** Niu, JW (Niu, Jianwei); Cheng, L (Cheng, Long); Gu, Y (Gu, Yu); Shu, L (Shu, Lei); Das, SK (Das, Sajal K.)
**来源出版物:** IEEE TRANSACTIONS ON INDUSTRIAL INFORMATICS **卷:** 10 **期:** 1 **页:** 784-794 **DOI:** 10.1109/TII.2013.2261082 **出版年:** FEB 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4
**摘要:** Providing reliable and efficient communication under fading channels is one of the major technical challenges in wireless sensor networks (WSNs), especially in industrial WSNs (IWSNs) with dynamic and harsh environments. In this work, we present the Reliable Reactive Routing Enhancement (R3E) to increase the resilience to link dynamics for WSNs/IWSNs. R3E is designed to enhance existing reactive routing protocols to provide reliable and energy-efficient packet delivery against the unreliable wireless links by utilizing the local path diversity. Specifically, we introduce a biased backoff scheme during the route-discovery phase to find a robust guide path, which can provide more cooperative forwarding opportunities. Along this guide path, data packets are greedily progressed toward the destination through nodes' cooperation without utilizing the location information. Through extensive simulations, we demonstrate that compared to other protocols, R3E remarkably improves the packet delivery ratio, while maintaining high energy efficiency and low delivery latency.
**文献类型:** Article
**作者关键词:** Industrial wireless sensor networks (IWSNs); opportunistic routing; reliable forwarding; unreliable wireless links
**KeyWords Plus:** REAL-TIME; AD HOC; PROTOCOL; ENERGY; COMMUNICATION; EFFICIENCY
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| State Key Laboratory of Software Development Environment | BUAA SKLSDE-2012ZX-17 |
| National Natural Science Foundation of China | 61170296<br>61190120 |
| Program for New Century Excellent Talents in University | NECT-09-0028<br>NRF2012EWTEIRP002-045 |
| China Postdoctoral Science Foundation | 2013M530511 |
| SUTD SRG ISTD | 2010 002 |
| Singapore-MIT IDC | IDD61000102a<br>IDG31100106a |

This work was supported in part by Research Fund of the State Key Laboratory of Software Development Environment under Grant BUAA SKLSDE-2012ZX-17, National Natural Science Foundation of China under Grant 61170296 and 61190120, Program for New Century Excellent Talents in University under Grant NECT-09-0028, NRF2012EWTEIRP002-045, China Postdoctoral Science Foundation under Grant 2013M530511, SUTD SRG ISTD 2010 002, Singapore-MIT IDC IDD61000102a and IDG31100106a Grant. Paper TII-12-0821.

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**第 225 条，共 395 条**

**标题:** Anatomy of Green Open Access

**作者:** Bjork, BC (Bjork, Bo-Christer); Laakso, M (Laakso, Mikael); Welling, P (Welling, Patrik); Paetau, P (Paetau, Patrik)

**来源出版物:** JOURNAL OF THE ASSOCIATION FOR INFORMATION SCIENCE AND TECHNOLOGY **卷:** 65 **期:** 2 **页:** 237-250 **DOI:** 10.1002/asi.22963 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Open access (OA) is free, unrestricted access to electronic versions of scholarly publications. For peer-reviewed journal articles, there are two main routes to OA: publishing in OA journals (gold OA) or archiving of article copies or manuscripts at other web locations (green OA). This study focuses on summarizing and extending current knowledge about green OA. A synthesis of previous studies indicates that green OA coverage of all published journal articles is approximately 12%, with substantial disciplinary variation. Typically, green OA copies become available after considerable time delays, partly caused by publisher-imposed embargo periods, and partly by author tendencies to archive manuscripts only periodically. Although green OA copies should ideally be archived in proper repositories, a large share is stored on home pages and similar locations, with no assurance of long-term preservation. Often such locations contain exact copies of published articles, which may infringe on the publisher's exclusive rights. The technical foundation for green OA uploading is becoming increasingly solid largely due to the rapid increase in the number of institutional repositories. The number of articles within the scope of OA mandates, which strongly influence the self-archival rate of articles, is nevertheless still low.

**文献类型:** Article

**KeyWords Plus:** SCHOLARLY COMMUNICATION; REPOSITORIES; TECHNOLOGY; ACCEPTANCE; ARTICLES; MATTER; FIELD; MODEL

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**第 226 条，共 395 条**

**标题:** Leveraging Social Networks for P2P Content-Based File Sharing in Disconnected MANETs

**作者:** Chen, K (Chen, Kang); Shen, HY (Shen, Haiying); Zhang, HB (Zhang, Haibo)

**来源出版物:** IEEE TRANSACTIONS ON MOBILE COMPUTING **卷:** 13 **期:** 2 **页:** 235-249 **DOI:** 10.1109/TMC.2012.239 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Current peer-to-peer (P2P) file sharing methods in mobile ad hoc networks (MANETs) can be classified into three groups: flooding-based, advertisement-based, and social contact-based. The first two groups of methods can easily have high overhead and low scalability. They are mainly developed for connected MANETs, in which end-to-end connectivity among nodes is ensured. The third group of methods adapts to the opportunistic nature of disconnected MANETs but fails to consider the social interests (i.e., contents) of mobile nodes, which can be

exploited to improve the file searching efficiency. In this paper, we propose a P2P content-based file sharing system, namely SPOON, for disconnected MANETs. The system uses an interest extraction algorithm to derive a node's interests from its files for content-based file searching. For efficient file searching, SPOON groups common-interest nodes that frequently meet with each other as communities. It takes advantage of node mobility by designating stable nodes, which have the most frequent contact with community members, as community coordinators for intracommunity searching, and highly mobile nodes that visit other communities frequently as community ambassadors for intercommunity searching. An interest-oriented file searching scheme is proposed for high file searching efficiency. Additional strategies for file prefetching, querying-completion, and loop-prevention, and node churn consideration are discussed to further enhance the file searching efficiency. We first tested our system on the GENI Orbit testbed with a real trace and then conducted event-driven experiment with two real traces and NS2 simulation with simulated disconnected and connected MANET scenarios. The test results show that our system significantly lowers transmission cost and improves file searching success rate compared to current methods.

**文献类型:** Article

**作者关键词:** MANETs; content-based file sharing; social networks

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| US National Science Foundation | IIS-1354123<br>CNS-1254006<br>CNS-1249603<br>OCI-1064230<br>CNS-1049947<br>CNS-0917056<br>CNS-1025652 |
| Microsoft Research Faculty Fellowship | 8300751 |
| United States Department of Defense | 238866 |

This research was supported in part by US National Science Foundation grants IIS-1354123, CNS-1254006, CNS-1249603, OCI-1064230, CNS-1049947, CNS-0917056, and CNS-1025652, Microsoft Research Faculty Fellowship 8300751, and the United States Department of Defense 238866. An early version of this work was presented in the Proceedings of MASS 2011 [40].

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**第 227 条，共 395 条**

**标题:** NCBI disease corpus: A resource for disease name recognition and concept normalization

**作者:** Dogan, RI (Dogan, Rezarta Islamaj); Leaman, R (Leaman, Robert); Lu, ZY (Lu, Zhiyong)

**来源出版物:** JOURNAL OF BIOMEDICAL INFORMATICS **卷:** 47 **页:** 1-10 **DOI:** 10.1016/j.jbi.2013.12.006 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** Information encoded in natural language in biomedical literature publications is only useful if efficient and reliable ways of accessing and analyzing that information are available. Natural language processing and text mining tools are therefore essential for extracting valuable information, however, the development of powerful, highly effective tools to automatically detect central biomedical concepts such as diseases is conditional on the availability of annotated corpora.

This paper presents the disease name and concept annotations of the NCBI disease corpus, a collection of 793 PubMed abstracts fully annotated at the mention and concept level to serve as a research resource for the biomedical natural language processing community. Each PubMed abstract was manually annotated by two annotators with disease mentions and their corresponding concepts in Medical Subject Headings (MeSH(R)) or Online Mendelian Inheritance in Man (OMIM(R)). Manual curation was performed using PubTator, which allowed the use of pre-annotations as a pre-step to manual annotations. Fourteen annotators were randomly paired and differing annotations were discussed for reaching a consensus in two annotation phases. In this setting, a high inter-annotator agreement was observed. Finally, all results were checked against annotations of the rest of the corpus to assure corpus-wide consistency.

The public release of the NCBI disease corpus contains 6892 disease mentions, which are mapped to 790 unique disease concepts. Of these, 88% link to a MeSH identifier, while the rest contain an OMIM identifier. We were able to link 91% of the mentions to a single disease concept, while the rest are described as a combination of concepts. In

order to help researchers use the corpus to design and test disease identification methods, we have prepared the corpus as training, testing and development sets. To demonstrate its utility, we conducted a benchmarking experiment where we compared three different knowledge-based disease normalization methods with a best performance in F-measure of 63.7%. These results show that the NCBI disease corpus has the potential to significantly improve the state-of-the-art in disease name recognition and normalization research, by providing a high-quality gold standard thus enabling the development of machine-learning based approaches for such tasks.
The NCBI disease corpus, guidelines and other associated resources are available at: http://www.ncbi.nlm.nih.gov/CBBresearch/Dogan/DISEASE/. Published by Elsevier Inc.

**文献类型:** Article

**作者关键词:** Disease name recognition; Named entity recognition; Disease name normalization; Corpus annotation; Disease name corpus

**KeyWords Plus:** ANNOTATED CORPUS; INFORMATION EXTRACTION; BIOMEDICAL LITERATURE; ENTITY RECOGNITION; GENE NORMALIZATION; TEXT; SYSTEM; ONTOLOGY; UMLS; TASK

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| NIH, National Library of Medicine | |

We thank the team of 14 annotators for their time and expertise during the annotation of this corpus, and Francois Lang, Lan Aronson, and Jim Mork for help with Metamap, UMLS and other library tools. Funding: This research was supported by the Intramural Research Program of the NIH, National Library of Medicine.

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**第 228 条，共 395 条**

**标题:** Respiratory motion correction in dynamic MRI using robust data decomposition registration - Application to DCE-MRI

**作者:** Hamy, V (Hamy, Valentin); Dikaios, N (Dikaios, Nikolaos); Punwani, S (Punwani, Shonit); Melbourne, A (Melbourne, Andrew); Latifoltojar, A (Latifoltojar, Arash); Makanyanga, J (Makanyanga, Jesica); Chouhan, M (Chouhan, Manil); Helbren, E (Helbren, Emma); Menys, A (Menys, Alex); Taylor, S (Taylor, Stuart); Atkinson, D (Atkinson, David)

**来源出版物:** MEDICAL IMAGE ANALYSIS **卷:** 18 **期:** 2 **页:** 301-313 **DOI:** 10.1016/j.media.2013.10.016 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** Motion correction in Dynamic Contrast Enhanced (DCE-) MRI is challenging because rapid intensity changes can compromise common (intensity based) registration algorithms. In this study we introduce a novel registration technique based on robust principal component analysis (RPCA) to decompose a given time-series into a low rank and a sparse component. This allows robust separation of motion components that can be registered, from intensity variations that are left unchanged. This Robust Data Decomposition Registration (RDDR) is demonstrated on both simulated and a wide range of clinical data. Robustness to different types of motion and breathing choices during acquisition is demonstrated for a variety of imaged organs including liver, small bowel and prostate. The analysis of clinically relevant regions of interest showed both a decrease of error (15-62% reduction following registration) in tissue time-intensity curves and improved areas under the curve (AUC(60)) at early enhancement. (C) 2013 The Authors. Published by Elsevier B.V. This is an open access article under the CC BY-NC-ND license

**文献类型:** Article

**作者关键词:** Registration; Respiratory motion correction; Dynamic contrast-enhanced MRI; Robust principal component analysis

**KeyWords Plus:** CONTRAST-ENHANCED MRI; FREE-FORM DEFORMATION; NONRIGID REGISTRATION; GENERALIZED RECONSTRUCTION; IMAGE REGISTRATION; BREAST IMAGES; TIME-SERIES; PERFUSION; VOLUME

**地址:** [Hamy, Valentin; Dikaios, Nikolaos; Punwani, Shonit; Latifoltojar, Arash; Makanyanga, Jesica; Chouhan, Manil; Helbren, Emma; Menys, Alex; Taylor, Stuart; Atkinson, David] UCL, Ctr Med Imaging, London NW1 2PG, England.
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Institute for Health Research University College London Hospitals Biomedical Research Centre | |

The authors would like to thank Benjamin Tremoulheac for useful discussions on data decomposition. This work was supported by the National Institute for Health Research University College London Hospitals Biomedical Research Centre.

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**第 229 条，共 395 条**

**标题:** Scalable Realistic Rendering with Many-Light Methods

**作者:** Dachsbacher, C (Dachsbacher, Carsten); Krivanek, J (Krivanek, Jaroslav); Hasan, M (Hasan, Milos); Arbree, A (Arbree, Adam); Walter, B (Walter, Bruce); Novak, J (Novak, Jan)

**来源出版物:** COMPUTER GRAPHICS FORUM **卷:** 33 **期:** 1 **页:** 88-104 **DOI:** 10.1111/cgf.12256 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** Recent years have seen increasing attention and significant progress in many-light rendering, a class of methods for efficient computation of global illumination. The many-light formulation offers a unified mathematical framework for the problem reducing the full lighting transport simulation to the calculation of the direct illumination from many virtual light sources. These methods are unrivaled in their scalability: they are able to produce plausible images in a fraction of a second but also converge to the full solution over time. In this state-of-the-art report, we give an easy-to-follow, introductory tutorial of the many-light theory; provide a comprehensive, unified survey of the topic with a comparison of the main algorithms; discuss limitations regarding materials and light transport phenomena and present a vision to motivate and guide future research. We will cover both the fundamental concepts as well as improvements, extensions and applications of many-light rendering.

**文献类型:** Article

**作者关键词:** global illumination; rendering; ray tracing; rendering

**KeyWords Plus:** INTERACTIVE GLOBAL ILLUMINATION; SHADOW MAPS; VISIBILITY; SCENES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Intel Visual Computing Institute in Saarbrucken | |
| DFG | DA 1200/1-1 |
| Czech Science Foundation | P202-13-26189S |

This work was partially supported by the Intel Visual Computing Institute in Saarbrucken, the DFG grant DA 1200/1-1 and the Czech Science Foundation grant P202-13-26189S.

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**第 230 条，共 395 条**

**标题:** Lessons learned - Review of LCAs for ICT products and services

**作者:** Arushanyan, Y (Arushanyan, Yevgeniya); Ekener-Petersen, E (Ekener-Petersen, Elisabeth); Finnveden, G (Finnveden, Goran)

**来源出版物:** COMPUTERS IN INDUSTRY **卷:** 65 **期:** 2 **页:** 211-234 **DOI:** 10.1016/j.compind.2013.10.003 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** Application of information and communication technology (ICT) is often expected to result in decreased environmental impacts. Several studies have, however, also addressed the possibilities of negative impacts. It is therefore important to assess environmental impacts of ICT products and services. Life Cycle Assessment (LCA) is a

tool for assessing the potential impacts of a product or service over the whole life-cycle, i.e. from raw material acquisition to waste management via production and use phases. The aim of this paper is to review LCA studies of ICT products and services, including a few Social Life Cycle Assessment (S-LCA) studies. Many of the studies have considered consumer products, such as computers and TVs. Other consumer products, such as game consoles and TV peripherals, as well as business products, e.g. related to networks, are however more rarely assessed. Manufacturing and use phase have the highest impact in the life cycle. Use phase seems to be the predominant in energy consumption and global warming for some ICT products but for others, especially energy efficient, low weight products, manufacturing may dominate. Rapid technological development is stressed by several authors as a source of variability of results, impacting the production processes and suppliers as well as the content and energy performance of the actual devices. In the future, conducting LCA on ICT, the research community needs to consider the limitations found in the studies conducted so far. It encompasses, among others, the need to address a broad spectrum of environmental impacts, including human and ecotoxicological impacts; modeling actual e-waste management, covering informal management when relevant; and considering user behavior in a realistic way, accounting for rebound and other indirect effects. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Review

**作者关键词:** Life Cycle Assessment (LCA); Information and communication technology (ICT); Environmental impact; Social Life Cycle Assessment (SLCA); Social impact; Electronic devices

**KeyWords Plus:** LIFE-CYCLE ASSESSMENT; GREENHOUSE-GAS EMISSIONS; ENVIRONMENTAL SUSTAINABILITY; COMMUNICATION TECHNOLOGIES; PERSONAL COMPUTERS; IMPACTS; INFORMATION; CHINA; BUSINESS; CRT

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Vinnova | |
| CESC | |

Financial support from Vinnova and partners of CESC is gratefully appreciated. Comments on seminars and earlier drafts of this paper from Asa Moberg and other colleagues have been very helpful.

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**第 231 条，共 395 条**

**标题:** Algorithms for Enhanced Inter-Cell Interference Coordination (eICIC) in LTE HetNets

**作者:** Deb, S (Deb, Supratim); Monogioudis, P (Monogioudis, Pantelis); Miernik, J (Miernik, Jerzy); Seymour, JP (Seymour, James P.)

**来源出版物:** IEEE-ACM TRANSACTIONS ON NETWORKING **卷:** 22 **期:** 1 **页:** 137-150 **DOI:** 10.1109/TNET.2013.2246820 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** The success of LTE heterogeneous networks (HetNets) with macrocells and picocells critically depends on efficient spectrum sharing between high-power macros and low-power picos. Two important challenges in this context are: 1) determining the amount of radio resources that macrocells should offer to picocells, and 2) determining the association rules that decide which user equipments (UEs) should associate with picos. In this paper, we develop a novel algorithm to solve these two coupled problems in a joint manner. Our algorithm has provable guarantee, and furthermore, it accounts for network topology, traffic load, and macro-pico interference map. Our solution is standard compliant and can be implemented using the notion of Almost Blank Subframes (ABS) and Cell Selection Bias (CSB) proposed by LTE standards. We also show extensive evaluations using RF plan from a real network and discuss self-optimized networking (SON)-based enhanced inter-cell interference coordination (eICIC) implementation.

**文献类型:** Article

**作者关键词:** 4G LTE; enhanced inter-cell interference coordination (eICIC); heterogeneous cellular systems; self-optimized networking (SON)

**KeyWords Plus:** PERFORMANCE; NETWORKS

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**第 232 条，共 395 条**
**标题:** A weighted voting framework for classifiers ensembles
**作者:** Kuncheva, LI (Kuncheva, Ludmila I.); Rodriguez, JJ (Rodriguez, Juan J.)
**来源出版物:** KNOWLEDGE AND INFORMATION SYSTEMS **卷:** 38 **期:** 2 **页:** 259-275 **DOI:** 10.1007/s10115-012-0586-6 **出版年:** FEB 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4
**摘要:** We propose a probabilistic framework for classifier combination, which gives rigorous optimality conditions (minimum classification error) for four combination methods: majority vote, weighted majority vote, recall combiner and the naive Bayes combiner. The framework is based on two assumptions: class-conditional independence of the classifier outputs and an assumption about the individual accuracies. The four combiners are derived subsequently from one another, by progressively relaxing and then eliminating the second assumption. In parallel, the number of the trainable parameters increases from one combiner to the next. Simulation studies reveal that if the parameter estimates are accurate and the first assumption is satisfied, the order of preference of the combiners is: naive Bayes, recall, weighted majority and majority. By inducing label noise, we expose a caveat coming from the stability-plasticity dilemma. Experimental results with 73 benchmark data sets reveal that there is no definitive best combiner among the four candidates, giving a slight preference to naive Bayes. This combiner was better for problems with a large number of fairly balanced classes while weighted majority vote was better for problems with a small number of unbalanced classes.
**文献类型:** Article
**作者关键词:** Classifier ensembles; Combination rules; Weighted majority vote; Recall; Naive Bayes
**KeyWords Plus:** COMBINING CLASSIFIERS; FUSION STRATEGIES; RECOGNITION; ACCURACY
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**第 233 条，共 395 条**
**标题:** RNA-seq differential expression studies: more sequence or more replication?
**作者:** Liu, YW (Liu, Yuwen); Zhou, J (Zhou, Jie); White, KP (White, Kevin P.)
**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 3 **页:** 301-304 **DOI:** 10.1093/bioinformatics/btt688 **出版年:** FEB 1 2014
**Web of Science 核心合集中的 "被引频次":** 12
**被引频次合计:** 12
**摘要:** Motivation: RNA-seq is replacing microarrays as the primary tool for gene expression studies. Many RNA-seq studies have used insufficient biological replicates, resulting in low statistical power and inefficient use of sequencing resources.
Results: We show the explicit trade-off between more biological replicates and deeper sequencing in increasing power to detect differentially expressed (DE) genes. In the human cell line MCF7, adding more sequencing depth after 10 M reads gives diminishing returns on power to detect DE genes, whereas adding biological replicates improves power significantly regardless of sequencing depth. We also propose a cost-effectiveness metric for guiding the design of large-scale RNA-seq DE studies. Our analysis showed that sequencing less reads and performing more biological replication is an effective strategy to increase power and accuracy in large-scale differential expression RNA-seq studies, and provided new insights into efficient experiment design of RNA-seq studies.
**文献类型:** Article
**KeyWords Plus:** GENE-EXPRESSION; DESIGN
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Institute of General Medical Sciences | P50GM081892 |
| Searle Funds at The Chicago Community Trust from the Chicago Biomedical Consortium | |

National Institute of General Medical Sciences (P50GM081892) and the Searle Funds at The Chicago Community Trust from the Chicago Biomedical Consortium.

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**第 234 条，共 395 条**

**标题:** ChAMP: 450k Chip Analysis Methylation Pipeline

**作者:** Morris, TJ (Morris, Tiffany J.); Butcher, LM (Butcher, Lee M.); Feber, A (Feber, Andrew); Teschendorff, AE (Teschendorff, Andrew E.); Chakravarthy, AR (Chakravarthy, Ankur R.); Wojdacz, TK (Wojdacz, Tomasz K.); Beck, S (Beck, Stephan)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 3 **页:** 428-430 **DOI:** 10.1093/bioinformatics/btt684 **出版年:** FEB 1 2014

**Web of Science 核心合集中的 "被引频次":** 10

**被引频次合计:** 10

**摘要:** The Illumina Infinium HumanMethylation450 BeadChip is a new platform for high-throughput DNA methylation analysis. Several methods for normalization and processing of these data have been published recently. Here we present an integrated analysis pipeline offering a choice of the most popular normalization methods while also introducing new methods for calling differentially methylated regions and detecting copy number aberrations.

**文献类型:** Article

**KeyWords Plus:** DNA METHYLATION; QUANTILE NORMALIZATION; MICROARRAY; PLATFORM; ARRAY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Heller Research Fellowship | |
| Wellcome Trust | 084071 |
| Royal Society Wolfson Research Merit Award | WM100023 |
| IMI-JU OncoTrack | 115234 |
| EU-FP7 project IDEAL | 259679 |
| EU-FP7 project EPIGENESYS | 257082 |
| EU-FP7 project BLUEPRINT | 282510 |

A.E.T. was supported by a Heller Research Fellowship. The Beck laboratory was supported by the Wellcome Trust (084071), Royal Society Wolfson Research Merit Award (WM100023), IMI-JU OncoTrack (115234) and EU-FP7 projects IDEAL (259679), EPIGENESYS (257082) and BLUEPRINT (282510).

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**第 235 条，共 395 条**

**标题:** Observer-Based Adaptive Decentralized Fuzzy Fault-Tolerant Control of Nonlinear Large-Scale Systems With Actuator Failures

**作者:** Tong, SC (Tong, Shaocheng); Huo, BY (Huo, Baoyu); Li, YM (Li, Yongming)

**来源出版物:** IEEE TRANSACTIONS ON FUZZY SYSTEMS **卷:** 22 **期:** 1 **页:** 1-15 **DOI:** 10.1109/TFUZZ.2013.2241770 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 16

**被引频次合计:** 16

**摘要:** This paper investigates the adaptive fuzzy decentralized fault-tolerant control (FTC) problem for a class of nonlinear large-scale systems in strict-feedback form. The considered nonlinear system contains the unknown nonlinear functions, i.e., unmeasured states and actuator faults, which are modeled as both loss of effectiveness and

lock-in-place. With the help of fuzzy logic systems to approximate the unknown nonlinear functions, a fuzzy adaptive observer is designed to estimate the unmeasured states. By combining the backstepping technique with the nonlinear FTC theory, a novel adaptive fuzzy decentralized FTC scheme is developed. It is proved that the proposed control approach can guarantee that all the signals of the resulting closed-loop system are bounded, and the tracking errors between the system outputs and the reference signals converge to a small neighborhood of zero by appropriate choice of the design parameters. Simulation results are provided to show the effectiveness of the control approach.

**文献类型:** Article

**作者关键词:** Actuator faults; fuzzy adaptive control; fuzzy fault-tolerant control (FTC); nonlinear systems

**KeyWords Plus:** OUTPUT-FEEDBACK CONTROL; DISCRETE-TIME-SYSTEMS; TRACKING CONTROL; NEURAL-NETWORKS; INTERCONNECTED SYSTEMS; DESIGN; DELAY; STABILIZATION; COMPENSATION; VEHICLE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61074014<br>61203008 |
| Liaoning Innovative Research Team in University | LT2012013 |

This work was supported by the National Natural Science Foundation of China under Grant 61074014 and Grant 61203008 and by the Liaoning Innovative Research Team in University under Grant LT2012013.

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**第 236 条，共 395 条**

**标题:** Consistency Measures for Hesitant Fuzzy Linguistic Preference Relations

**作者:** Zhu, B (Zhu, Bin); Xu, ZS (Xu, Zeshui)

**来源出版物:** IEEE TRANSACTIONS ON FUZZY SYSTEMS **卷:** 22 **期:** 1 **页:** 35-45 **DOI:** 10.1109/TFUZZ.2013.2245136 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 14

**被引频次合计:** 14

**摘要:** Hesitant fuzzy linguistic term sets (HFLTSs) are used to deal with situations in which the decision makers (DMs) think of several possible linguistic values or richer expressions than a single term for an indicator, alternative, variable, etc. Compared with fuzzy linguistic approaches, they are more convenient and flexible to reflect the DMs' preferences in decision making. For further applications of HFLTSs to decision making, we develop a concept of hesitant fuzzy linguistic preference relations (HFLPRs) as a tool to collect and present the DMs' preferences. Due to the importance of the consistency measures using preference relations in decision making, we develop some consistency measures for HFLPRs to ensure that the DMs are being neither random nor illogical. A consistency index is defined to establish the consistency thresholds of HFLPRs to measure whether an HFLPR is of acceptable consistency. For HFLPRs with unacceptable consistency, we develop two optimization methods to improve the consistency until they are acceptable. Several illustrative examples are given to validate the consistency measures and the optimization methods.

**文献类型:** Article

**作者关键词:** Consistency index; consistency measures; hesitant fuzzy linguistic preference relation (HFLPR); hesitant fuzzy linguistic term set (HFLTS)

**KeyWords Plus:** GROUP DECISION-MAKING; CONSENSUS SUPPORT-SYSTEM; RECIPROCAL MATRICES; SCALING METHOD; AGGREGATION; SETS; INFORMATION; PRIORITIES; OPERATORS; LABELS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 71071161<br>61273209 |

| | |
|---|---|
| Innovation Foundation of Jiangsu Province | CXZZ12_0132 |
| Best New Ph.D. of China Foundation | |

This work was supported in part by the National Natural Science Foundation of China under Grant 71071161 and Grant 61273209, in part by the Innovation Foundation of Jiangsu Province under Grant CXZZ12_0132, and in part by the Best New Ph.D. of China Foundation.

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**第 237 条，共 395 条**

**标题:** Some Hamacher Aggregation Operators Based on the Interval-Valued Intuitionistic Fuzzy Numbers and Their Application to Group Decision Making

**作者:** Liu, PD (Liu, Peide)

**来源出版物:** IEEE TRANSACTIONS ON FUZZY SYSTEMS **卷:** 22 **期:** 1 **页:** 83-97 **DOI:** 10.1109/TFUZZ.2013.2248736 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 16

**被引频次合计:** 16

**摘要:** With respect to multiple attribute group decision-making problems in which attribute values take the form of the interval-valued intuitionistic fuzzy numbers, the group decision-making methods based on some Hamacher aggregation operators, which extended the algebraic aggregation operators and Einstein aggregation operators, are developed. First, an interval-valued intuitionistic fuzzy Hamacher weighted averaging operator, interval-valued intuitionistic fuzzy Hamacher-ordered weighted averaging operator, interval-valued intuitionistic fuzzy Hamacher hybrid weighted averaging operator, interval-valued intuitionistic fuzzy Hamacher geometric weighted averaging operator, interval-valued intuitionistic fuzzy Hamacher geometric-ordered weighted averaging operator, and interval-valued intuitionistic fuzzy Hamacher geometric hybrid weighted averaging operator are proposed. Some desirable properties of these operators, such as commutativity, idempotency, monotonicity, and boundedness, are studied, and some special cases in these operators are analyzed. Furthermore, two methods to multicriteria decision group making based on these operators are developed. Finally, an illustrative example is given to verify the proposed methods and to demonstrate their practicality and effectiveness.

**文献类型:** Article

**作者关键词:** Group decision making; Hamacher aggregation operators; interval-valued intuitionistic fuzzy numbers (IVIFNs); multiple attribute decision making (MADM)

**KeyWords Plus:** EINSTEIN OPERATIONS; SETS; DISTANCE; WEIGHTS; ENTROPY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 71271124 |
| Humanities and Social Sciences Research Project of Ministry of Education of China | 10YJA630073<br>09YJA630088 |
| Natural Science Foundation of Shandong Province | ZR2011FM036 |
| Graduate education innovation projects of Shandong Province | SDYY12065 |

This work was supported by the National Natural Science Foundation of China under Grant 71271124, the Humanities and Social Sciences Research Project of Ministry of Education of China under Grant 10YJA630073 and Grant 09YJA630088, the Natural Science Foundation of Shandong Province under Grant ZR2011FM036, and Graduate education innovation projects of Shandong Province (SDYY12065).

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**第 238 条，共 395 条**

**标题:** Fuzzy Clustering With a Modified MRF Energy Function for Change Detection in Synthetic Aperture Radar Images

**作者:** Gong, MG (Gong, Maoguo); Su, LZ (Su, Linzhi); Jia, M (Jia, Meng); Chen, WS (Chen, Weisheng)

**来源出版物:** IEEE TRANSACTIONS ON FUZZY SYSTEMS **卷:** 22 **期:** 1 **页:** 98-109 **DOI:** 10.1109/TFUZZ.2013.2249072 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** In this paper, we put forward a novel approach for change detection in synthetic aperture radar (SAR) images. The approach classifies changed and unchanged regions by fuzzy c-means (FCM) clustering with a novel Markov

random field (MRF) energy function. In order to reduce the effect of speckle noise, a novel form of the MRF energy function with an additional term is established to modify the membership of each pixel. In addition, the degree of modification is determined by the relationship of the neighborhood pixels. The specific form of the additional term is contingent upon different situations, and it is established ultimately by utilizing the least-square method. There are two aspects to our contributions. First, in order to reduce the effect of speckle noise, the proposed approach focuses on modifying the membership instead of modifying the objective function. It is computationally simple in all the steps involved. Its objective function can just return to the original form of FCM, which leads to its consuming less time than that of some obviously recently improved FCM algorithms. Second, the proposed approach modifies the membership of each pixel according to a novel form of the MRF energy function through which the neighbors of each pixel, as well as their relationship, are concerned. Theoretical analysis and experimental results on real SAR datasets show that the proposed approach can detect the real changes as well as mitigate the effect of speckle noises. Theoretical analysis and experiments also demonstrate its low time complexity.

**文献类型:** Article

**作者关键词:** Fuzzy clustering; image change detection; Markov random field (MRF); synthetic aperture radar (SAR)

**KeyWords Plus:** MULTITEMPORAL SAR IMAGES; MULTIPLE-SCLEROSIS; SEGMENTATION; DISTRIBUTIONS; ALGORITHMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61273317 |
| National Top Youth Talents Support Program of China | |
| Fundamental Research Fund for the Central Universities | K50510020001<br>K5051202053 |

This work was supported by the National Natural Science Foundation of China under Grant 61273317, the National Top Youth Talents Support Program of China, and the Fundamental Research Fund for the Central Universities under Grant K50510020001 and Grant K5051202053.

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**第 239 条，共 395 条**

**标题:** Adaptive Fuzzy Robust Output Feedback Control of Nonlinear Systems With Unknown Dead Zones Based on a Small-Gain Approach

**作者:** Li, YM (Li, Yongming); Tong, SC (Tong, Shaocheng); Liu, YJ (Liu, Yanjun); Li, TS (Li, Tieshan)

**来源出版物:** IEEE TRANSACTIONS ON FUZZY SYSTEMS **卷:** 22 **期:** 1 **页:** 164-176 **DOI:** 10.1109/TFUZZ.2013.2249585 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 16

**被引频次合计:** 16

**摘要:** In this paper, an adaptive fuzzy robust output feedback control problem is considered for a class of single-input and single-output nonlinear systems in a strict-feedback form. The considered systems possess the unstructured uncertainties, unknown dead zone, and the dynamics uncertainties, and they do not assume the states being available for the controller design. In the controller design, fuzzy logic systems are first used to approximate the unstructured uncertainties, and by utilizing the information of the bounds of the dead-zone slopes and treating the time-varying inputs coefficients as a system uncertainty, a fuzzy state observer is designed to estimate the unmeasured states. By combining a back-stepping technique with a nonlinear small-gain approach, a new adaptive fuzzy robust output feedback control has been developed. It is proved that the proposed fuzzy adaptive control approach can guarantee the semiglobal uniform ultimate boundedness for all the solutions of the closed-loop systems. Simulation studies and comparisons with previous methods are included to illustrate the effectiveness of the proposed approach.

**文献类型:** Article

**作者关键词:** Backstepping technique; dynamic uncertainties; fuzzy adaptive control; nonlinear system; small gain approach; unknown dead zone

**KeyWords Plus:** NETWORK TRACKING CONTROL; DYNAMIC SURFACE CONTROL; STABILITY; INPUT; UNCERTAINTIES; OBSERVER; THEOREM; DESIGN; DELAY; MODEL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61203008<br>61074014<br>51179019 |
| Program for Liaoning Innovative Research Team in University | LT2012013 |
| Program for Liaoning Excellent Talents in University | LR2012016 |
| Natural Science Foundation of Liaoning Province | 20102012 |

This work was supported in part by the National Natural Science Foundation of China under Grant 61203008, Grant 61074014, and Grant 51179019, the Program for Liaoning Innovative Research Team in University under Grant LT2012013, the Program for Liaoning Excellent Talents in University under Grant LR2012016, and the Natural Science Foundation of Liaoning Province under Grant 20102012.

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**第 240 条，共 395 条**

**标题:** H-infinity Fuzzy Control With Randomly Occurring Infinite Distributed Delays and Channel Fadings

**作者:** Zhang, SJ (Zhang, Sunjie); Wang, ZD (Wang, Zidong); Ding, DR (Ding, Derui); Shu, HS (Shu, Huisheng)

**来源出版物:** IEEE TRANSACTIONS ON FUZZY SYSTEMS **卷:** 22 **期:** 1 **页:** 189-200 **DOI:** 10.1109/TFUZZ.2013.2249587 **出版年:** FEB 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5

**摘要:** In this paper, the H-infinity output-feedback control problem is investigated for a class of discrete-time fuzzy systems with randomly occurring infinite distributed delays and channel fadings. A random variable obeying the Bernoulli distribution is introduced to account for the probabilistic infinite distributed delays. The stochastic Rice fading model is employed to simultaneously describe the phenomena of random time delays and channel fadings via setting different values of the channel coefficients. The aim of this paper is to design an H-infinity output-feedback fuzzy controller such that the closed-loop Takagi-Sugeno (T-S) fuzzy control system is exponentially mean-square stable, and the disturbance rejection attenuation is constrained to a given level by means of the H-infinity performance index. Intensive analysis is carried out to obtain sufficient conditions for the existence of desired output-feedback controllers, ensuring both the exponential mean-square stability and the prescribed H-infinity performance. The cone-complementarity linearization algorithm is utilized to cast the controller design problem into a sequential minimization: one that is solvable by the semi-definite programming method. A simulation result is exploited to illustrate the usefulness and effectiveness of the proposed design technique.

**文献类型:** Article
**作者关键词:** Channel fadings; discrete-time systems; fuzzy control; H-infinity control; randomly occurring infinite distributed delays
**KeyWords Plus:** DISCRETE-TIME-SYSTEMS; MISSING MEASUREMENTS; MATRIX INEQUALITIES; STOCHASTIC-SYSTEMS; STATE ESTIMATION; OUTPUT-FEEDBACK; STABILIZATION; DESIGN

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61134009<br>61203139 |
| Natural Science Foundation of Universities in Anhui Province of China | KJ2011B030 |
| Royal Society of the U.K. | |
| Alexander von Humboldt Foundation of Germany | |

This work was supported in part by the National Natural Science Foundation of China under Grant 61134009 and

Grant 61203139, the Natural Science Foundation of Universities in Anhui Province of China under Grant KJ2011B030, the Royal Society of the U.K., and the Alexander von Humboldt Foundation of Germany.

**第 241 条，共 395 条**

**标题:** On Energy-to-Peak Filtering for Nonuniformly Sampled Nonlinear Systems: A Markovian Jump System Approach

**作者:** Zhang, H (Zhang, Hui); Shi, Y (Shi, Yang); Wang, JM (Wang, Junmin)

**来源出版物:** IEEE TRANSACTIONS ON FUZZY SYSTEMS **卷:** 22 **期:** 1 **页:** 212-222 **DOI:** 10.1109/TFUZZ.2013.2250291 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 26

**被引频次合计:** 26

**摘要:** This paper focuses on the filter design for nonuniformly sampled nonlinear systems which can be approximated by Takagi-Sugeno (T-S) fuzzy systems. The sampling periods of the measurements are time varying, and the nonuniform observations of the outputs are modeled by a homogenous Markov chain. A mode-dependent estimator with a fast sampling frequency is proposed such that the estimation can track the signal to be estimated with the nonuniformly sampled outputs. The nonlinear systems are discretized with the fast sampling period. By using an augmentation technique, the corresponding stochastic estimation error system is obtained. By studying the stochastic stability and the energy-to-peak performance of the estimation error system, we derive the linear-matrix-inequality-based sufficient conditions. The parameters of the mode-dependent estimator can be calculated by using the proposed iterative algorithm. Two examples are used to demonstrate the design procedure and the efficacy of the proposed design method.

**文献类型:** Article

**作者关键词:** Energy-to-peak filtering; linear matrix inequalities; nonlinear systems; nonuniform sampling; Takagi-Sugeno (T-S) fuzzy systems

**KeyWords Plus:** S FUZZY-MODEL; NETWORKED CONTROL-SYSTEMS; TIME-VARYING DELAY; H-INFINITY; INTERCONNECTED SYSTEMS; STABILITY ANALYSIS; DESIGN

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Science Foundation of China | 61374213 |

This work was partially supported by National Science Foundation of China (61374213).

**第 242 条，共 395 条**

**标题:** A multi-gene genetic programming model for estimating stress-dependent soil water retention curves

**作者:** Garg, A (Garg, Akhil); Garg, A (Garg, Ankit); Tai, K (Tai, K.)

**来源出版物:** COMPUTATIONAL GEOSCIENCES **卷:** 18 **期:** 1 **页:** 45-56 **DOI:** 10.1007/s10596-013-9381-z **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** Soil water retention curve (SWRC) is an important parameter required for seepage modelling in unsaturated soil and is used for analysing rainfall-induced slope failures, design of waste contaminant liners and cover, etc. The influence of stress, which is one of constitutive variables that governs unsaturated soil behaviour on the SWRC, has been well recognised by researchers. Stress is essential for study as it drastically alters the soil fabric which includes macropores, minipores and micropores and thus affects the ability of soil to retain water. Various computational modelling techniques that formulate models based on existing databases such as UNSODA, ISRIC and HYPRES for the estimation of SWRC do not take into account the stress influence on soil behaviour. In the present work, three artificial intelligence (AI) methods of support vector regression, artificial neural network and multi-gene genetic programming (MGGP) have been applied to formulate the mathematical relationship between the water content and input variables such as stress and suction (i.e. stress-dependent soil water characteristic curves (SDSWRCs)). The results indicate that the MGGP model outperforms the other two models and is able to extrapolate the water content values satisfactorily along the stress value of 800 kPa. This MGGP model can then be deployed by experts for the estimation of SDSWRCs, thus eliminating the need for conducting costly and time-consuming experiments.

**文献类型:** Article

**作者关键词:** Multi-gene genetic programming; SDSWRC; Economical; GPTIPS; LS-SVM

**KeyWords Plus:** ARTIFICIAL NEURAL-NETWORKS; PARTICLE-SIZE DISTRIBUTION; HYDRAULIC CONDUCTIVITY; BULK-DENSITY; REGRESSION; PREDICTION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Singapore Ministry of Education Academic Research Fund | RG30/10 |

This work was partially supported by the Singapore Ministry of Education Academic Research Fund through research grant RG30/10, which the authors gratefully acknowledge.

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**第 243 条，共 395 条**

**标题:** Target Identification Using Dictionary Matching of Generalized Polarization Tensors

**作者:** Ammari, H (Ammari, Habib); Boulier, T (Boulier, Thomas); Garnier, J (Garnier, Josselin); Jing, WJ (Jing, Wenjia); Kang, H (Kang, Hyeonbae); Wang, H (Wang, Han)

**来源出版物:** FOUNDATIONS OF COMPUTATIONAL MATHEMATICS **卷:** 14 **期:** 1 **页:** 27-62 **DOI:** 10.1007/s10208-013-9168-6 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** The aim of this paper is to provide a fast and efficient procedure for (real-time) target identification in imaging based on matching on a dictionary of precomputed generalized polarization tensors (GPTs). The approach is based on some important properties of the GPTs and new invariants. A new shape representation is given and numerically tested in the presence of measurement noise. The stability and resolution of the proposed identification algorithm is numerically quantified. We compare the proposed GPT-based shape representation with a moment-based one.

**文献类型:** Article

**作者关键词:** Generalized polarization tensors; Target identification; Shape representation; Stability analysis

**KeyWords Plus:** BOUNDARY MEASUREMENTS; IMAGE-ANALYSIS; SMALL-DIAMETER; PART I; CONDUCTIVITY; RECONSTRUCTION; MOMENTS; INHOMOGENEITIES; DEPENDENCE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| ERC | MULTIMOD-267184 |
| NRF | 2009-0090250<br>2010-0017532 |

This work was supported by ERC Advanced Grant Project MULTIMOD-267184 and NRF grants No. 2009-0090250 and 2010-0017532.

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**第 244 条，共 395 条**

**标题:** Discrete Morse Theoretic Algorithms for Computing Homology of Complexes and Maps

**作者:** Harker, S (Harker, Shaun); Mischaikow, K (Mischaikow, Konstantin); Mrozek, M (Mrozek, Marian); Nanda, V (Nanda, Vidit)

**来源出版物:** FOUNDATIONS OF COMPUTATIONAL

MATHEMATICS **卷:** 14 **期:** 1 **页:** 151-184 **DOI:** 10.1007/s10208-013-9145-0 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** We provide explicit and efficient reduction algorithms based on discrete Morse theory to simplify homology computation for a very general class of complexes. A set-valued map of top-dimensional cells between such complexes is a natural discrete approximation of an underlying (and possibly unknown) continuous function, especially when the evaluation of that function is subject to measurement errors. We introduce a new Morse theoretic preprocessing framework for deriving chain maps from such set-valued maps, and hence provide an effective scheme for computing the morphism induced on homology by the approximated continuous function.

**文献类型:** Article

**作者关键词:** Computational homology; Discrete Morse theory

**KeyWords Plus:** COREDUCTION HOMOLOGY; PERSISTENT HOMOLOGY; COMPUTATION; CONSTRUCTION; TOPOLOGY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| NSF | DMS-0915019<br>DMS-1125174<br>CBI-0835621 |
| DARPA | |
| AFOSR | |
| NCN of Poland | N N201 419639 |

The work of S.H., K.M., and V.N. was partially supported by NSF grants DMS-0915019, DMS-1125174, and CBI-0835621 and by contracts from DARPA and AFOSR. The work of M.M. was partially supported by NCN of Poland, grant N N201 419639.

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**第 245 条，共 395 条**

**标题:** Population Classification in Fire Evacuation: A Multiobjective Particle Swarm Optimization Approach

**作者:** Zheng, YJ (Zheng, Yu-Jun); Ling, HF (Ling, Hai-Feng); Xue, JY (Xue, Jin-Yun); Chen, SY (Chen, Sheng-Yong)

**来源出版物:** IEEE TRANSACTIONS ON EVOLUTIONARY COMPUTATION **卷:** 18 **期:** 1 **特刊:** SI **页:** 70-81 **DOI:** 10.1109/TEVC.2013.2281396 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 6

**摘要:** In an emergency evacuation operation, accurate classification of the evacuee population can provide important information to support the responders in decision making; and therefore, makes a great contribution in protecting the population from potential harm. However, real-world data of fire evacuation is often noisy, incomplete, and inconsistent, and the response time of population classification is very limited. In this paper, we propose an effective multiobjective particle swarm optimization method for population classification in fire evacuation operations, which simultaneously optimizes the precision and recall measures of the classification rules. We design an effective approach for encoding classification rules, and use a comprehensive learning strategy for evolving particles and maintaining diversity of the swarm. Comparative experiments show that the proposed method performs better than some state-of-the-art methods for classification rule mining, especially on the real-world fire evacuation dataset. This paper also reports a successful application of our method in a real-world fire evacuation operation that recently occurred in China. The method can be easily extended to many other multiobjective rule mining problems.

**文献类型:** Article

**作者关键词:** Classification rules; data mining; fire evacuation; multiobjective evolutionary algorithms; particle swarm optimization

**KeyWords Plus:** ANT COLONY OPTIMIZATION; EVOLUTIONARY ALGORITHMS; GENETIC ALGORITHM; KNOWLEDGE DISCOVERY; RULE DISCOVERY; INDUCTION; MINER

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation | 61020106009<br>61105073<br>61173096<br>61272075 |
| Zhejiang Provincial Natural Science Foundation of China | R1110679 |

This work was supported in part by the National Natural Science Foundation under Grants 61020106009, 61105073, 61173096, and 61272075 and in part by the Zhejiang Provincial Natural Science Foundation of China under Grant R1110679.

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**第 246 条，共 395 条**

**标题:** Complex Network Clustering by Multiobjective Discrete Particle Swarm Optimization Based on Decomposition

**作者:** Gong, MG (Gong, Maoguo); Cai, Q (Cai, Qing); Chen, XW (Chen, Xiaowei); Ma, LJ (Ma, Lijia)

**来源出版物:** IEEE TRANSACTIONS ON EVOLUTIONARY COMPUTATION **卷:** 18 **期:** 1 **特刊:** SI **页:** 82-97 **DOI:** 10.1109/TEVC.2013.2260862 **出版年:** FEB 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4

**摘要:** The field of complex network clustering has been very active in the past several years. In this paper, a discrete framework of the particle swarm optimization algorithm is proposed. Based on the proposed discrete framework, a multiobjective discrete particle swarm optimization algorithm is proposed to solve the network clustering problem. The decomposition mechanism is adopted. A problem-specific population initialization method based on label propagation and a turbulence operator are introduced. In the proposed method, two evaluation objectives termed as kernel k-means and ratio cut are to be minimized. However, the two objectives can only be used to handle unsigned networks. In order to deal with signed networks, they have been extended to the signed version. The clustering performances of the proposed algorithm have been validated on signed networks and unsigned networks. Extensive experimental studies compared with ten state-of-the-art approaches prove that the proposed algorithm is effective and promising.

**文献类型:** Article
**作者关键词:** Clustering; complex networks; evolutionary algorithm; multiobjective optimization; particle swarm optimization
**KeyWords Plus:** COMMUNITY DETECTION; GENETIC ALGORITHM; EVOLUTIONARY ALGORITHM; SOCIAL NETWORKS; VERSION; WEB

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61273317 |
| National Top Youth Talents Support Program of China | |
| Fundamental Research Fund for the Central Universities | K50510020001<br>K5051202053 |

This work was supported in part by the National Natural Science Foundation of China under Grant 61273317, the National Top Youth Talents Support Program of China, and the Fundamental Research Fund for the Central Universities under Grants K50510020001 and K5051202053.

**第 247 条，共 395 条**

**标题:** Static hand gesture recognition using neural networks

**作者:** Hasan, H (Hasan, Haitham); Abdul-Kareem, S (Abdul-Kareem, S.)

**来源出版物:** ARTIFICIAL INTELLIGENCE REVIEW **卷:** 41 **期:** 2 **页:** 147-181 **DOI:** 10.1007/s10462-011-9303-1 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** This paper presents a novel technique for hand gesture recognition through human-computer interaction based on shape analysis. The main objective of this effort is to explore the utility of a neural network-based approach to the recognition of the hand gestures. A unique multi-layer perception of neural network is built for classification by using back-propagation learning algorithm. The goal of static hand gesture recognition is to classify the given hand gesture data represented by some features into some predefined finite number of gesture classes. The proposed system presents a recognition algorithm to recognize a set of six specific static hand gestures, namely: Open, Close, Cut, Paste, Maximize, and Minimize. The hand gesture image is passed through three stages, preprocessing, feature extraction, and classification. In preprocessing stage some operations are applied to extract the hand gesture from its background and prepare the hand gesture image for the feature extraction stage. In the first method, the hand contour is used as a feature which treats scaling and translation of problems (in some cases). The complex moment algorithm is, however, used to describe the hand gesture and treat the rotation problem in addition to the scaling and translation. The algorithm used in a multi-layer neural network classifier which uses back-propagation learning algorithm. The results show that the first method has a performance of 70.83% recognition, while the second method, proposed in this article, has a better performance of 86.38% recognition rate.

**文献类型:** Article

**作者关键词:** Gesture recognition; Hand gestures; Artificial neural network; Human-computer interaction; Computer vision

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**第 248 条，共 395 条**

**标题:** Homology modeling and docking studies of BjGL, a novel (+) gamma-lactamase from Bradyrhizobium japonicum

**作者:** Song, DW (Song, Dawei); Zhu, SZ (Zhu, Shaozhou); Li, XZ (Li, Xingzhou); Zheng, GJ (Zheng, Guojun)

**来源出版物:** JOURNAL OF MOLECULAR GRAPHICS & MODELLING **卷:** 47 **页:** 1-7 **DOI:** 10.1016/j.jmgm.2013.10.006 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** (+) Gamma-lactamases are enantioselective hydrolysis enzymes that can be used to produce optically pure (-) gamma-lactam, an important pharmaceutical intermediate for the anti-AIDS drug Abacavir. In this study, homology modeling and molecular dynamic simulation studies of a 3D homology model of BjGL, a novel (+) gamma-lactamase from Bradyrhizobium japonicum, were constructed and refined. The specific substrate (+) gamma-lactam and its enantiomer (-) gamma-lactam which can not be hydrolyzed was docked into the active site respectively, and the catalytic triad and other crucial residues that participate in the formation of the hydrophobic binding pocket, hydrogen bonds, and the oxyanion hole were identified. Furthermore, possible reasons for the high diastereoselectivity of BjGL binding with the substrate are proposed. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Homology modeling; (+) Gamma-lactamases; Molecular docking; BjGL; Enantioselective hydrolysis

**KeyWords Plus:** MOLECULAR-DYNAMICS SIMULATION; SIGNATURE AMIDASE; BINDING-SITES; ENZYMES; CRYSTALLIZATION; BIOCATALYSIS; RESOLUTION; ALGORITHM

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**第 249 条，共 395 条**

**标题:** The expansion of Google Scholar versus Web of Science: a longitudinal study

**作者:** de Winter, JCF (de Winter, Joost C. F.); Zadpoor, AA (Zadpoor, Amir A.); Dodou, D (Dodou, Dimitra)

**来源出版物:** SCIENTOMETRICS **卷:** 98 **期:** 2 **页:** 1547-1565 **DOI:** 10.1007/s11192-013-1089-2 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 8

**摘要:** Web of Science (WoS) and Google Scholar (GS) are prominent citation services with distinct indexing mechanisms. Comprehensive knowledge about the growth patterns of these two citation services is lacking. We analyzed the development of citation counts in WoS and GS for two classic articles and 56 articles from diverse research fields, making a distinction between retroactive growth (i.e., the relative difference between citation counts up to mid-2005 measured in mid-2005 and citation counts up to mid-2005 measured in April 2013) and actual growth (i.e., the relative difference between citation counts up to mid-2005 measured in April 2013 and citation counts up to April 2013 measured in April 2013). One of the classic articles was used for a citation-by-citation analysis. Results showed that GS has substantially grown in a retroactive manner (median of 170 % across articles), especially for articles that initially had low citations counts in GS as compared to WoS. Retroactive growth of WoS was small, with a median of 2 % across articles. Actual growth percentages were moderately higher for GS than for WoS (medians of 54 vs. 41 %). The citation-by-citation analysis showed that the percentage of citations being unique in WoS was lower for more recent citations (6.8 % for citations from 1995 and later vs. 41 % for citations from before 1995), whereas the opposite was noted for GS (57 vs. 33 %). It is concluded that, since its inception, GS has shown substantial expansion, and that the majority of recent works indexed in WoS are now also retrievable via GS. A discussion is provided on quantity versus quality of citations, threats for WoS, weaknesses of GS, and implications for literature research and research evaluation.

**文献类型:** Article

**作者关键词:** Automatic indexing; Citation classic; Citation Index; Historic trend; Most highly cited paper; Strengths and weaknesses

**KeyWords Plus:** CITATION ANALYSIS; OF-SCIENCE; SCOPUS; COVERAGE; INDEXES; DOCUMENTATION; PUBLICATION; ASSOCIATION; DATABASES; DIMENSION

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**第 250 条，共 395 条**

**标题:** On the Dispersions of Three Network Information Theory Problems

**作者:** Tan, VYF (Tan, Vincent Y. F.); Kosut, O (Kosut, Oliver)

**来源出版物:** IEEE TRANSACTIONS ON INFORMATION THEORY **卷:** 60 **期:** 2 **页:** 881-903 **DOI:** 10.1109/TIT.2013.2291231 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** We analyze the dispersions of distributed lossless source coding (the Slepian-Wolf problem), the multiple-access channel, and the asymmetric broadcast channel. For the two-encoder Slepian-Wolf problem, we introduce a quantity known as the entropy dispersion matrix, which is analogous to the scalar dispersions that have gained interest recently. We prove a global dispersion result that can be expressed in terms of this entropy dispersion matrix and provides intuition on the approximate rate losses at a given blocklength and error probability. To gain better intuition about the rate at which the nonasymptotic rate region converges to the Slepian-Wolf boundary, we define and characterize two operational dispersions: 1) the local dispersion and 2) the weighted sum-rate dispersion. The former represents the rate of convergence to a point on the Slepian-Wolf boundary, whereas the latter represents the fastest rate for which a weighted sum of the two rates converges to its asymptotic fundamental limit. Interestingly, when we approach either of the two corner points, the local dispersion is characterized not by a univariate Gaussian, but a bivariate one as well as a subset of off-diagonal elements of the aforementioned entropy dispersion matrix. Finally, we demonstrate the versatility of our achievability proof technique by providing inner bounds for the multiple-access channel and the asymmetric broadcast channel in terms of dispersion matrices. All our proofs are unified by a so-called vector rate redundancy theorem, which is proved using the multidimensional Berry-Esseen theorem.

**文献类型:** Article

**作者关键词:** Dispersion; second-order coding rates; network information theory; Slepian-Wolf; multiple-access channel; asymmetric broadcast channel

**KeyWords Plus:** BROADCAST CHANNELS; SPECTRUM APPROACH; CODING THEOREMS; WOLF

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Agency for Science, Technology and Research, Singapore | |
| Shell Global Solutions International B. V. | |

Manuscript received January 18, 2012; revised May 27, 2013; accepted November 11, 2013. Date of publication November 14, 2013; date of current version January 15, 2014. V. Y. F. Tan was supported by a fellowship from the Agency for Science, Technology and Research, Singapore. O. Kosut was supported by Shell Global Solutions International B. V. This paper was presented at the 2012 Information Theory and Applications Workshop, the 2012 Conference on Information Sciences and Systems, and the 2012 IEEE International Symposium on Information Theory.

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**第 251 条，共 395 条**

**标题:** Fast Sparse Superposition Codes Have Near Exponential Error Probability for R < C

**作者:** Joseph, A (Joseph, Antony); Barron, AR (Barron, Andrew R.)

**来源出版物:** IEEE TRANSACTIONS ON INFORMATION THEORY **卷:** 60 **期:** 2 **页:** 919-942 **DOI:** 10.1109/TIT.2013.2289865 **出版年:** FEB 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4

**摘要:** For the additive white Gaussian noise channel with average codeword power constraint, sparse superposition codes are developed. These codes are based on the statistical high-dimensional regression framework. In a previous paper, we investigated decoding using the optimal maximum-likelihood decoding scheme. Here, a fast decoding algorithm, called the adaptive successive decoder, is developed. For any rate less than the capacity C, communication is shown to be reliable with nearly exponentially small error probability. Specifically, for blocklength n, it is shown that the error probability is exponentially small in n/log n.

**文献类型:** Article
**作者关键词:** Gaussian channel; subset selection; compressed sensing; multiuser detection; orthogonal matching pursuit; greedy algorithms; successive cancelation decoding; error exponents; achieving channel capacity
**KeyWords Plus:** ORTHOGONAL MATCHING PURSUIT; VARIABLE SELECTION; THEORETIC LIMITS; MODEL SELECTION; RATE-DISTORTION; APPROXIMATION; RECOVERY; LASSO; REGRESSION; DICTIONARIES

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**第 252 条，共 395 条**

**标题:** An improved distributed data aggregation scheduling in wireless sensor networks

**作者:** Li, DY (Li, Deying); Zhu, QH (Zhu, Qinghua); Du, HW (Du, Hongwei); Li, JZ (Li, Jianzhong)

**来源出版物:** JOURNAL OF COMBINATORIAL OPTIMIZATION **卷:** 27 **期:** 2 **页:** 221-240 **DOI:** 10.1007/s10878-012-9504-9 **出版年:** FEB 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 7

**摘要:** This paper focuses on the distributed data aggregation collision-free scheduling problem, which is one of very important issues in wireless sensor networks. Bo et al. (Proc. IEEE INFOCOM, 2009) proposed an approximate distributed algorithm for the problem and Xu et al. (Proc. ACM FOWANC, 2009) proposed a centralized algorithm and its distributed implementation to generate a collision-free scheduling for the problem, which are the only two existing distributed algorithms. Unfortunately, there are a few mistakes in their performance analysis in Bo et al. (Proc. IEEE INFOCOM, 2009), and the distributed algorithm can not get the same latency as the centralized algorithm because the distributed implementation was not an accurate implementation of the centralized algorithm (Xu et al. in Proc. ACM FOWANC, 2009). According to those, we propose an improved distributed algorithm to generate a collision-free schedule for data aggregation in wireless sensor networks. Not an arbitrary tree in Bo et al. (Proc. IEEE INFOCOM, 2009) but a breadth first search tree (BFS) rooted at the sink node is adopted, the bounded

latency 61R+5 Delta-67 of the schedule is obtained, where R is the radius of the network with respect to the sink node and Delta is the maximum node degree. We also correct the latency bound of the schedule in Bo et al. (Proc. IEEE INFOCOM, 2009) as 61D+5 Delta-67, where D is a diameter of the network and prove that our algorithm is more efficient than the algorithm (Bo et al. in Proc. IEEE INFOCOM, 2009). We also give a latency bound for the distributed implementation in Xu et al. (Proc. ACM FOWANC, 2009).

**文献类型:** Article

**作者关键词:** Distributed approximation algorithm; Data aggregation scheduling; Collision-free; Latency; Wireless sensor networks

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61070191<br>91124001<br>61100191 |
| Fundamental Research Funds for the Central Universities | |
| Research Funds of Renmin University of China | 10XNJ032 |
| Research Fund for the Doctoral Program of Higher Education of China | 20100004110001 |
| Natural Scientific Research Innovation Foundation of Harbin Institute of Technology | 2011128 |

This paper was jointly supported in part by National Natural Science Foundation of China under grants 61070191 and 91124001, the Fundamental Research Funds for the Central Universities, and the Research Funds of Renmin University of China under grant 10XNJ032, and Research Fund for the Doctoral Program of Higher Education of China under grant 20100004110001. Dr. Du was supported in part by National Natural Science Foundation of China under grant 61100191 and Natural Scientific Research Innovation Foundation of Harbin Institute of Technology under Project 2011128.

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**第 253 条，共 395 条**

**标题:** Computer simulation of MHD blood conveying gold nanoparticles as a third grade non-Newtonian nanofluid in a hollow porous vessel

**作者:** Hatami, M (Hatami, M.); Hatami, J (Hatami, J.); Ganji, DD (Ganji, D. D.)

**来源出版物:** COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE **卷:** 113 **期:** 2 **页:** 632-641 **DOI:** 10.1016/j.cmpb.2013.11.001 **出版年:** FEB 2014
**Web of Science 核心合集中的 "被引频次":** 9
**被引频次合计:** 9

**摘要:** In this paper, heat transfer and flow analysis for a non-Newtonian third grade nanofluid flow in porous medium of a hollow vessel in presence of magnetic field are simulated analytically and numerically. Blood is considered as the base third grade non-Newtonian fluid and gold (Au) as nanoparticles are added to it. The viscosity of nanofluid is considered a function of temperature as Vogel's model. Least Square Method (LSM), Galerkin method (GM) and fourth-order Runge-Kutta numerical method (NUM) are used to solve the present problem. The influences of the some physical parameters such as Brownian motion and thermophoresis parameters on non-dimensional velocity and temperature profiles are considered. The results show that increasing the thermophoresis parameter (N-t) caused an increase in temperature values in whole domain and an increase in nanoparticles concentration just near the inner wall of vessel. Furthermore by increasing the MHD parameter, velocity profiles decreased due to magnetic field effect. (C) 2013 Elsevier Ireland Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Magnetohydrodynamic; Non-Newtonian blood; Nanoparticle; Least Square Method (LSM); Galerkin method (GM); Porous vessel

**KeyWords Plus:** HOMOTOPY ANALYSIS METHOD; UNIFORM MAGNETIC-FIELD; SERIES SOLUTIONS; HEAT-GENERATION; MASS-TRANSFER; FLOW; FLUID; COLLOCATION; ROTATIONS; INFINITY

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**第 254 条，共 395 条**

**标题:** Frame-Based Detection of Opinion Holders and Topics: A Model and a Tool

**作者:** Gangemi, A (Gangemi, Aldo); Presutti, V (Presutti, Valentina); Recupero, DR (Recupero, Diego Reforgiato)

**来源出版物:** IEEE COMPUTATIONAL INTELLIGENCE MAGAZINE **卷:** 9 **期:** 1 **页:** 20-30 **DOI:** 10.1109/MCI.2013.2291688 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 10

**被引频次合计:** 10

**摘要:** Sentilo is a model and a tool to detect holders and topics of opinion sentences. Sentilo implements an approach based on the neo-Davidsonian assumption that events and situations are the primary entities for contextualizing opinions, which makes it able to distinguish holders, main topics, and sub-topics of an opinion. It uses a heuristic graph mining approach that relies on FRED, a machine reader for the Semantic Web that leverages Natural Language Processing (NLP) and Knowledge Representation (KR) components jointly with cognitively-inspired frames. The evaluation results are excellent for holder detection (F1: 95%), very good for subtopic detection (F1: 78%), and good for topic detection (F1: 68%).

**文献类型:** Article

**KeyWords Plus:** SENTIMENT ANALYSIS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| PRISMA (PiattafoRme cloud Interoperabili per SMArt-government) project | |
| MIUR (Ministero dell'Istruzione, dell'Universita e della Ricerca) | |

The work described in this paper was performed with the support of the PRISMA (PiattafoRme cloud Interoperabili per SMArt-government) project, funded by the MIUR (Ministero dell'Istruzione, dell'Universita e della Ricerca).

**第 255 条，共 395 条**

**标题:** A Probabilistic Generative Model for Mining Cybercriminal Networks from Online Social Media

**作者:** Lau, RYK (Lau, Raymond Y. K.); Xia, YQ (Xia, Yunqing); Ye, YM (Ye, Yunming)

**来源出版物:** IEEE COMPUTATIONAL INTELLIGENCE MAGAZINE **卷:** 9 **期:** 1 **页:** 31-43 **DOI:** 10.1109/MCI.2013.2291689 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** There has been a rapid growth in the number of cybercrimes that cause tremendous financial loss to organizations. Recent studies reveal that cybercriminals tend to collaborate or even transact cyber-attack tools via the "dark markets" established in online social media. Accordingly, it presents unprecedented opportunities for researchers to tap into these underground cybercriminal communities to develop better insights about collaborative cybercrime activities so as to combat the ever increasing number of cybercrimes. The main contribution of this paper is the development of a novel weakly supervised cybercriminal network mining method to facilitate cybercrime forensics. In particular, the proposed method is underpinned by a probabilistic generative model enhanced by a novel context-sensitive Gibbs sampling algorithm. Evaluated based on two social media corpora, our experimental results reveal that the proposed method significantly outperforms the Latent Dirichlet Allocation (LDA) based method and the Support Vector Machine (SVM) based method by 5.23% and 16.62% in terms of Area Under the ROC Curve (AUC), respectively. It also achieves comparable performance as the state-of-the-art Partially Labeled Dirichlet Allocation (PLDA) method. To the best of our knowledge, this is the first successful research of applying a probabilistic generative model to mine cybercriminal networks from online social media.

**文献类型:** Article

**KeyWords Plus:** CLASSIFICATION; ALGORITHM; WEB

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Research Grants Council of the Hong Kong Special Administrative Region, China | CityU 145712 |
| SRG grants from City University of Hong Kong | 7003002<br>7004120<br>7008138 |
| Shenzhen Municipal Science and Technology R&D Funding-Basic Research Program | JCYJ20130401145617281 |
| Natural Science Foundation of China | 61272233<br>61272538 |
| Shenzhen Strategic Emerging Industries Program | JCYJ20120613135329670 |

The work described in this paper was partially supported by a grant from the Research Grants Council of the Hong Kong Special Administrative Region, China (Project No. CityU 145712), SRG grants from City University of Hong Kong (Project No. 7003002, 7004120, 7008138), and a grant from the Shenzhen Municipal Science and Technology R&D Funding-Basic Research Program (Project No. JCYJ20130401145617281). Xia's research was supported in part by Natural Science Foundation of China (Project No. 61272233). Ye's research was supported in part by Natural Science Foundation of China (Project No. 61272538), and Shenzhen Strategic Emerging Industries Program (Project No. JCYJ20120613135329670).

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**第 256 条，共 395 条**

**标题:** Short-Term Load and Wind Power Forecasting Using Neural Network-Based Prediction Intervals

**作者:** Quan, H (Quan, Hao); Srinivasan, D (Srinivasan, Dipti); Khosravi, A (Khosravi, Abbas)

**来源出版物:** IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS **卷:** 25 **期:** 2 **页:** 303-315 **DOI:** 10.1109/TNNLS.2013.2276053 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** Electrical power systems are evolving from today's centralized bulk systems to more decentralized systems. Penetrations of renewable energies, such as wind and solar power, significantly increase the level of uncertainty in power systems. Accurate load forecasting becomes more complex, yet more important for management of power systems. Traditional methods for generating point forecasts of load demands cannot properly handle uncertainties in system operations. To quantify potential uncertainties associated with forecasts, this paper implements a neural network (NN)-based method for the construction of prediction intervals (PIs). A newly introduced method, called lower upper bound estimation (LUBE), is applied and extended to develop PIs using NN models. A new problem formulation is proposed, which translates the primary multiobjective problem into a constrained single-objective problem. Compared with the cost function, this new formulation is closer to the primary problem and has fewer parameters. Particle swarm optimization (PSO) integrated with the mutation operator is used to solve the problem. Electrical demands from Singapore and New South Wales (Australia), as well as wind power generation from Capital Wind Farm, are used to validate the PSO-based LUBE method. Comparative results show that the proposed method can construct higher quality PIs for load and wind power generation forecasts in a short time.

**文献类型:** Article

**作者关键词:** Load forecasting; neural network (NN); particle swarm optimization (PSO); prediction interval (PI); uncertainty; wind power

**KeyWords Plus:** PARTICLE SWARM OPTIMIZATION; TIME-SERIES; CONFIDENCE; MODELS; CONSTRUCTION; GENERATION; SYSTEMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Research Foundation | R-263-000-A66-279 |

This work was supported by the National Research Foundation under Grant R-263-000-A66-279.

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**第 257 条，共 395 条**

**标题:** A Combined First and Second Order Variational Approach for Image Reconstruction

**作者:** Papafitsoros, K (Papafitsoros, K.); Schonlieb, CB (Schoenlieb, C. B.)

**来源出版物:** JOURNAL OF MATHEMATICAL IMAGING AND VISION **卷:** 48 **期:** 2 **特刊:** SI **页:** 308-338 **DOI:** 10.1007/s10851-013-0445-4 **出版年:** FEB 2014
**Web of Science 核心合集中的 "被引频次":** 7
**被引频次合计:** 7

**摘要:** In this paper we study a variational problem in the space of functions of bounded Hessian. Our model constitutes a straightforward higher-order extension of the well known ROF functional (total variation minimisation) to which we add a non-smooth second order regulariser. It combines convex functions of the total variation and the total variation of the first derivatives. In what follows, we prove existence and uniqueness of minimisers of the combined model and present the numerical solution of the corresponding discretised problem by employing the split Bregman method. The paper is furnished with applications of our model to image denoising, deblurring as well as image inpainting. The obtained numerical results are compared with results obtained from total generalised variation (TGV), infimal convolution and Euler's elastica, three other state of the art higher-order models. The numerical discussion confirms that the proposed higher-order model competes with models of its kind in avoiding the creation of undesirable artifacts and blocky-like structures in the reconstructed images-a known disadvantage of the ROF model-while being simple and efficiently numerically solvable.

**文献类型:** Article
**作者关键词:** Functions of bounded Hessian; Split Bregman; Denoising; Deblurring; Inpainting; Staircasing
**KeyWords Plus:** TOTAL VARIATION MINIMIZATION; AUGMENTED LAGRANGIAN METHOD; CONVEX REGULARIZATION; BREGMAN ITERATION; BOUNDED VARIATION; RESTORATION; ORDER; ALGORITHM; SPACE; FUNCTIONALS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Cambridge Centre for Analysis (CCA) | |
| Royal Society | IE110314 |
| EPSRC/Isaac Newton Trust | |
| EPSRC | EP/J009539/1 |
| King Abdullah University of Science and Technology (KAUST). | KUK-I1-007-43 |

The authors acknowledge the financial support provided by the Cambridge Centre for Analysis (CCA), the Royal Society International Exchanges Award IE110314 for the project "High-order Compressed Sensing for Medical Imaging", the EPSRC/Isaac Newton Trust Small Grant "Non-smooth geometric reconstruction for high resolution MRI imaging of fluid transport in bed reactors" and the EPSRC first grant Nr. EP/J009539/1 "Sparse & Higher-order Image Restoration". Further, this publication is based on work supported by Award No. KUK-I1-007-43, made by King Abdullah University of Science and Technology (KAUST). We thank Clarice Poon for providing us with the Euler's elastica code. Finally, we would like to thank the referees for their very useful comments and suggestions that improved the presentation of the paper.

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**第 258 条，共 395 条**

**标题:** A class of Dantzig-Wolfe type decomposition methods for variational inequality problems

**作者:** Luna, JP (Luna, Juan Pablo); Sagastizabal, C (Sagastizabal, Claudia); Solodov, M (Solodov, Mikhail)

**来源出版物:** MATHEMATICAL PROGRAMMING **卷:** 143 **期:** 1-2 **页:** 177-209 **DOI:** 10.1007/s10107-012-0599-7 **出版年:** FEB 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3

**摘要:** We consider a class of decomposition methods for variational inequalities, which is related to the classical Dantzig-Wolfe decomposition of linear programs. Our approach is rather general, in that it can be used with certain types of set-valued or nonmonotone operators, as well as with various kinds of approximations in the subproblems of the functions and derivatives in the single-valued case. Also, subproblems may be solved approximately. Convergence is established under reasonable assumptions. We also report numerical experiments for computing variational equilibria of the game-theoretic models of electricity markets. Our numerical results illustrate that the decomposition approach allows to solve large-scale problem instances otherwise intractable if the widely used PATH solver is applied directly, without decomposition.

**文献类型:** Article

**作者关键词:** Variational inequality; Decomposition; Dantzig-Wolfe decomposition; Josephy-Newton approximation; Jacobi approximation; Variational equilibrium

**KeyWords Plus:** PROXIMAL POINT ALGORITHMS; GENERALIZED NASH GAMES; MONOTONE-OPERATORS; SPLITTING METHOD; COLUMN GENERATION; FRAMEWORK; EQUILIBRIUM; INCLUSIONS; MAPPINGS; BUNDLE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| FAPERJ | 100.491/2011 |
| CNPq | 303840/2011-0<br>302637/2011-7 |
| AFOSR | FA9550-08-1-0370 |
| NSF DMS | 0707205 |
| PRONEX-Optimization | |
| FAPERJ | |

The first author is supported by FAPERJ scholarship 100.491/2011. The second author is partially supported by Grants CNPq 303840/2011-0, AFOSR FA9550-08-1-0370, NSF DMS 0707205, as well as by PRONEX-Optimization and FAPERJ. The third author is supported in part by CNPq Grant 302637/2011-7, by PRONEX-Optimization and by FAPERJ.

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**第 259 条，共 395 条**

**标题:** MM algorithms for geometric and signomial programming

**作者:** Lange, K (Lange, Kenneth); Zhou, H (Zhou, Hua)

**来源出版物:** MATHEMATICAL PROGRAMMING **卷:** 143 **期:** 1-2 **页:** 339-356 **DOI:** 10.1007/s10107-012-0612-1 **出版年:** FEB 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3

**摘要:** This paper derives new algorithms for signomial programming, a generalization of geometric programming. The algorithms are based on a generic principle for optimization called the MM algorithm. In this setting, one can apply the geometric-arithmetic mean inequality and a supporting hyperplane inequality to create a surrogate function with parameters separated. Thus, unconstrained signomial programming reduces to a sequence of one-dimensional minimization problems. Simple examples demonstrate that the MM algorithm derived can converge to a boundary point or to one point of a continuum of minimum points. Conditions under which the minimum point is unique or occurs in the interior of parameter space are proved for geometric programming. Convergence to an interior point occurs at a linear rate. Finally, the MM framework easily accommodates equality and inequality constraints of signomial type. For the most important special case, constrained quadratic programming, the MM algorithm involves very simple updates.

**文献类型:** Article
**作者关键词:** Arithmetic-geometric mean inequality; Geometric programming; Global convergence; MM algorithm; Linearly constrained quadratic programming; Parameter separation; Penalty method; Signomial programming
**KeyWords Plus:** OPTIMIZATION; TUTORIAL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| United States Public Health Service | GM53275<br>MH59490<br>R01HG006139 |

Research was supported by United States Public Health Service grants GM53275, MH59490, and R01HG006139.

**第 260 条，共 395 条**

**标题:** Complexity of unconstrained minimization

**作者:** Chen, XJ (Chen, Xiaojun); Ge, DD (Ge, Dongdong); Wang, ZZ (Wang, Zizhuo); Ye, YY (Ye, Yinyu)

**来源出版物:** MATHEMATICAL PROGRAMMING **卷:** 143 **期:** 1-2 **页:** 371-383 **DOI:** 10.1007/s10107-012-0613-0 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 6

**摘要:** We consider the unconstrained - minimization: find a minimizer of for given , and parameters , and . This problem has been studied extensively in many areas. Especially, for the case when , this problem is known as the minimization problem and has found its applications in variable selection problems and sparse least squares fitting for high dimensional data. Theoretical results show that the minimizers of the - problem have various attractive features due to the concavity and non-Lipschitzian property of the regularization function . In this paper, we show that the - minimization problem is strongly NP-hard for any and , including its smoothed version. On the other hand, we show that, by choosing parameters carefully, a minimizer, global or local, will have certain desired sparsity. We believe that these results provide new theoretical insights to the studies and applications of the concave regularized optimization problems.

**文献类型:** Article

**作者关键词:** Nonsmooth optimization; Nonconvex optimization; Variable selection; Sparse solution reconstruction; Bridge estimator

**KeyWords Plus:** LINEAR-SYSTEMS; SPARSE; ESTIMATORS; SELECTION; LASSO

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Hong Kong Polytechnic University | |
| Hong Kong Research Grant Council | |
| National Natural Science Foundation of China | 71001062 |

The authors would like to thank anonymous referees for their helpful comments. The authors acknowledge the support of the Hong Kong Polytechnic University and Hong Kong Research Grant Council. Research by the second author is supported by National Natural Science Foundation of China under Grants 71001062.

**第 261 条，共 395 条**

**标题:** On max-min fair flow optimization in wireless mesh networks

**作者:** Pioro, M (Pioro, Michal); Zotkiewicz, M (Zotkiewicz, Mateusz); Staehle, B (Staehle, Barbara); Staehle, D (Staehle, Dirk); Yuan, D (Yuan, Di)

**来源出版物:** AD HOC NETWORKS **卷:** 13 **特刊:** SI **页:** 134-152 **DOI:** 10.1016/j.adhoc.2011.05.003 **子辑:** A **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** The paper is devoted to modeling wireless mesh networks (WMN) through mixed-integer programming (MIP) formulations that allow to precisely characterize the link data rate capacity and transmission scheduling using the notion of time slots. Such MIP models are formulated for several cases of the modulation and coding schemes (MCS) assignment. We present a general way of solving the max-min fairness (MMF) traffic objective for WMN using the formulated capacity models. Thus the paper combines WMN radio link modeling with a non-standard way of dealing with uncertain traffic, a combination that has not, to our knowledge, been treated so far by exact optimization models. We discuss several ways, including a method based on the so called compatible or independent sets, of solving the arising MIP problems. We also present an extensive numerical study that illustrates the running time efficiency of different solution approaches, and the influence of the MCS selection options and the number of time slots on traffic performance of a WMN. Exact joint optimization modeling of the WMN capacity and the MMF traffic objectives

forms the main contribution of the paper. (C) 2011 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Wireless mesh network; Max-min fairness; Mixed-integer programming

**KeyWords Plus:** AD HOC NETWORKS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| FP7 Network of Excellence Euro NF | |
| Polish Ministry of Science and Higher Education | N517 397334 |
| Swedish Research Council | 621-2006-5509 |
| Federal Ministry of Education and Research of the Federal Republic of Germany | Forderkennzeichen 01 BK 0800 |

While preparing the paper, the cooperation of Di Yuan and Michal Pioro was supported by the eLLIIT project funded by the Swedish Foundation for Strategic Research. The cooperation of Barbara Staehle, Dirk Staehle, M. Pioro and Mateusz Zotkiewicz was supported by the FP7 Network of Excellence Euro NF. M. Zotkiewicz (and partly M. Pioro) was supported by the Polish Ministry of Science and Higher Education (Grant No. N517 397334 "Optimization Models for NGI Core Networks"). M. Moro was also partly supported by the Swedish Research Council (Grant No. 621-2006-5509 "Modeling and Design of Core Internet Network"). The work of Barbara Staehle and Dirk Staehle was funded by the Federal Ministry of Education and Research of the Federal Republic of Germany (Forderkennzeichen 01 BK 0800, GLab).

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**第 262 条，共 395 条**

**标题:** PLUMED 2: New feathers for an old bird

**作者:** Tribello, GA (Tribello, Gareth A.); Bonomi, M (Bonomi, Massimiliano); Branduardi, D (Branduardi, Davide); Camilloni, C (Camilloni, Carlo); Bussi, G (Bussi, Giovanni)

**来源出版物:** COMPUTER PHYSICS COMMUNICATIONS **卷:** 185 **期:** 2 **页:** 604-613 **DOI:** 10.1016/j.cpc.2013.09.018 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 19

**被引频次合计:** 19

**摘要:** Enhancing sampling and analyzing simulations are central issues in molecular simulation. Recently, we introduced PLUMED, an open-source plug-in that provides some of the most popular molecular dynamics (MD) codes with implementations of a variety of different enhanced sampling algorithms and collective variables (CVs). The rapid changes in this field, in particular new directions in enhanced sampling and dimensionality reduction together with new hardware, require a code that is more flexible and more efficient. We therefore present PLUMED 2 here a,complete rewrite of the code in an object-oriented programming language (C++). This new version introduces greater flexibility and greater modularity, which both extends its core capabilities and makes it far easier to add new methods and CVs. It also has a simpler interface with the MD engines and provides a single software library containing both tools and core facilities. Ultimately, the new code better serves the ever-growing community of users and contributors in coping with the new challenges arising in the field.
Program summary
Program title: PLUMED 2
Catalogue identifier: AEEE_v2_0
Program summary URL: http://cpc.cs.qub.ac.uk/summaries/AEEE_v2_0.html
Program obtainable from: CPC Program Library, Queen's University, Belfast, N. Ireland
Licensing provisions: Yes
No. of lines in distributed program, including test data, etc.: 700646
No. of bytes in distributed program, including test data, etc.: 6618136
Distribution format: tar.gz
Programming language: ANSI-C++.
Computer: Any computer capable of running an executable produced by a C++ compiler.
Operating system: Linux operating system, Unix OSs.
Has the code been vectorized or parallelized?: Yes, parallelized using MPI.

RAM: Depends on the number of atoms, the method chosen and the collective variables used.
Classification: 3, 7.7, 23. Catalogue identifier of previous version: AEEE_v1_0.
Journal reference of previous version: Comput. Phys. Comm. 180 (2009) 1961.
External routines: GNU libmatheval, Lapack, Bias, MPI. 

**文献类型:** Article

**作者关键词:** Free energy; Molecular dynamics; Enhanced sampling; Dimensional reduction

**KeyWords Plus:** MOLECULAR-DYNAMICS SIMULATIONS; NMR CHEMICAL-SHIFTS; METADYNAMICS; EFFICIENT; PROTEINS; PROGRAM; DISTRIBUTIONS; ALGORITHMS; MECHANICS; SOFTWARE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| HPC-EUROPA2 project | 228398 |
| MIUR grant FIRB (Futuro in Ricerca) | RBFR102PY5 |
| European Research Council | 306662 |
| Marie Curie Intra European Fellowship | |

The reworking of PLUMED 2 that has been described in this paper was made possible by a CeCAM grant and by a "Young SISSA Scientists' Research Projects" scheme 2011-2012 that was promoted by the International School for Advanced Studies (SISSA), Trieste, Italy. Using funding from these sources we were able to organize a PLUMED tutorial, a developer meeting and a user meeting. These forums provided the opportunity to meet the various users and developers of the code and to find out the various problems with the original package. We would like to acknowledge all the people who attended these meetings for their feedback as well as the many users who have provided valued contributions to our mailing list. In particular, we would like to thank Paolo Elvati, Toni Giorgino, Alessandro Lab, Lay la Martin-Samos, Michele Parrinello, Fabio Pietrucci and Paolo Raiteri for making time to discuss the code privately with the authors. In addition, GB and DB acknowledge the HPC-EUROPA2 project no. 228398, GB acknowledges MIUR grant FIRB (Futuro in Ricerca no. RBFR102PY5) and the European Research Council (Starting Grant S-RNA-S, no. 306662), and CC acknowledges support from a Marie Curie Intra European Fellowship.

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**第 263 条，共 395 条**

**标题:** Security, energy, and performance-aware resource allocation mechanisms for computational grids

**作者:** Kolodziej, J (Kolodziej, Joanna); Khan, SU (Khan, Samee Ullah); Wang, LZ (Wang, Lizhe); Kisiel-Dorohinicki, M (Kisiel-Dorohinicki, Marek); Madani, SA (Madani, Sajjad A.); Niewiadomska-Szynkiewicz, E (Niewiadomska-Szynkiewicz, Ewa); Zomaya, AY (Zomaya, Albert Y.); Xu, CZ (Xu, Cheng-Zhong)

**来源出版物:** FUTURE GENERATION COMPUTER SYSTEMS-THE INTERNATIONAL JOURNAL OF GRID COMPUTING AND ESCIENCE **卷:** 31 **页:** 77-92 **DOI:** 10.1016/j.future.2012.09.009 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Distributed Cyber Physical Systems (DCPSs) are networks of computing systems that utilize information from their physical surroundings to provide important services, such as smart health, energy efficient grid and cloud computing, and smart security-aware grids. Ensuring the energy efficiency, thermal safety, and long term uninterrupted computing operation increases the scalability and sustainability of these infrastructures. Achieving this goal often requires researchers to harness an understanding of the interactions between the computing equipment and its physical surroundings. Modeling these interactions can be computationally challenging with the resources on hand and the operating requirements of such systems. In this paper, we define the independent batch scheduling in Computational Grid (CG) as a three-objective global optimization problem with makespan, flowtime and energy consumption as the main scheduling criteria minimized according to different security constraints. We use the Dynamic Voltage Scaling (DVS) methodology for reducing the cumulative power energy utilized by the system resources. We develop six genetic-based single- and multi-population meta-heuristics for solving the considered optimization problem. The effectiveness of these algorithms has been empirically justified in two different grid architectural scenarios in static and dynamic modes. (C) 2012 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Distributed cyber physical systems; Secure computational grid; Resource reliability; Scheduling; Energy optimization; Dynamic voltage scaling; Evolutionary algorithm

**KeyWords Plus:** CLOUD COMPUTING SYSTEMS; REQUIREMENTS; HEURISTICS; BEHAVIOR

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Polish National Science Centre | N N516 500039 |
| Young International Scientist Fellowship of the Chinese Academy of Sciences | 2011Y2GA01 |
| National Centre for Research and Development (NCBiR) | O ROO 0091 11 |

Joanna Kolodziej's and Marek Kisiel-Dorohinicki's work was partially supported by "Biologically inspired mechanisms in planning and management of dynamic environments" grant of Polish National Science Centre, No. N N516 500039.
Samee U. Khan's work was partly supported by the Young International Scientist Fellowship of the Chinese Academy of Sciences, (Grant No. 2011Y2GA01).
Ewa Niewiadomska-Szynkiewicz's was partially supported by the National Centre for Research and Development (NCBiR) grant No. O ROO 0091 11.

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**第 264 条，共 395 条**

**标题:** Personlized English reading sequencing based on learning portfolio analysis

**作者:** Wu, TT (Wu, Ting-Ting); Huang, YM (Huang, Yueh-Min); Chao, HC (Chao, Han-Chieh); Park, JH (Park, Jong Hyuk)

**来源出版物:** INFORMATION SCIENCES **卷:** 257 **页:** 248-263 **DOI:** 10.1016/j.ins.2011.07.021 **出版年:** FEB 1 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** Situated learning can enable learners to interact with real world objects, deepen their impression of learning material, and establish a connection between those objects and the material. For the practice of English reading, a proper integration of learner portfolios and local environments, along with a sound reading strategy, not only strengthens the students' understanding of language and reading comprehension, but also improves the effectiveness of language learning. Extended from the methodology of situational language, this study,developed a ubiquitous English reading learning system based on RFID-based location-aware technology and a portfolio-centric article reading guide. Through RFID technology, the learning system can detect a learner's location; it then sends the learner highly situational and relevant English articles to read and study. Linking to the local environment, the English content becomes more perceivable, helping students achieve situational learning: "what is seen is read." Concurrent with the mechanism for situated reading articles, this work conducted an analysis of learner study portfolios incorporating the average learner ability to obtain parameters of standing point. Using the genetic algorithm approach, the system evaluates the difficulty of articles and their relationships. Through multiple evolutionary sequences, the system eventually provides the learner with appropriate and progressive articles for personalized study. The experiment conducted in both quantitative and qualitative evaluations revealed that this learning system can effectively assist learners as they immerse themselves in the study. (C) 2011 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** English reading; Learning guidance; Learning portfolio; Situational studies; Ubiquitous learning

**KeyWords Plus:** STUDENTS PERFORMANCE; SYSTEM; ENVIRONMENT; KNOWLEDGE; PATH; MAP

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**第 265 条，共 395 条**

**标题:** How to measure the amount of knowledge conveyed by Atanassov's intuitionistic fuzzy sets

**作者:** Szmidt, E (Szmidt, Eulalia); Kacprzyk, J (Kacprzyk, Janusz); Bujnowski, P (Bujnowski, Pawel)

**来源出版物:** INFORMATION SCIENCES **卷:** 257 **页:** 276-285 **DOI:** 10.1016/j.ins.2012.12.046 **出版年:** FEB 1 2014
**Web of Science 核心合集中的 "被引频次":** 6
**被引频次合计:** 6

**摘要:** We address the problem of how to measure the amount of knowledge conveyed by the Atanassov's intuitionistic fuzzy set (A-IFS for short). The problem is relevant from the point of view of many application areas, notably decision making. An amount of knowledge considered is strongly linked to its related amount of information. Our analysis is concerned with an intrinsic relationship between the positive and negative information and a lack of information expressed by the hesitation margin. Illustrative examples are shown. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article
**作者关键词:** Intuitionistic fuzzy sets; Information; Knowledge; Entropy
**KeyWords Plus:** ENTROPY; ALTERNATIVES; RANKING

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**第 266 条，共 395 条**

**标题:** A Scalable Two-Phase Top-Down Specialization Approach for Data Anonymization Using MapReduce on Cloud

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**来源出版物:** IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS **卷:** 25 **期:** 2 **页:** 363-373 **DOI:** 10.1109/TPDS.2013.48 **出版年:** FEB 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5

**摘要:** A large number of cloud services require users to share private data like electronic health records for data analysis or mining, bringing privacy concerns. Anonymizing data sets via generalization to satisfy certain privacy requirements such as k-anonymity is a widely used category of privacy preserving techniques. At present, the scale of data in many cloud applications increases tremendously in accordance with the Big Data trend, thereby making it a challenge for commonly used software tools to capture, manage, and process such large-scale data within a tolerable elapsed time. As a result, it is a challenge for existing anonymization approaches to achieve privacy preservation on privacy-sensitive large-scale data sets due to their insufficiency of scalability. In this paper, we propose a scalable two-phase top-down specialization (TDS) approach to anonymize large-scale data sets using the MapReduce framework on cloud. In both phases of our approach, we deliberately design a group of innovative MapReduce jobs to concretely accomplish the specialization computation in a highly scalable way. Experimental evaluation results demonstrate that with our approach, the scalability and efficiency of TDS can be significantly improved over existing approaches.

**文献类型:** Article
**作者关键词:** Data anonymization; top-down specialization; MapReduce; cloud; privacy preservation
**KeyWords Plus:** K-ANONYMITY; PRIVACY

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**第 267 条，共 395 条**

**标题:** Half-Quadratic-Based Iterative Minimization for Robust Sparse Representation

**作者:** He, R (He, Ran); Zheng, WS (Zheng, Wei-Shi); Tan, TN (Tan, Tieniu); Sun, ZA (Sun, Zhenan)

**来源出版物:** IEEE TRANSACTIONS ON PATTERN ANALYSIS AND MACHINE INTELLIGENCE **卷:** 36 **期:** 2 **页:** 261-275 **DOI:** 10.1109/TPAMI.2013.102 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** Robust sparse representation has shown significant potential in solving challenging problems in computer vision such as biometrics and visual surveillance. Although several robust sparse models have been proposed and promising results have been obtained, they are either for error correction or for error detection, and learning a general framework that systematically unifies these two aspects and explores their relation is still an open problem. In this paper, we develop a half-quadratic ( HQ) framework to solve the robust sparse representation problem. By defining different kinds of half-quadratic functions, the proposed HQ framework is applicable to performing both error correction and error detection. More specifically, by using the additive form of HQ, we propose an l(1)-regularized error correction method by iteratively recovering corrupted data from errors incurred by noises and outliers; by using the multiplicative form of HQ, we propose an l(1)-regularized error detection method by learning from uncorrupted data iteratively. We also show that the l(1)-regularization solved by soft-thresholding function has a dual relationship to Huber M-estimator, which theoretically guarantees the performance of robust sparse representation in terms of M-estimation. Experiments on robust face recognition under severe occlusion and corruption validate our framework and findings.

**文献类型:** Article

**作者关键词:** l(1)-minimization; half-quadratic optimization; sparse representation; M-estimator; correntropy

**KeyWords Plus:** LINEAR INVERSE PROBLEMS; FACE RECOGNITION; SIGNAL RECOVERY; THRESHOLDING ALGORITHM; CORRUPTED OBSERVATIONS; PATTERN-RECOGNITION; IMAGE-RESTORATION; L(1)-MINIMIZATION; RECONSTRUCTION; CORRENTROPY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Basic Research Program of China | 2012CB316300 |
| National Natural Science Foundation of China | |
| Chinese Academy of Sciences | XDA06030300 |

The authors would like to greatly thank the associate editor and the reviewers for their valuable comments and advice, and Prof. Liang Wang, Dr. Xiao-Tong Yuan, and Mr. Bo Dai for helping to revise the paper. This work was funded by the National Basic Research Program of China (grant no. 2012CB316300), National Natural Science Foundation of China, and the Strategic Priority Research Program of the Chinese Academy of Sciences (grant no. XDA06030300).

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**第 268 条，共 395 条**

**标题:** Experimenting with electromagnetism using augmented reality: Impact on flow student experience and educational effectiveness

**作者:** Ibanez, MB (Blanca Ibanez, Maria); Di Serio, A (Di Serio, Angela); Villaran, D (Villaran, Diego); Kloos, CD (Delgado Kloos, Carlos)

**来源出版物:** COMPUTERS & EDUCATION **卷:** 71 **页:** 1-13 **DOI:** 10.1016/j.compedu.2013.09.004 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** Educational researchers have recognized Augmented Reality (AR) as a technology with great potential to impact affective and cognitive learning outcomes. However, very little work has been carried out to substantiate these claims. The purpose of this study was to assess to which extent an AR learning application affects learners' level of enjoyment and learning effectiveness. The study followed an experimental/control group design using the type of the application (AR-based, web-based) as independent variable. 64 high school students were randomly assigned to the

experimental or control group to learn the basic principles of electromagnetism. The participants' knowledge acquisition was evaluated by comparing pre- and post-tests. The participants' level overall-state perception on flow was measured with the Flow State Scale and their flow states were monitored throughout the learning activity. Finally, participants' perceptions of benefits and difficulties of using the augmented reality application in this study were qualitatively identified. The results showed that the augmented reality approach was more effective in promoting students' knowledge of electromagnetic concepts and phenomena. The analysis also indicated that the augmented reality application led participants to reach higher flow experience levels than those achieved by users of the web-based application. However, not all the factors seem to have influence on learners' flow state, this study found that they were limited to: concentration, distorted sense of time, sense of control, clearer direct feedback, and autotelic experience. A deeper analysis of the flow process showed that neither of the groups reported being in flow in those tasks that were very easy or too difficult. However, for those tasks that were not perceived as difficult and included visualization clues, the experimental group showed higher levels of flow that the control group. The study suggests that augmented reality can be exploited as an effective learning environment for learning the basic principles of electromagnetism at high school provided that learning designers strike a careful balance between AR support and task difficulty. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Secondary education; Simulations; Interactive learning environments; Applications in subject areas; Augmented reality

**KeyWords Plus:** VIRTUAL WORLDS; MODELING APPROACH; STATE SCALE; ENVIRONMENTS; OPPORTUNITIES; AFFORDANCES; MOTIVATION; KNOWLEDGE; BEHAVIOR

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Fundacion CajaMadrid | |
| Spanish project EEE | TIN2011-28308-C03-01 |
| eMadrid network | S2009/TIC-1650 |

The authors are deeply grateful to professors and students from Centro Escolar Amanecer, I.E.S. Enrique Tierno GalvAn, I.E.S. Montes Obarenes, and I.E.S. Pedro Duque (Spain) who gently collaborated on this research study. Special thanks to Prof. Maria Gregoria Casares who contacted most of the Institutes. The last author wishes to acknowledge support from Fundacion CajaMadrid to visit Harvard University and MIT in the academic year 2012/13.
This research has been partially supported by the Spanish project EEE (TIN2011-28308-C03-01, Plan Nacional de Ministerio de Economia y Competitividad) and the eMadrid network (S2009/TIC-1650, Comunidad de Madrid).

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**第 269 条，共 395 条**

**标题:** Development and behavioral pattern analysis of a mobile guide system with augmented reality for painting appreciation instruction in an art museum

**作者:** Chang, KE (Chang, Kuo-En); Chang, CT (Chang, Chia-Tzu); Hou, HT (Hou, Huei-Tse); Sung, YT (Sung, Yao-Ting); Chao, HL (Chao, Huei-Lin); Lee, CM (Lee, Cheng-Ming)

**来源出版物:** COMPUTERS & EDUCATION **卷:** 71 **页:** 185-197 **DOI:** 10.1016/j.compedu.2013.09.022 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** A mobile guide system that integrates art appreciation instruction with augmented reality (AR) was designed as an auxiliary tool for painting appreciation, and the learning performance of three groups of visiting participants was explored: AR-guided, audio-guided, and nonguided (i.e., without carrying auxiliary devices). The participants were 135 college students, and a quasi-experimental research design was employed. Several learning performance factors of the museum visitors aided with different guided modes were evaluated, including their learning effectiveness, flow experience, the amount of time spent focusing on the paintings, behavioral patterns, and attitude of using the guide systems. The results showed that compared to the audio- and nonguided participants, the AR guide effectively enhanced visitors' learning effectiveness, promoted their flow experience, and extended the amount of time the visitors spent focusing on the paintings. In addition, the visitors' behavioral patterns were dependent upon the guided mode that they used; the visitors who were the most engaged in the gallery experience were those who were using the AR guide. Most of the visitors using the mobile AR-guide system elicited positive responses and acceptance

attitudes. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Applications in subject areas; Architectures for educational technology system; Interactive learning environments; Teaching/learning strategies

**KeyWords Plus:** UBIQUITOUS LEARNING-ENVIRONMENT; PRODUCT DESIGN; SCIENCE MUSEUM; ONLINE; GAME; TECHNOLOGY; VISITORS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Science Council, Taiwan, Republic of China | NSC-99-2511-S-003-026-MY3<br>NSC-100-2628-S-011-001-MY4<br>NSC-99-2511-S-011-007-MY3<br>101WFA0300229 |

The study was supported by grants from the National Science Council, Taiwan, Republic of China (Contract No.NSC-99-2511-S-003-026-MY3, NSC-100-2628-S-011-001-MY4, NSC-99-2511-S-011-007-MY3 and 101WFA0300229). The authors thank the Taipei Fine Arts Museum for permission to experiment within the "Journey through Jiangnan: a Pivotal Moment in Chen Cheng-po's Artistic Quest" exhibition. We also appreciate Mr. Jia Zhang, Ms. Shu-Hsun Yang and Ms. Yi-Lu Lan for their assistance.

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**第 270 条，共 395 条**

**标题:** On the optimally weighted z-test for combining probabilities from independent studies

**作者:** Chen, ZX (Chen, Zhongxue); Nadarajah, S (Nadarajah, Saralees)

**来源出版物:** COMPUTATIONAL STATISTICS & DATA ANALYSIS **卷:** 70 **页:** 387-394 **DOI:** 10.1016/j.csda.2013.09.005 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Researchers have shown that the optimally weighted z-test, where the weights are the standardized expected difference in means, is more powerful than other methods when combining p-values from independent studies. However, in practice the effect for each independent study is usually unknown, which makes the optimally weighted z-test not applicable. A new test similar to the optimally weighted z-test, but with the effects being estimated from data, is derived. This new test is another generalized Fisher test which can be very powerful under certain situations. The new test is compared with existing methods through simulated data. Some suggestions for choosing tests to combine p-values from independent studies are given. The use of the new test is also illustrated by a real data application. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Meta-analysis; Weighted z-test; Generalized Fisher test

**KeyWords Plus:** GENOME-WIDE ASSOCIATION; P-VALUES; METAANALYSIS; METHYLATION; COMBINATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
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| School of Public Health, Indiana University Bloomington | |

We would like to thank Dr. D.V. Zaykin for helpful discussions. We are grateful to two referees for their helpful

comments, which improved the presentation of the paper. The first author also acknowledges the support from the faculty research fund awarded by the School of Public Health, Indiana University Bloomington.

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**第 271 条，共 395 条**

**标题:** Mathematical analysis of an SIS model with imperfect vaccination and backward bifurcation

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**来源出版物:** MATHEMATICS AND COMPUTERS IN SIMULATION **卷:** 96 **特刊:** SI **页:** 195-206 **DOI:** 10.1016/j.matcom.2011.07.007 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** In this paper, we analyze an SIS epidemic model with partially protective vaccination of efficacy e is an element of [0, 1]. The model exhibits backward bifurcation for certain parameter values. The primary aim of this paper is to investigate the possibility of eliminating the infections in static as well as exponentially growing populations with a public health strategy based solely on vaccination. The critical vaccination rate psi* above which the endemic infection dies out and the conditions on model parameters that ensure its existence are obtained. It has been found that eliminating the infection requires an application of control measures other than vaccination to reduce the basic reproduction number to below the reinfection threshold and then vaccinate susceptible individuals with a rate slightly greater than psi*. The implication is that, generally, even if all newborns get vaccinated immediately after birth, an effective control is not necessarily assured except if the basic reproduction number is reduced to below the reinfection threshold. We further include the fatality of the infection and investigate its impact on the dynamics. Some numerical simulations are given to illustrate the theoretical analysis. (C) 2011 IMACS. Published by Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Backward bifurcation; Controllability; Epidemic model; Exponentially growing population; Vaccination

**KeyWords Plus:** EPIDEMIC MODEL; INFECTIONS; TRANSMISSION; REINFECTION; DYNAMICS; TIME

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**第 272 条，共 395 条**

**标题:** Environmental impact assessment based on D numbers

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**来源出版物:** EXPERT SYSTEMS WITH APPLICATIONS **卷:** 41 **期:** 2 **页:** 635-643 **DOI:** 10.1016/j.eswa.2013.07.088 **出版年:** FEB 1 2014

**Web of Science 核心合集中的 "被引频次":** 12

**被引频次合计:** 12

**摘要:** Environmental impact assessment (EIA) is a complex problem influenced by many aspects, such as environmental, social, economic, etc. Due to the involvement of human judgment, various uncertainties are introduced in the EIA process. One critical issue of EIA is the representation and handling of uncertain information. Many different theories are available to deal with uncertainty, however, deficiencies exist in these theories. In this paper, based on a more effective representation of uncertainty, called D numbers, a new method is proposed for the EIA problem. In the proposed method, the assessment results of environmental impacts are expressed and modeled by D numbers. An illustrative case is provided to demonstrate the effectiveness of the proposed method. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Environmental impact assessment; D numbers; Dempster-Shafer theory; Uncertainty modeling

**KeyWords Plus:** LIFE-CYCLE ASSESSMENT; BASIC PROBABILITY ASSIGNMENT; COMBINING BELIEF FUNCTIONS; AGRICULTURAL PRODUCTION; METHODOLOGY; TRANSFORMATION; OPTIMIZATION; UNCERTAINTY; RECOVERY; DISTANCE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61174022<br>71271061 |
| Chongqing Natural Science Foundation (for Distinguished Young Scholars) | CSCT<br>2010BA2003 |
| National High Technology Research and Development Program of China (863 Program) | 2012AA041101 |
| Science and Technology Planning Project of Guangdong Province, China | 2010B010600034<br>2012B091100192 |
| Business Intelligence Key Team of Guangdong University of Foreign Studies | TD1202 |
| Southwest University | SWU110021 |
| China State Key Laboratory of Virtual Reality Technology and Systems | |

The work is partially supported by National Natural Science Foundation of China, Grant Nos. 61174022 and 71271061, Chongqing Natural Science Foundation (for Distinguished Young Scholars), Grant No. CSCT, 2010BA2003, National High Technology Research and Development Program of China (863 Program) (No. 2012AA041101), Science and Technology Planning Project of Guangdong Province, China (2010B010600034, 2012B091100192), Business Intelligence Key Team of Guangdong University of Foreign Studies (TD1202), Doctor Funding of Southwest University Grant No. SWU110021, China State Key Laboratory of Virtual Reality Technology and Systems.

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**第 273 条，共 395 条**

**标题:** Sliding window based weighted maximal frequent pattern mining over data streams

**作者:** Lee, G (Lee, Gangin); Yun, U (Yun, Unil); Ryu, KH (Ryu, Keun Ho)

**来源出版物:** EXPERT SYSTEMS WITH APPLICATIONS **卷:** 41 **期:** 2 **页:** 694-708 **DOI:** 10.1016/j.eswa.2013.07.094 **出版年:** FEB 1 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** As data have been accumulated more quickly in recent years, corresponding databases have also become huger, and thus, general frequent pattern mining methods have been faced with limitations that do not appropriately respond to the massive data. To overcome this problem, data mining researchers have studied methods which can conduct more efficient and immediate mining tasks by scanning databases only once. Thereafter, the sliding window model, which can perform mining operations focusing on recently accumulated parts over data streams, was proposed, and a variety of mining approaches related to this have been suggested. However, it is hard to mine all of the frequent patterns in the data stream environment since generated patterns are remarkably increased as data streams are continuously extended. Thus, methods for efficiently compressing generated patterns are needed in order to solve that problem. In addition, since not only support conditions but also weight constraints expressing items' importance are one of the important factors in the pattern mining, we need to consider them in mining process. Motivated by these issues, we propose a novel algorithm, weighted maximal frequent pattern mining over data streams based on sliding window model (WMFP-SW) to obtain weighted maximal frequent patterns reflecting recent information over data streams. Performance experiments report that MWFP-SW outperforms previous algorithms in terms of runtime, memory usage, and scalability. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Data mining; Data stream; Sliding window; Weighted maximal frequent pattern mining

**KeyWords Plus:** HIGH-UTILITY ITEMSETS; EFFICIENT ALGORITHM; SEQUENTIAL PATTERNS; SEQUENCES; MODEL; TREE; MAX

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |

| | |
|---|---|
| National Research Foundation of Korea (NRF) | |
| Ministry of Education, Science and Technology (NRF) | 2013005682<br>20080062611 |

This research was supported by the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (NRF No. 2013005682 and 20080062611).

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**第 274 条，共 395 条**

**标题:** Analytic network process in risk assessment and decision analysis

**作者:** Ergu, D (Ergu, Daji); Kou, G (Kou, Gang); Shi, Y (Shi, Yong); Shi, Y (Shi, Yu)

**来源出版物:** COMPUTERS & OPERATIONS RESEARCH **卷:** 42 **页:** 58-74 **DOI:** 10.1016/j.cor.2011.03.005 **出版年:** FEB 2014

**Web of Science 核心合集中的 "被引频次":** 18

**被引频次合计:** 19

**摘要:** In risk assessment and decision analysis, the analytical network process (ANP) is widely used to assess the key factors of risks and analyze the impacts and preferences of decision alternatives. There are lots of comparison matrices for a complicated risk assessment problem, but a decision has to be made rapidly in emergency cases. However, in the ANP, the reciprocal pairwise comparison matrices (RPCM) are more complicated and difficult than AHP. The consistency test and the inconsistent elements identification need to be simplified. In this paper, a maximum eigenvalue threshold is proposed as the consistency index for the ANP in risk assessment and decision analysis. The proposed threshold is mathematically equivalent to the consistency ratio (CR). To reduce the times of consistency test, a block diagonal matrix is introduced for the RPCM to conduct consistency tests simultaneously for all comparison matrices. Besides, the inconsistent elements can be identified and adjusted by an induced bias block diagonal comparison matrix. The effectiveness and the simplicity of the proposed maximum eigenvalue threshold consistency test method and the inconsistency identification and adjustment method are shown by two illustrative examples of emergent situations. (C) 2011 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Analytical network process (ANP); Risk assessment and decision analysis; Maximum eigenvalue threshold; Consistency test; Induced block diagonal matrix; Inconsistency identification and adjustment

**KeyWords Plus:** HIERARCHY PROCESS; EMERGENCY MANAGEMENT; ANP; MODELS; FRAMEWORK; SELECTION; SYSTEM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 70901011<br>70901015<br>70921061 |

This research has been supported by grants from the National Natural Science Foundation of China (#70901011, #70901015, and #70921061)

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**第 275 条，共 395 条**

**标题:** Synchronized control with neuro-agents for leader-follower based multiple robotic manipulators

**作者:** Zhao, DY (Zhao, Dongya); Zhu, QM (Zhu, Quanmin); Li, N (Li, Ning); Li, SY (Li, Shaoyuan)

**来源出版物:** NEUROCOMPUTING **卷:** 124 **特刊:** SI **页:** 149-161 **DOI:** 10.1016/j.neucom.2013.07.016 **出版年:** JAN 26 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** In this paper, a new neural network enhanced synchronized control approach is proposed for multiple robotic manipulators systems (MRMS) based on the leader-follower network communication topology. The justification of introducing two adaptive Radial Basis Function Neural Networks (RBF NN), also called neuro-agents, is to facilitate

the whole control system design and analysis. Otherwise such design is impossible with classical analytical procedure. The first agent is the neuro-compensator to accommodate uncertainty associated with the follower manipulators, and the second agent is the neuro-estimator to obtain acceleration of the leader manipulator. Correspondingly the stability analysis of the designed control system is formulated with Lyapunov method. Finally numerical bench tests under various critical conditions are conducted to validate the effectiveness of the proposed approach. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Synchronized control; Multiple robotic manipulators; Leader-follower; Neural networks; Neuro-computing

**KeyWords Plus:** POSITION SYNCHRONIZATION; COOPERATIVE ROBOTS; TRACKING CONTROL; MOTION AXES; TIME-DELAY; NETWORKS; SYSTEMS; CONSENSUS; TOPOLOGY; STATE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Nature Science Foundation of China | 61004080<br>61273188 |
| Shandong Provincial Natural Science Foundation, China | ZR2011FM003 |
| Fundamental Research Funds for the Central Universities of China | |
| Development of key technologies project of Qingdao Economic and Technological Development Zone | 2011-2-52 |
| Taishan Scholar Construction Engineering Special funding | |

This work is partially supported by the National Nature Science Foundation of China under Grant 61004080, 61273188, Shandong Provincial Natural Science Foundation under Grant ZR2011FM003, China and the Fundamental Research Funds for the Central Universities of China, Development of key technologies project of Qingdao Economic and Technological Development Zone under Grant 2011-2-52, Taishan Scholar Construction Engineering Special funding. Finally the authors are grateful to the editor and the anonymous reviewers for their helpful comments and constructive suggestions with regard to the revision of the paper.

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**第 276 条，共 395 条**

**标题:** Medical image registration: a review

**作者:** Oliveira, FPM (Oliveira, Francisco P. M.); Tavares, JMRS (Tavares, Joao Manuel R. S.)

**来源出版物:** COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING **卷:** 17 **期:** 2 **页:** 73-93 **DOI:** 10.1080/10255842.2012.670855 **出版年:** JAN 25 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** This paper presents a review of automated image registration methodologies that have been used in the medical field. The aim of this paper is to be an introduction to the field, provide knowledge on the work that has been developed and to be a suitable reference for those who are looking for registration methods for a specific application. The registration methodologies under review are classified into intensity or feature based. The main steps of these methodologies, the common geometric transformations, the similarity measures and accuracy assessment techniques are introduced and described.

**文献类型:** Review

**作者关键词:** computational methods; image analysis; image alignment; matching; warping; geometrical transformations; similarity measures; optimisation

**KeyWords Plus:** INTEGRATED VISUALIZATION SYSTEM; MODELING BRAIN DEFORMATIONS; 3D NONRIGID REGISTRATION; POINT-BASED REGISTRATION; DIFFUSION TENSOR IMAGES; FREE-FORM DEFORMATIONS; BREAST MR-IMAGES; LEVEL-SET METHOD; MUTUAL-INFORMATION; DEFORMABLE REGISTRATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Fundacao Calouste Gulbenkian, in Portugal | |
| Fundacao para a Ciencia e a Tecnologia (FCT) in Portugal | PTDC/EEA-CRO/103320/2008<br>UTAustin/MAT/0009/2008<br>UTAustin/CA/0047/2008 |

The first author would like to thank Fundacao Calouste Gulbenkian, in Portugal, for his PhD grant. This work was partially done in the scope of the projects 'Methodologies to Analyze Organs from Complex Medical Images - Applications to Female Pelvic Cavity', 'Aberrant Crypt Foci and Human Colorectal Polyps: mathematical modelling and endoscopic image processing' and 'Cardiovascular Imaging Modeling and Simulation - SIMCARD', with references PTDC/EEA-CRO/103320/2008, UTAustin/MAT/0009/2008 and UTAustin/CA/0047/2008, respectively, financially supported by Fundacao para a Ciencia e a Tecnologia (FCT) in Portugal.

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**第 277 条，共 395 条**

**标题:** Parameterized complexity of Max-lifetime Target Coverage in wireless sensor networks

**作者:** Luo, WZ (Luo, Weizhong); Wang, JX (Wang, Jianxin); Guo, J (Guo, Jiong); Chen, JE (Chen, Jianer)

**来源出版物:** THEORETICAL COMPUTER SCIENCE **卷:** 518 **页:** 32-41 **DOI:** 10.1016/j.tcs.2013.06.008 **出版年:** JAN 23 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Max-lifetime Target Coverage can be viewed as a family of problems where the task is to partition the sensors into groups and assign their time-slots such that the coverage lifetime is maximized while satisfying some coverage requirement. Unfortunately, these problems are NP-hard. To gain insight into the source of the complexity, we initiate a systematic parameterized complexity study of two types of Max-lifetime Target Coverage: Max-min Target Coverage and Max-individual Target Coverage. We first prove that both problems remain NP-hard even in the special cases where each target is covered by at most two sensors or each sensor can cover at most two targets. By contrast, restricting the number of targets reduces the complexity of the considered problems. In other words, they are both fixed parameter tractable (FPT) with respect to the parameter "number of targets". Moreover, we extend our studies to the structural parameter "number k of sensors covering at least two targets". Positively, both problems are in FPT with respect to k. Finally, we show that Max-min Target Coverage is in FPT with respect to the combined parameters "number of groups" and "number of targets covered by each group". (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Parameterized and exact algorithm; Fixed parameter tractable; Energy efficiency; Target coverage

**KeyWords Plus:** DOMATIC NUMBER PROBLEM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61103033<br>61173051<br>61232001<br>61128006 |
| DFG Excellence Cluster "Multimodal Computing and Interaction (MMCI)" | |

This work is supported by the National Natural Science Foundation of China under Grants 61103033, 61173051, 61232001, 61128006 and the DFG Excellence Cluster "Multimodal Computing and Interaction (MMCI)".

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**第 278 条，共 395 条**

**标题:** Modified Buongiorno's model for fully developed mixed convection flow of nanofluids in a vertical annular

pipe

**作者:** Malvandi, A (Malvandi, A.); Moshizi, SA (Moshizi, S. A.); Soltani, EG (Soltani, Elias Ghadam); Ganji, DD (Ganji, D. D.)

**来源出版物:** COMPUTERS & FLUIDS **卷:** 89 **页:** 124-132 **DOI:** 10.1016/j.compfluid.2013.10.040 **出版年:** JAN 20 2014

**Web of Science 核心合集中的 "被引频次":** 12

**被引频次合计:** 12

**摘要:** This paper deals with the mixed convective heat transfer of nanofluids through a concentric vertical annulus. Because of the non-adherence of the fluid-solid interface in the presence of nanoparticle migrations, known as slip condition, the Navier's slip boundary condition was considered at the pipe walls. The employed model for nanofluid includes the modified two-component four-equation non-homogeneous equilibrium model that fully accounts for the effects of nanoparticles volume fraction distribution. Assuming the fully developed flow and heat transfer, the basic partial differential equations including continuity, momentum, and energy equations have been reduced to two-point ordinary boundary value differential equations and solved numerically. Two cases including constant heat flux at the outer wall and insulated inner wall (Case A) and constant heat flux at the inner wall with insulated outer wall (Case B) have been considered. Results indicate that the buoyancy has negative effects on the efficiency of the system; however, slip velocity at the surface enhances both the heat transfer rate and the efficiency. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Mixed convection; Nanofluid; Vertical pipe annulus; Thermophoretic diffusion; Brownian motion

**KeyWords Plus:** BOUNDARY-LAYER-FLOW; HEAT-TRANSFER CHARACTERISTICS; NATURAL-CONVECTION; POROUS-MEDIUM; SQUARE ENCLOSURE; HORIZONTAL TUBE; MAGNETIC-FIELD; TRANSPORT; CYLINDER; CHANNEL

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**第 279 条，共 395 条**

**标题:** Soret and Dufour effects in peristaltic transport of physiological fluids with chemical reaction: A mathematical analysis

**作者:** Hayat, T (Hayat, T.); Yasmin, H (Yasmin, Humaira); Al-Yami, M (Al-Yami, Maryem)

**来源出版物:** COMPUTERS & FLUIDS **卷:** 89 **页:** 242-253 **DOI:** 10.1016/j.compfluid.2013.10.038 **出版年:** JAN 20 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** The peristaltic transport of Casson fluid in a two-dimensional asymmetric channel with convective conditions is investigated. The Soret and Dufour effects are studied in the presence of chemical reaction. The relevant flow analysis is modeled for Casson fluid in a wave frame of reference. Computations of solutions are made for the velocity, temperature and concentration fields. Here two yield planes exist due to asymmetry in the channel. These planes are calculated by solving the transcendental equation in terms of the core width. Closed form expression of stream function is constructed. Plots are prepared for a parametric study reflecting the effects of Casson fluid parameter, chemical reaction parameter, Prandtl, Schmidt, Soret, Dufour and Biot numbers. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Peristalsis; Casson model; Convective conditions; Soret and Dufour effects

**KeyWords Plus:** ASYMMETRIC CHANNEL; NEWTONIAN FLUID; MASS-TRANSFER; WALL SLIP; FLOW; MOTION; MODEL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |

| | |
|---|---|
| Deanship of Scientific Research (DSR), King Abdulaziz University (KAU) | 9-130/1433 |
| KAU | |

This research was funded by the Deanship of Scientific Research (DSR), King Abdulaziz University (KAU), under Grant No. (9-130/1433 Hi Ci). The authors, therefore, acknowledge technical and financial support of KAU.


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**第 280 条，共 395 条**

**标题:** A new adaptive decentralized soft decision combining rule for distributed sensor systems with data fusion

**作者:** Aziz, AM (Aziz, Ashraf M.)

**来源出版物:** INFORMATION SCIENCES **卷:** 256 **页:** 197-210 **DOI:** 10.1016/j.ins.2013.09.031 **出版年:** JAN 20 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** A new adaptive decentralized soft decision combining rule for multiple-sensor distributed detection systems with data fusion is proposed. Unlike previously published rules, the proposed combining rule fuses soft decisions of sensors rather than hard decisions of sensors and does not require the knowledge of the false alarm and detection probabilities of the distributed sensors. Such a fusion rule is adaptive, insensitive to the instabilities of the sensor thresholds, and has the advantage of soft decision fusion. The proposed combination rule is derived: (1) for the case where the fusion center estimates the error probabilities of the sensors and (2) for the case where the fusion center does not estimate the error probabilities of the sensors. The performance of the proposed approach is evaluated, and illustrative examples are presented in the cases of Gaussian and Rayleigh distributed observations. Comparisons with the optimum centralized fusion, the optimum soft decision fusion, a soft decision fusion approach based on fusing confidence levels, and the optimum decentralized hard decision fusion are also presented. The results indicate that the proposed approach significantly outperforms the optimum decentralized hard decision fusion, is better than the approach based on fusing confidence levels, and has a performance similar to that of the optimum soft decision fusion. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Data fusion; Distributed sensor systems; Binary decision systems; Hard decision fusion; Soft decision fusion

**KeyWords Plus:** INTRUSION DETECTION; FAULT-DETECTION; MULTITARGET TRACKING; PERFORMANCE ANALYSIS; ASSOCIATION APPROACH; MULTIPLE SENSORS; BINARY DETECTION; NETWORKS; QUANTIZATION; CHANNELS

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**第 281 条，共 395 条**

**标题:** Flexible analysis of RNA-seq data using mixed effects models

**作者:** Turro, E (Turro, Ernest); Astle, WJ (Astle, William J.); Tavare, S (Tavare, Simon)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 2 **页:** 180-188 **DOI:** 10.1093/bioinformatics/btt624 **出版年:** JAN 15 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Motivation: Most methods for estimating differential expression from RNA-seq are based on statistics that compare normalized read counts between treatment classes. Unfortunately, reads are in general too short to be mapped unambiguously to features of interest, such as genes, isoforms or haplotype-specific isoforms. There are methods for estimating expression levels that account for this source of ambiguity. However, the uncertainty is not generally accounted for in downstream analysis of gene expression experiments. Moreover, at the individual transcript level, it can sometimes be too large to allow useful comparisons between treatment groups.
Results: In this article we make two proposals that improve the power, specificity and versatility of expression analysis using RNA-seq data. First, we present a Bayesian method for model selection that accounts for read mapping ambiguities using random effects. This polytomous model selection approach can be used to identify many interesting patterns of gene expression and is not confined to detecting differential expression between two groups. For illustration, we use our method to detect imprinting, different types of regulatory divergence in cis and in trans and differential isoform usage, but many other applications are possible. Second, we present a novel collapsing algorithm for grouping transcripts into inferential units that exploits the posterior correlation between transcript expression levels. The aggregate expression levels of these units can be estimated with useful levels of uncertainty. Our algorithm can improve the precision of expression estimates when uncertainty is large with only a small

reduction in biological resolution.

**文献类型:** Article

**KeyWords Plus:** DIFFERENTIAL EXPRESSION ANALYSIS; GENE-EXPRESSION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Cancer Research UK grant | C14303/A10825 |
| Cambridge Biomedical Research Centre | |
| UK BBSRC | BB/E020372/1 |
| Team Grant from the Fonds de recherche du Quebec-Nature et technologies | |

E.T. and S.T. were funded by Cancer Research UK grant C14303/A10825 and E.T. was further funded by the Cambridge Biomedical Research Centre. W.J.A. was funded by UK BBSRC grant BB/E020372/1 and a Team Grant from the Fonds de recherche du Quebec-Nature et technologies.

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**第 282 条，共 395 条**

**标题:** Model-based clustering for RNA-seq data

**作者:** Si, YQ (Si, Yaqing); Liu, P (Liu, Peng); Li, PH (Li, Pinghua); Brutnell, TP (Brutnell, Thomas P.)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 2 **页:** 197-205 **DOI:** 10.1093/bioinformatics/btt632 **出版年:** JAN 15 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** Motivation: RNA-seq technology has been widely adopted as an attractive alternative to microarray-based methods to study global gene expression. However, robust statistical tools to analyze these complex datasets are still lacking. By grouping genes with similar expression profiles across treatments, cluster analysis provides insight into gene functions and networks, and hence is an important technique for RNA-seq data analysis.
Results: In this manuscript, we derive clustering algorithms based on appropriate probability models for RNA-seq data. An expectation-maximization algorithm and another two stochastic versions of expectation-maximization algorithms are described. In addition, a strategy for initialization based on likelihood is proposed to improve the clustering algorithms. Moreover, we present a model-based hybrid-hierarchical clustering method to generate a tree structure that allows visualization of relationships among clusters as well as flexibility of choosing the number of clusters. Results from both simulation studies and analysis of a maize RNA-seq dataset show that our proposed methods provide better clustering results than alternative methods such as the K-means algorithm and hierarchical clustering methods that are not based on probability models.

**文献类型:** Article

**KeyWords Plus:** DIFFERENTIAL EXPRESSION ANALYSIS; GENE-EXPRESSION; CLASSIFICATION; TRANSCRIPTOMES; NORMALIZATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Science Foundation (NSF) Grants | IOS-0701736<br>IOS-127017 |

This research was supported in part by the National Science Foundation (NSF) Grants (No. IOS-0701736 and IOS-127017).

**第 283 条，共 395 条**

**标题:** tRanslatome: an R/Bioconductor package to portray translational control

**作者:** Tebaldi, T (Tebaldi, Toma); Dassi, E (Dassi, Erik); Kostoska, G (Kostoska, Galena); Viero, G (Viero, Gabriella); Quattrone, A (Quattrone, Alessandro)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 2 **页:** 289-291 **DOI:** 10.1093/bioinformatics/btt634 **出版年:** JAN 15 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** High-throughput technologies have led to an explosion of genomic data available for automated analysis. The consequent possibility to simultaneously sample multiple layers of variation along the gene expression flow requires computational methods integrating raw information from different '-omics'. It has been recently demonstrated that translational control is a widespread phenomenon, with profound and still underestimated regulation capabilities. Although detecting changes in the levels of total messenger RNAs (mRNAs; the transcriptome), of polysomally loaded mRNAs (the translatome) and of proteins (the proteome) is experimentally feasible in a high-throughput way, the integration of these levels is still far from being robustly approached. Here we introduce tRanslatome, a new R/Bioconductor package, which is a complete platform for the simultaneous pairwise analysis of transcriptome, translatome and proteome data. The package includes most of the available statistical methods developed for the analysis of high-throughput data, allowing the parallel comparison of differentially expressed genes and the corresponding differentia(l)ly enriched biological themes. Notably, it also enables the prediction of translational regulatory elements on mRNA sequences. The utility of this tool is demonstrated with two case studies.

**文献类型:** Article

**KeyWords Plus:** DIFFERENTIAL EXPRESSION ANALYSIS; PROTEIN ABUNDANCE; GENOME-WIDE; GENES; CELLS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| University and Scientific Research Services of the Autonomous Province of Trento | |

This work is supported by the University and Scientific Research Services of the Autonomous Province of Trento.

**第 284 条，共 395 条**

**标题:** On the computation of dispersion curves for axisymmetric elastic waveguides using the Scaled Boundary Finite Element Method

**作者:** Gravenkamp, H (Gravenkamp, Hauke); Bause, F (Bause, Fabian); Song, CM (Song, Chongmin)

**来源出版物:** COMPUTERS & STRUCTURES **卷:** 131 **页:** 46-55 **DOI:** 10.1016/j.compstruc.2013.10.014 **出版年:** JAN 15 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** In this paper we propose an algorithm to compute specific parts of the dispersion curves for elastic waveguides. The formulation is based on an axisymmetric representation of the Scaled Boundary Finite Element Method, where the wavenumbers of propagating modes are obtained as solutions of a Hamiltonian eigenvalue problem. The novel solution procedure involves tracing selected modes over a given frequency range and computing the corresponding solutions by means of inverse iteration. The resulting algorithm is applied in the context of material characterization, where the efficiency of the computation is crucial. (c) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Guided waves; Dispersion; Numerical methods; Scaled Boundary Finite Element Method; Cylinders

**KeyWords Plus:** EIGENVALUE PROBLEMS; LAMB WAVES; PRIMER; PLATES

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**第 285 条，共 395 条**

**标题:** Mimetic finite difference method

**作者:** Lipnikov, K (Lipnikov, Konstantin); Manzini, G (Manzini, Gianmarco); Shashkov, M (Shashkov, Mikhail)

**来源出版物:** JOURNAL OF COMPUTATIONAL PHYSICS **卷:** 257 **页:** 1163-1227 **DOI:** 10.1016/j.jcp.2013.07.031 **子辑:** B **出版年:** JAN 15 2014

**Web of Science 核心合集中的 "被引频次":** 14

**被引频次合计:** 14

**摘要:** The mimetic finite difference (MFD) method mimics fundamental properties of mathematical and physical systems including conservation laws, symmetry and positivity of solutions, duality and self-adjointness of differential operators, and exact mathematical identities of the vector and tensor calculus. This article is the first comprehensive review of the 50-year long history of the mimetic methodology and describes in a systematic way the major mimetic ideas and their relevance to academic and real-life problems. The supporting applications include diffusion, electromagnetics, fluid flow, and Lagrangian hydrodynamics problems. The article provides enough details to build various discrete operators on unstructured polygonal and polyhedral meshes and summarizes the major convergence results for the mimetic approximations. Most of these theoretical results, which are presented here as lemmas, propositions and theorems, are either original or an extension of existing results to a more general formulation using polyhedral meshes. Finally, flexibility and extensibility of the mimetic methodology are shown by deriving higher-order approximations, enforcing discrete maximum principles for diffusion problems, and ensuring the numerical stability for saddle-point systems. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Mimetic finite difference method; Discrete vector and tensor calculus; Lagrangian hydrodynamics

**KeyWords Plus:** SHALLOW-WATER EQUATIONS; ANISOTROPIC DIFFUSION-PROBLEMS; TENSOR ARTIFICIAL VISCOSITY; LOGICALLY RECTANGULAR GRIDS; ELEMENT EXTERIOR CALCULUS; SUPPORT-OPERATOR METHOD; GENERAL 2D MESHES; DIV-CURL PROBLEMS; POLYHEDRAL MESHES; ELLIPTIC PROBLEMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Nuclear Security Administration of the US Department of Energy at Los Alamos National Laboratory | DE-AC52-06NA25396 |
| US Department of Energy Office of Science Advanced Scientific Computing Research (ASCR) Program in Applied Mathematics Research | |
| US Department of Energy National Nuclear Security Administration Advanced Simulation and Computing (ASC) Program | |

This work was performed under the auspices of the National Nuclear Security Administration of the US Department of Energy at Los Alamos National Laboratory under Contract No. DE-AC52-06NA25396. The authors gratefully acknowledge the partial support of the US Department of Energy Office of Science Advanced Scientific Computing Research (ASCR) Program in Applied Mathematics Research and the partial support of the US Department of Energy National Nuclear Security Administration Advanced Simulation and Computing (ASC) Program.

**第 286 条，共 395 条**

**标题:** Hybrid method integrating agent-based modeling and heuristic tree search for scheduling of complex batch processes

**作者:** Chu, YF (Chu, Yunfei); You, FQ (You, Fengqi); Wassick, JM (Wassick, John M.)

**来源出版物:** COMPUTERS & CHEMICAL ENGINEERING **卷:** 60 **页:** 277-296 **DOI:** 10.1016/j.compchemeng.2013.09.004 **出版年:** JAN 10 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** We propose a hybrid method integrating agent-based modeling and heuristic tree search to solve complex

batch scheduling problems. Agent-based modeling describes the batch process and constructs a feasible schedule under various constraints. To overcome myopic decisions of agents, the agent-based simulation is embedded into a heuristic search algorithm. The heuristic algorithm partially explores the solution space generated by the agent-based simulation. Because global information of the objective function value is used in the search algorithm, the schedule performance is improved. The proposed method shares the advantages from both agent-based modeling and mixed integer programing, achieving a better balance between the solution efficiency and the schedule performance. As a polynomial-time algorithm, the hybrid method is applicable to large-scale complex industrial scheduling problems. Its performance is demonstrated by comparing with agent-based modeling and mixed integer programing in two case studies, including a complex one from The Dow Chemical Company. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Complex batch scheduling; Hybrid method; Agent-based modeling; Heuristic search; Mixed integer programing

**KeyWords Plus:** CONTINUOUS-TIME FORMULATION; THE-ART SURVEY; GENERAL ALGORITHM; MIXED-INTEGER; MINLP MODELS; BEAM SEARCH; OPTIMIZATION; SYSTEM; PLANTS; IMPLEMENTATION

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**第 287 条，共 395 条**

**标题:** A biparametric similarity measure on intuitionistic fuzzy sets with applications to pattern recognition

**作者:** Boran, FE (Boran, Fatih Emre); Akay, D (Akay, Diyar)

**来源出版物:** INFORMATION SCIENCES **卷:** 255 **页:** 45-57 **DOI:** 10.1016/j.ins.2013.08.013 **出版年:** JAN 10 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** Unlike an ordinary fuzzy set, the concept of intuitionistic fuzzy set (IFS), characterized both by a membership degree and by a non-membership degree, is a more flexible way to capture the uncertainty. One of the important topics in IFS is the measure of the similarity between IFSs for which several studies have been proposed in the literature. Some of those, however, cannot satisfy the axioms of similarity, and provide counter-intuitive cases. In this paper, a new general type of similarity measure for IFS with two parameters is proposed along with its proofs. A comparison between the existing similarity measures and the proposed similarity measure is also performed in terms of counter-intuitive cases. The findings indicate that the proposed similarity measure does not provide any counter-intuitive cases. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Intuitionistic fuzzy set; Distance measure; Similarity measure; Pattern recognition

**KeyWords Plus:** VAGUE SETS; DECISION-MAKING; MEDICAL DIAGNOSIS; DISTANCE; ENTROPY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Scientific and Technological Research Council of Turkey | TUBITAK: 112M030 |

The authors are very grateful to the Editor-in-Chief, Professor Witold Pedrycz, and the anonymous referees, for their constructive comments and suggestions that led to an improved version of this paper. This research is supported by The Scientific and Technological Research Council of Turkey (TUBITAK: 112M030).

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**第 288 条，共 395 条**

**标题:** On type-2 fuzzy sets and their t-norm operations

**作者:** Hu, BQ (Hu, Bao Qing); Kwong, CK (Kwong, C. K.)

**来源出版物:** INFORMATION SCIENCES **卷:** 255 **页:** 58-81 **DOI:** 10.1016/j.ins.2013.07.023 **出版年:** JAN 10 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** In this paper, we discuss t-norm extension operations of general binary operation for fuzzy true values on a

linearly ordered set, with a unit interval and a real number set as special cases. On the basis of it, t-norm operations of type-2 fuzzy sets and properties of type-2 fuzzy numbers are discussed. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Type-2 fuzzy set; Fuzzy true value; t-Norm; Type-2 fuzzy number

**KeyWords Plus:** TRUTH VALUES; UNCERTAINTY MEASURES; TRIANGULAR NORMS; LOGIC SYSTEMS; FUZZISTICS; ALGORITHMS; OPERATORS; ALGEBRA

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Hong Kong Polytechnic University | G-YK06 |
| National Natural Science Foundation of China | 61179038 |

The authors thank the anonymous reviewers and the Editor-in-Chief, Professor Witold Pedrycz for their valuable suggestions in improving this paper. The work described in this paper was jointly supported by grants from The Hong Kong Polytechnic University (Project No. G-YK06) and The National Natural Science Foundation of China (Grant No. 61179038).

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**第 289 条，共 395 条**

**标题:** Aggregation functions for typical hesitant fuzzy elements and the action of automorphisms

**作者:** Bedregal, B (Bedregal, Benjamin); Reiser, R (Reiser, Renata); Bustince, H (Bustince, Humberto); Lopez-Molina, C (Lopez-Molina, Carlos); Torra, V (Torra, Vicenc)

**来源出版物:** INFORMATION SCIENCES **卷:** 255 **页:** 82-99 **DOI:** 10.1016/j.ins.2013.08.024 **出版年:** JAN 10 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** This work studies the aggregation operators on the set of all possible membership degrees of typical hesitant fuzzy sets, which we refer to as H, as well as the action of H-automorphisms which are defined over the set of all finite non-empty subsets of the unitary interval. In order to do so, the partial order <=(H,) based on alpha-normalization, is introduced, leading to a comparison based on selecting the greatest membership degrees of the related fuzzy sets. Additionally, the idea of interval representation is extended to the context of typical hesitant aggregation functions named as the H-representation. As main contribution, we consider the class of finite hesitant triangular norms, studying their properties and analyzing the H-conjugate functions over such operators. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Hesitant fuzzy set; Automorphism; Order; Representability; H-representation; Aggregation operator

**KeyWords Plus:** ATTRIBUTE DECISION-MAKING; LINGUISTIC TERM SETS; OPERATORS; INFORMATION; REPRESENTABILITY; NEGATIONS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Brazilian funding agency CNPq | 307681/2012-2<br>480832/2011-0 |
| Brazilian funding agency FAPERGS | 06/2010<br>11/1520-1 |
| Spanish Ministry of Science | TIN2010-15055 |

This work is supported by the Brazilian funding agencies CNPq (Ed. PQ and universal, under the Process Numbers 307681/2012-2 and 480832/2011-0, respectively) and FAPERGS (Ed. PqG 06/2010, under the process number 11/1520-1) and by the project TIN2010-15055 of the Spanish Ministry of Science.

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**第 290 条，共 395 条**

**标题:** Existence and global exponential stability of almost periodic solutions to Cohen-Grossberg neural networks with distributed delays on time scales

**作者:** Liang, T (Liang, Tian); Yang, YQ (Yang, Yongqing); Liu, Y (Liu, Yang); Li, L (Li, Li)

**来源出版物:** NEUROCOMPUTING **卷:** 123 **特刊:** SI **页:** 207-215 **DOI:** 10.1016/j.neucom.2013.07.010 **出版年:** JAN 10 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** In this paper, a class of Cohen-Grossberg neural networks with distributed delays on time scales are considered. Without assuming bounded conditions on these activation functions, we establish some sufficient conditions on the existence and global exponential stability of almost periodic solutions for Cohen-Grossberg neural networks on time scales. In addition, a comparison of results shows that these results are generalized. Finally, two examples are given to show the obtained results. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Cohen-Grossberg neural network; Almost periodic solution; Distributed delay; Global exponential stability; Time scale

**KeyWords Plus:** VARYING DELAYS; ASYMPTOTIC STABILITY; CRITERIA

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 60875036 |
| Foundation of Key Laboratory of Advanced Process Control for Light Industry (Jiangnan University), Ministry of Education, P.R. China | |
| Fundamental Research Funds for the Central Universities | JUSRP51317B |

This work was jointly supported by the National Natural Science Foundation of China under Grant 60875036, the Project Supported by the Foundation of Key Laboratory of Advanced Process Control for Light Industry (Jiangnan University), Ministry of Education, P.R. China and the Fundamental Research Funds for the Central Universities (JUSRP51317B).

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**第 291 条，共 395 条**

**标题:** An experimental and computational analysis of primary cilia deflection under fluid flow

**作者:** Downs, ME (Downs, Matthew E.); Nguyen, AM (Nguyen, An M.); Herzog, FA (Herzog, Florian A.); Hoey, DA (Hoey, David A.); Jacobs, CR (Jacobs, Christopher R.)

**来源出版物:** COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING **卷:** 17 **期:** 1 **特刊:** SI **页:** 2-10 **DOI:** 10.1080/10255842.2011.653784 **出版年:** JAN 2 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** In this study we have developed a novel model of the deflection of primary cilia experiencing fluid flow accounting for phenomena not previously considered. Specifically, we developed a large rotation formulation that accounts for rotation at the base of the cilium, the initial shape of the cilium and fluid drag at high deflection angles. We utilised this model to analyse full 3D data-sets of primary cilia deflecting under fluid flow acquired with high-speed confocal microscopy. We found a wide variety of previously unreported bending shapes and behaviours. We also analysed post-flow relaxation patterns. Results from our combined experimental and theoretical approach suggest that the average flexural rigidity of primary cilia might be higher than previously reported (Schwartz et al. 1997, Am J Physiol. 272(1 Pt 2):F132-F138). In addition our findings indicate that the mechanics of primary cilia are richly varied and mechanisms may exist to alter their mechanical behaviour.

**文献类型:** Article

**作者关键词:** primary cilium; modelling; mechanical loading; mechanosensing; fluid dynamics

**KeyWords Plus:** MICROTUBULE-ASSOCIATED PROTEINS; BONE-CELLS; TUBULIN ACETYLATION; INTRACELLULAR CA2+; FLEXURAL RIGIDITY; ALPHA-TUBULIN; CALCIUM; MECHANOSENSATION; POLYCYSTIN-1; LOCALIZATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| NIAMS/NIH | AR45989<br>AR54156<br>AR62177 |
| New York State Stem Cell Research Grant | N08G-210 |
| NSF Graduate Research Fellowship | |
| IRCSET-Marie Curie International Mobility Fellowship in Science | |

This publication was made possible by grants AR45989, AR54156 and AR62177 from NIAMS/NIH; New York State Stem Cell Research Grant N08G-210; NSF Graduate Research Fellowship and a IRCSET-Marie Curie International Mobility Fellowship in Science.

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**第 292 条，共 395 条**

**标题:** In situ cell-matrix mechanics in tendon fascicles and seeded collagen gels: implications for the multiscale design of biomaterials

**作者:** Duncan, NA (Duncan, Neil A.); Bruehlmann, SB (Bruehlmann, Sabina B.); Hunter, CJ (Hunter, Christopher J.); Shao, XX (Shao, Xinxin); Kelly, EJ (Kelly, Elizabeth J.)

**来源出版物:** COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING **卷:** 17 **期:** 1 **特刊:** SI **页:** 39-47 **DOI:** 10.1080/10255842.2012.742075 **出版年:** JAN 2 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 5

**摘要:** Designing biomaterials to mimic and function within the complex mechanobiological conditions of connective tissues requires a detailed understanding of the micromechanical environment of the cell. The objective of our study was to measure the in situ cell-matrix strains from applied tension in both tendon fascicles and cell-seeded type I collagen scaffolds using laser scanning confocal microscopy techniques. Tendon fascicles and collagen gels were fluorescently labelled to simultaneously visualise the extracellular matrix and cell nuclei under applied tensile strains of 5%. There were significant differences observed in the micromechanics at the cell-matrix scale suggesting that the type I collagen scaffold did not replicate the pattern of native tendon strains. In particular, although the overall in situ tensile strains in the matrix were quite similar (approximate to 2.5%) between the tendon fascicles and the collagen scaffolds, there were significant differences at the cell-matrix boundary with visible shear across cell nuclei of >1m measured in native tendon which was not observed at all in the collagen scaffolds. Similarly, there was significant non-uniformity of intercellular strains with relative sliding observed between cell rows in tendon which again was not observed in the collagen scaffolds where the strain environment was much more uniform. If the native micromechanical environment is not replicated in biomaterial scaffolds, then the cells may receive incorrect or mixed mechanical signals which could affect their biosynthetic response to mechanical load in tissue engineering applications. This study highlights the importance of considering the microscale mechanics in the design of biomaterial scaffolds and the need to incorporate such features in computational models of connective tissues.

**文献类型:** Article
**作者关键词:** tendon; micromechanics; collagen gel; confocal microscopy; biomaterials; cell-matrix
**KeyWords Plus:** SMOOTH-MUSCLE-CELLS; CONFOCAL MICROSCOPY; ANNULUS FIBROSUS; BIOMECHANICAL FUNCTION; 3-DIMENSIONAL CULTURE; INTERVERTEBRAL DISC; CONNECTIVE TISSUES; CROSS-LINKING; MODEL; FIBRILS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Natural Sciences and Engineering Research Council (NSERC) | |
| Canadian Foundation for Innovation (CFI) | |
| Canada Research Chair in Orthopaedic Bioengineering | |

This research was supported by the Natural Sciences and Engineering Research Council (NSERC), the Canadian Foundation for Innovation (CFI) and the Canada Research Chair in Orthopaedic Bioengineering (N.A.D.).

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**第 293 条，共 395 条**

**标题:** Layered water in crystal interfaces as source for bone viscoelasticity: arguments from a multiscale approach
**作者:** Eberhardsteiner, L (Eberhardsteiner, Lukas); Hellmich, C (Hellmich, Christian); Scheiner, S (Scheiner, Stefan)
**来源出版物:** COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING **卷:** 17 **期:** 1 **特刊:** SI **页:** 48-63 **DOI:** 10.1080/10255842.2012.670227 **出版年:** JAN 2 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5
**摘要:** Extracellular bone material can be characterised as a nanocomposite where, in a liquid environment, nanometre-sized hydroxyapatite crystals precipitate within as well as between long fibre-like collagen fibrils (with diameters in the 100nm range), as evidenced from neutron diffraction and transmission electron microscopy. Accordingly, these crystals are referred to as interfibrillar mineral' and extrafibrillar mineral', respectively. From a topological viewpoint, it is probable that the mineralisations start on the surfaces of the collagen fibrils (mineral-encrusted fibrils'), from where the crystals grow both into the fibril and into the extrafibrillar space. Since the mineral concentration depends on the pore spaces within the fibrils and between the fibrils (there is more space between them), the majority of the crystals (but clearly not all of them) typically lie in the extrafibrillar space. There, larger crystal agglomerations or clusters, spanning tens to hundreds of nanometers, develop in the course of mineralisation, and the micromechanics community has identified the pivotal role, which this extrafibrillar mineral plays for tissue elasticity. In such extrafibrillar crystal agglomerates, single crystals are stuck together, their surfaces being covered with very thin water layers. Recently, the latter have caught our interest regarding strength properties (Fritsch et al. 2009 J Theor Biol. 260(2): 230-252) - we have identified these water layers as weak interfaces in the extrafibrillar mineral of bone. Rate-independent gliding effects of crystals along the aforementioned interfaces, once an elastic threshold is surpassed, can be related to overall elastoplastic material behaviour of the hierarchical material bone'. Extending this idea, the present paper is devoted to viscous gliding along these interfaces, expressing itself, at the macroscale, in the well-known experimentally evidenced phenomenon of bone viscoelasticity. In this context, a multiscale homogenisation scheme is extended to viscoelasticity, mineral-cluster-specific creep parameters are identified from three-point bending tests on hydrated bone samples, and the model is validated by statistically and physically independent experiments on partially dried samples. We expect this model to be relevant when it comes to prediction of time-dependent phenomena, e.g. in the context of bone remodelling.
**文献类型:** Article
**作者关键词:** viscoelasticity; bone; multiscale; creep; relaxation; gliding event
**KeyWords Plus:** ATOMIC-FORCE MICROSCOPY; TURKEY LEG TENDON; LAPLACE TRANSFORM INVERSION; HUMAN TRABECULAR BONE; ELASTIC PROPERTIES; CORTICAL BONE; COMPACT-BONE; MINERALIZED TISSUES; HYDROXYAPATITE BIOMATERIALS; CONTINUUM MICROMECHANICS
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| European Research Council (ERC) | FP7-257023 |

The authors gratefully acknowledge financial support from the European Research Council (ERC), through project

FP7-257023, MICROBONE. They further appreciate the support of Andreas Fritsch with microelastoplasticity of bone.

**第 294 条，共 395 条**

**标题:** Subtraction and division operations over hesitant fuzzy sets

**作者:** Liao, HC (Liao, Huchang); Xu, ZS (Xu, Zeshui)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 27 **期:** 1 **页:** 65-72 **DOI:** 10.3233/IFS-130978 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** Hesitant fuzzy set (HFS), which permits the membership having a set of possible values, has turned out to be a powerful structure in expressing uncertainty and vagueness. In this paper, we propose two new basic operations over HFSs, which are the subtraction operation and the division operation. Several operational laws of these two operations over HFSs are given. The relationship between intuitionistic fuzzy set (IFS) and HFS is further verified in terms of these two operations. In addition, the relationships between these two operations are also established in this paper. The operations can be immediately extended into interval-valued hesitant fuzzy sets and dual hesitant fuzzy sets. The subtraction and division operations are significantly important in forming the integral theoretical framework of HFS and may have many practical applications in decision making.

**文献类型:** Article

**作者关键词:** Hesitant fuzzy set; subtraction operation; division operation

**KeyWords Plus:** GROUP DECISION-MAKING; AGGREGATION OPERATORS; PREFERENCE RELATIONS; INFORMATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 71071161<br>61273209 |

The authors are very grateful to the anonymous reviewers for their insightful and constructive comments and suggestions that have led to an improved version of this paper. The work was supported in part by the National Natural Science Foundation of China (No. 71071161 and 61273209).

**第 295 条，共 395 条**

**标题:** Heterogeneity in Mobile Cloud Computing: Taxonomy and Open Challenges

**作者:** Sanaei, Z (Sanaei, Zohreh); Abolfazli, S (Abolfazli, Saeid); Gani, A (Gani, Abdullah); Buyya, R (Buyya, Rajkumar)

**来源出版物:** IEEE COMMUNICATIONS SURVEYS AND TUTORIALS **卷:** 16 **期:** 1 **页:** 369-392 **DOI:** 10.1109/SURV.2013.050113.00090 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** The unabated flurry of research activities to augment various mobile devices by leveraging heterogeneous cloud resources has created a new research domain called Mobile Cloud Computing (MCC). In the core of such a non-uniform environment, facilitating interoperability, portability, and integration among heterogeneous platforms is nontrivial. Building such facilitators in MCC requires investigations to understand heterogeneity and its challenges over the roots. Although there are many research studies in mobile computing and cloud computing, convergence of these two areas grants further academic efforts towards flourishing MCC. In this paper, we define MCC, explain its major challenges, discuss heterogeneity in convergent computing (i.e. mobile computing and cloud computing) and networking (wired and wireless networks), and divide it into two dimensions, namely vertical and horizontal. Heterogeneity roots are analyzed and taxonomized as hardware, platform, feature, API, and network. Multidimensional heterogeneity in MCC results in application and code fragmentation problems that impede development of cross-platform mobile applications which is mathematically described. The impacts of heterogeneity in MCC are investigated, related opportunities and challenges are identified, and predominant heterogeneity handling

approaches like virtualization, middleware, and service oriented architecture (SOA) are discussed. We outline open issues that help in identifying new research directions in MCC.

**文献类型:** Article

**作者关键词:** Mobile Cloud Computing; Vertical and Horizontal heterogeneity; Mobile computation offloading; Interoperability; Portability; Seamless communication

**KeyWords Plus:** WIRELESS NETWORKS; SYSTEMS; ENERGY; MANAGEMENT; INTERNET; PLATFORM; DEVICES; SCREEN

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Malaysian Ministry of Higher Education under the University of Malaya High Impact Research Grant | UM.C/HIR/MOHE/FCSIT/03 |

This work is funded by the Malaysian Ministry of Higher Education under the University of Malaya High Impact Research Grant - UM.C/HIR/MOHE/FCSIT/03.

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**第 296 条，共 395 条**

**标题:** Context Aware Computing for The Internet of Things: A Survey

**作者:** Perera, C (Perera, Charith); Zaslavsky, A (Zaslavsky, Arkady); Christen, P (Christen, Peter); Georgakopoulos, D (Georgakopoulos, Dimitrios)

**来源出版物:** IEEE COMMUNICATIONS SURVEYS AND TUTORIALS **卷:** 16 **期:** 1 **页:** 414-454 **DOI:** 10.1109/SURV.2013.042313.00197 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** As we are moving towards the Internet of Things (IoT), the number of sensors deployed around the world is growing at a rapid pace. Market research has shown a significant growth of sensor deployments over the past decade and has predicted a significant increment of the growth rate in the future. These sensors continuously generate enormous amounts of data. However, in order to add value to raw sensor data we need to understand it. Collection, modelling, reasoning, and distribution of context in relation to sensor data plays critical role in this challenge. Context-aware computing has proven to be successful in understanding sensor data. In this paper, we survey context awareness from an IoT perspective. We present the necessary background by introducing the IoT paradigm and context-aware fundamentals at the beginning. Then we provide an in-depth analysis of context life cycle. We evaluate a subset of projects (50) which represent the majority of research and commercial solutions proposed in the field of context-aware computing conducted over the last decade (2001-2011) based on our own taxonomy. Finally, based on our evaluation, we highlight the lessons to be learnt from the past and some possible directions for future research. The survey addresses a broad range of techniques, methods, models, functionalities, systems, applications, and middleware solutions related to context awareness and IoT. Our goal is not only to analyse, compare and consolidate past research work but also to appreciate their findings and discuss their applicability towards the IoT.

**文献类型:** Article

**作者关键词:** Internet of things; context awareness; sensor networks; sensor data; context life cycle; context reasoning; context modelling; ubiquitous; pervasive; mobile; middleware

**KeyWords Plus:** SENSOR NETWORKS; INFORMATION; WEB; MIDDLEWARE; FRAMEWORK; ONTOLOGY; SERVICES; SYSTEMS; ENVIRONMENTS; PRINCIPLES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |

| | |
|---|---|
| SSN TCP, CSIRO, Australia | |
| ICT OpenIoT Project | |
| European Commission | FP7-ICT-2011-7-287305-OpenIoT |

Authors acknowledge support from SSN TCP, CSIRO, Australia and ICT OpenIoT Project, which is co-funded by the European Commission under seventh framework program, contract number FP7-ICT-2011-7-287305-OpenIoT. The Author(s) acknowledge help and contributions from The Australian National University.

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**第 297 条，共 395 条**

**标题:** Effect of exercise on blood flow through the aortic valve: a combined clinical and numerical study

**作者:** Bahraseman, HG (Bahraseman, Hamidreza Ghasemi); Hassani, K (Hassani, Kamran); Navidbakhsh, M (Navidbakhsh, Mahdi); Espino, DM (Espino, Daniel M.); Sani, ZA (Sani, Zahra Alizadeh); Fatourae, N (Fatourae, Nasser)

**来源出版物:** COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING **卷:** 17 **期:** 16 **页:** 1821-1834 **DOI:** 10.1080/10255842.2013.771179 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** The aim of this study was to measure the cardiac output and stroke volume for a healthy subject by coupling an echocardiogram Doppler (echo-Doppler) method with a fluid-structure interaction (FSI) simulation at rest and during exercise. Blood flow through aortic valve was measured by Doppler flow echocardiography. Aortic valve geometry was calculated by echocardiographic imaging. An FSI simulation was performed, using an arbitrary Lagrangian-Eulerian mesh. Boundary conditions were defined by pressure loads on ventricular and aortic sides. Pressure loads applied brachial pressures with (stage 1) and without (stage 2) differences between brachial, central and left ventricular pressures. FSI results for cardiac output were 15.4% lower than Doppler results for stage 1 (r = 0.999). This difference increased to 22.3% for stage 2. FSI results for stroke volume were undervalued by 15.3% when compared to Doppler results at stage 1 and 26.2% at stage 2 (r = 0.94). The predicted mean backflow of blood was 4.6%. Our results show that numerical methods can be combined with clinical measurements to provide good estimates of patient-specific cardiac output and stroke volume at different heart rates.

**文献类型:** Article

**作者关键词:** cardiac output; echo-Doppler flow; fluid-structure interaction; stroke volume

**KeyWords Plus:** FLUID-STRUCTURE INTERACTION; FINITE-ELEMENT MODEL; CARDIAC-OUTPUT; HEART-VALVES; DOPPLER-ECHOCARDIOGRAPHY; MECHANICAL-PROPERTIES; CHORDAE TENDINEAE; SIMULATION; THERMODILUTION; LEAFLETS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| European Community | 252278 |

DME is currently supported by a Marie Curie Intra-European Fellowship within the 7th European Community Framework Programme (Programme number: FP7/2007-2013; under grant agreement no252278).

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**第 298 条，共 395 条**

**标题:** Robust PLS approach for KPI-related prediction and diagnosis against outliers and missing data

**作者:** Yin, S (Yin, Shen); Wang, G (Wang, Guang); Yang, X (Yang, Xu)

**来源出版物:** INTERNATIONAL JOURNAL OF SYSTEMS SCIENCE **卷:** 45 **期:** 7 **特刊:** SI **页:** 1375-1382 **DOI:** 10.1080/00207721.2014.886136 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** In practical industrial applications, the key performance indicator (KPI)-related prediction and diagnosis are quite important for the product quality and economic benefits. To meet these requirements, many advanced prediction and monitoring approaches have been developed which can be classified into model-based or data-driven techniques.

Among these approaches, partial least squares (PLS) is one of the most popular data-driven methods due to its simplicity and easy implementation in large-scale industrial process. As PLS is totally based on the measured process data, the characteristics of the process data are critical for the success of PLS. Outliers and missing values are two common characteristics of the measured data which can severely affect the effectiveness of PLS. To ensure the applicability of PLS in practical industrial applications, this paper introduces a robust version of PLS to deal with outliers and missing values, simultaneously. The effectiveness of the proposed method is finally demonstrated by the application results of the KPI-related prediction and diagnosis on an industrial benchmark of Tennessee Eastman process.

**文献类型:** Article

**作者关键词:** PLS; partial least squares; data-driven; KPI; key performance indicator; prediction; diagnosis; outlier; missing value; robust

**KeyWords Plus:** PARTIAL LEAST-SQUARES; MARKOVIAN JUMP SYSTEMS; SENSOR SATURATIONS; FAULT-DETECTION; REGRESSION; ELEMENTS; CHARTS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| China postdoctoral science foundation | 2012M520738 |
| Heilongjiang postdoctoral fund | LBH-Z12092 |

The authors acknowledge the support of China postdoctoral science foundation [grant number 2012M520738]; Heilongjiang postdoctoral fund [grant number LBH-Z12092].

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**第 299 条，共 395 条**

**标题:** Transformation methods for estimation of subject-specific scapular muscle attachment sites

**作者:** Bolsterlee, B (Bolsterlee, Bart); Zadpoor, AA (Zadpoor, Amir Abbas)

**来源出版物:** COMPUTER METHODS IN BIOMECHANICS AND BIOMEDICAL ENGINEERING **卷:** 17 **期:** 13 **页:** 1492-1501 **DOI:** 10.1080/10255842.2012.753067 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** The parameters that describe the soft tissue structures are among the most important anatomical parameters for subject-specific biomechanical modelling. In this paper, we study one of the soft tissue parameters, namely muscle attachment sites. Two new methods are proposed for transformation of the muscle attachment sites of any reference scapula to any destination scapula based on four palpable bony landmarks. The proposed methods as well as one previously proposed method have been applied for transformation of muscle attachment sites of one reference scapula to seven other scapulae. The transformation errors are compared among the three methods. Both proposed methods yield significantly less ($p < 0.05$) prediction error as compared to the currently available method. Furthermore, we investigate whether there exists a reference scapula that performs significantly better than other scapulae when used for transformation of muscle attachment sites. Seven different scapulae were used as reference scapula and their resulting transformation errors were compared with each other. In the considered statistical population, no such a thing as an ideal scapula was found. There was, however, one outlier scapula that performed significantly worse than the other scapulae when used as a reference. The effect of perturbations in both muscle attachment sites and other muscle properties is studied by comparing muscle force predictions of a musculoskeletal model between perturbed and non-perturbed versions of the model. It is found that 10mm variations in muscle attachments have more significant effect on muscle force predictions than 10% variations in any of the other four analysed muscle properties.

**文献类型:** Article

**作者关键词:** muscle attachment; scapula; patient-specific; musculoskeletal model

**KeyWords Plus:** ANTHROPOMETRIC SCALING METHOD; 3 BONY LANDMARKS; MUSCULOSKELETAL MODEL; SHOULDER MECHANISM; GEOMETRY PARAMETERS; JOINT; KNEE; EXTREMITY; ELBOW; HIP

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| European Information and Communication Technologies Community | 248693 |

The research leading to these results has received funding from the European Information and Communication Technologies Community Seventh Framework Program (FP7/2007-2013) under grant agreement no. 248693.


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**第 300 条，共 395 条**

**标题:** The local existence of solutions for random fuzzy integro-differential equations under generalized H-differentiability

**作者:** Vu, H (Ho Vu); Hoa, NV (Ngo Van Hoa); Phu, ND (Nguyen Dinh Phu)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 6 **页:** 2701-2717 **DOI:** 10.3233/IFS-130940 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** In this paper, we consider the random fuzzy integro-differential equations (RFIDEs) under generalized H-differentiability. The local existence of solutions for RFIDEs with initial conditions under generalized H-differentiability is studied. Two theorems for local existence of solutions are given and proved. Some examples are given to illustrate these results.

**文献类型:** Article

**作者关键词:** Random fuzzy; random fuzzy differential equations; random fuzzy integro-differential equations; generalized Hukuhara derivative

**KeyWords Plus:** RANDOM-VARIABLES; VALUED FUNCTIONS; THEOREMS; UNIQUENESS

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| 基金资助机构 | 授权号 |
| --- | --- |
| Vietnam National Foundation for Science and Technology Development (NAFOSTED) | |

The authors gratefully acknowledge the referees for their careful reading and many valuable remarks which improved the presentation of the paper. The authors wish to express their sincere thanks to the support given by Vietnam National Foundation for Science and Technology Development (NAFOSTED).

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**第 300 条，共 395 条**

**标题:** The local existence of solutions for random fuzzy integro-differential equations under generalized H-differentiability

**作者:** Vu, H (Ho Vu); Hoa, NV (Ngo Van Hoa); Phu, ND (Nguyen Dinh Phu)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 6 **页:** 2701-2717 **DOI:** 10.3233/IFS-130940 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** In this paper, we consider the random fuzzy integro-differential equations (RFIDEs) under generalized H-differentiability. The local existence of solutions for RFIDEs with initial conditions under generalized H-differentiability is studied. Two theorems for local existence of solutions are given and proved. Some examples are given to illustrate these results.

**文献类型:** Article

**作者关键词:** Random fuzzy; random fuzzy differential equations; random fuzzy integro-differential equations; generalized Hukuhara derivative

**KeyWords Plus:** RANDOM-VARIABLES; VALUED FUNCTIONS; THEOREMS; UNIQUENESS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Vietnam National Foundation for Science and Technology Development (NAFOSTED) | |

The authors gratefully acknowledge the referees for their careful reading and many valuable remarks which improved the presentation of the paper. The authors wish to express their sincere thanks to the support given by Vietnam National Foundation for Science and Technology Development (NAFOSTED).

**第 301 条，共 395 条**

**标题:** Models for selecting an ERP system with hesitant fuzzy linguistic information

**作者:** Lin, R (Lin, Rui); Zhao, XF (Zhao, Xiaofei); Wei, GW (Wei, Guiwu)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 5 **页:** 2155-2165 **DOI:** 10.3233/IFS-130890 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** In this paper, we investigate the multiple attribute decision making(MADM) problem based on the arithmetic aggregation operators with hesitant fuzzy linguistic information. Then, motivated by the ideal of traditional arithmetic operation, we have developed some aggregation operators for aggregating hesitant fuzzy linguistic information: hesitant fuzzy linguistic weighted average (HFLWA) operator, hesitant fuzzy linguistic ordered weighted average (HFLOWA) operator and hesitant fuzzy linguistic hybrid average (HFLHA) operator. The prominent characteristic of these proposed operators are studied. Furthermore, we extend the hesitant fuzzy linguistic set to hesitant fuzzy uncertain linguistic set. Then, we have utilized these operators to develop some approaches to solve the hesitant fuzzy linguistic multiple attribute decision making problems for ERP systems selection. Finally, a practical example for ERP systems selection is given to verify the developed approach and to demonstrate its practicality and effectiveness.

**文献类型:** Article

**作者关键词:** Multiple attribute decision making (MADM); hesitant fuzzy linguistic sets; hesitant fuzzy uncertain linguistic sets; ERP systems

**KeyWords Plus:** GROUP DECISION-MAKING; AGGREGATION OPERATORS; PREFERENCE RELATIONS; SETS; ENVIRONMENT

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61174149 |
| Humanities and Social Sciences Foundation of Ministry of Education of the People's Republic of China | 12YJC630314 |

The work was supported by the National Natural Science Foundation of China under Grant No. 61174149 and the Humanities and Social Sciences Foundation of Ministry of Education of the People's Republic of China under Grant No. 12YJC630314.

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**第 302 条，共 395 条**

**标题:** Hesitant fuzzy linguistic aggregation operators and their applications to multiple attribute group decision making

**作者:** Zhang, ZM (Zhang, Zhiming); Wu, C (Wu, Chong)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 5 **页:** 2185-2202 **DOI:** 10.3233/IFS-130893 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** Hesitant fuzzy sets, originally proposed by Torra, can be used as an efficient tool for dealing with situations in which experts hesitate between several numerical values to define the membership of an element in a quantitative setting. However, similar situations may occur in qualitative settings where experts hesitate between several possible linguistic terms to assess the membership of an element. To deal with such cases, Rodriguez et al. [21] introduced the concept of a hesitant fuzzy linguistic term set (HFLTS). A hesitant fuzzy linguistic term set is an ordered finite subset of consecutive linguistic terms of a linguistic term set. However, it is noted that there are situations where the

linguistic terms contained in the hesitant fuzzy linguistic term set are not consecutive. To address this issue, in this paper, we extend the hesitant fuzzy linguistic term set and introduce the concept of a hesitant fuzzy linguistic set (HFLS) by combining the hesitant fuzzy set and the fuzzy linguistic approach. Then, we develop some hesitant fuzzy linguistic aggregation operators to aggregate the input arguments taking the form of hesitant fuzzy linguistic sets (HFLSs). We also investigate the relationships among these operators. Furthermore, we extend the hesitant fuzzy linguistic set to uncertain linguistic environments, i.e., present the concept of a hesitant fuzzy uncertain linguistic set (HFULS). We develop some hesitant fuzzy uncertain linguistic aggregation operators to aggregate the input arguments taking the form of hesitant fuzzy uncertain linguistic sets (HFULSs). We study the relationships among these operators. Next, we utilize the hesitant fuzzy linguistic aggregation operators to develop an approach to multiple attribute group decision making with hesitant fuzzy linguistic information and utilize the hesitant fuzzy uncertain linguistic aggregation operators to develop an approach to multiple attribute group decision making with hesitant fuzzy uncertain linguistic information. Finally, we apply both the developed approaches to two numerical examples.

**文献类型:** Article

**作者关键词:** Hesitant fuzzy sets; hesitant fuzzy linguistic sets; hesitant fuzzy uncertain linguistic sets; hesitant fuzzy linguistic aggregation operators; hesitant fuzzy uncertain linguistic aggregation operators

**KeyWords Plus:** PREFERENCE RELATIONS; OWA OPERATORS; UNCERTAIN-INFORMATION; SETS; ENVIRONMENT; CONSENSUS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61073121 |
| Natural Science Foundation of Hebei Province of China | F2010000318<br>F2012201014<br>A2012201033 |

The authors thank the anonymous referees for their valuable suggestions in improving this paper. This work was supported by the National Natural Science Foundation of China (Grant No. 61073121) and the Natural Science Foundation of Hebei Province of China (Grant Nos. F2010000318, F2012201014, and A2012201033).

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**第 303 条，共 395 条**

**标题:** A multicriteria decision-making method using aggregation operators for simplified neutrosophic sets

**作者:** Ye, J (Ye, Jun)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 5 **页:** 2459-2466 **DOI:** 10.3233/IFS-130916 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** The paper introduces the concept of simplified neutrosophic sets (SNSs), which are a subclass of neutrosophic sets, and defines the operational laws of SNSs. Then, we propose some aggregation operators, including a simplified neutrosophic weighted arithmetic average operator and a simplified neutrosophic weighted geometric average operator. Based on the two aggregation operators and cosine similarity measure for SNSs, a multicriteria decision-making method is established in which the evaluation values of alternatives with respective to criteria are represented by the form of SNSs. The ranking order of alternatives is performed through the cosine similarity measure between an alternative and the ideal alternative and the best one(s) can be determined as well. Finally, a numerical example shows the application of the proposed method.

**文献类型:** Article

**作者关键词:** Neutrosophic set; simplified neutrosophic set; operational laws; aggregation operator; cosine similarity measure; multicriteria decision-making

**KeyWords Plus:** INTUITIONISTIC FUZZY-SETS; NUMBERS

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**第 304 条，共 395 条**

**标题:** Stereoscopic 3D displays and human performance: A comprehensive review

**作者:** McIntire, JP (McIntire, John P.); Havig, PR (Havig, Paul R.); Geiselman, EE (Geiselman, Eric E.)

**来源出版物:** DISPLAYS **卷:** 35 **期:** 1 **页:** 18-26 **DOI:** 10.1016/j.displa.2013.10.004 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 5

**摘要:** To answer the question: "what is 3D good for?" we reviewed the body of literature concerning the performance implications of stereoscopic 3D (S3D) displays versus non-stereo (20 or monoscopic) displays. We summarized results of over 160 publications describing over 180 experiments spanning 51 years of research in various fields including human factors psychology/engineering, human-computer interaction, vision science, visualization, and medicine. Publications were included if they described at least one task with a performance-based experimental evaluation of an S3D display versus a non-stereo display under comparable viewing conditions. We classified each study according to the experimental task(s) of primary interest: (a) judgments of positions and/or distances; (b) finding, identifying, or classifying objects; (c) spatial manipulations of real or virtual objects; (d) navigation; (e) spatial understanding, memory, or recall and (f) learning, training, or planning. We found that S3D display viewing improved performance over traditional non-stereo (2D) displays in 60% of the reported experiments. In 15% of the experiments, S3D either showed a marginal benefit or the results were mixed or unclear. In 25% of experiments, S3D displays offered no benefit over non-stereo 20 viewing (and in some rare cases, harmed performance). From this review, stereoscopic 3D displays were found to be most useful for tasks involving the manipulation of objects and for finding/identifying/classifying objects or imagery. We examine instances where S3D did not support superior task performance. We discuss the implications of our findings with regard to various fields of research concerning stereoscopic displays within the context of the investigated tasks. Published by Elsevier B.V.

**文献类型:** Review

**作者关键词:** Stereopsis; Three-dimensional display; Human factors; Depth perception; Binocular vision; S3D

**KeyWords Plus:** HEAD-SLAVED CAMERA; BINOCULAR VISION; 3-D DISPLAYS; VIRTUAL ENVIRONMENTS; DEPTH-PERCEPTION; 2 EYES; STEREOPSIS; PREHENSION; DESIGN; TASKS

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**第 305 条，共 395 条**

**标题:** Some new hybrid weighted aggregation operators under hesitant fuzzy multi-criteria decision making environment

**作者:** Liao, HC (Liao, Huchang); Xu, ZS (Xu, Zeshui)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 4 **页:** 1601-1617 **DOI:** 10.3233/IFS-130841 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 10

**被引频次合计:** 10

**摘要:** Hesitant fuzzy set, as a new generalized type of fuzzy set, is an efficient and powerful structure in expressing uncertainty and vagueness and has attracted more and more scholars' attention. The aim of this paper is to develop some new aggregation operators to fuse hesitant fuzzy information. The hesitant fuzzy hybrid arithmetical averaging (HFHAA) operator, the hesitant fuzzy hybrid arithmetical geometric (HFHAG) operator, the quasi HFHAA operator and the quasi HFHAG operator are proposed and their properties are investigated. On the basis of these proposed operators, some algorithms are introduced to aid multi-criteria single person decision making and multi-criteria group decision making respectively. Some examples are provided to illustrate the practicality and validity of our proposed procedures.

**文献类型:** Article

**作者关键词:** Group decision making; hesitant fuzzy set; hybrid weighted aggregation operator; multi-criteria decision making

**KeyWords Plus:** SETS; INFORMATION

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基金资助致谢:

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 71071161<br>61273209 |

The authors are very grateful to the anonymous reviewers for their insightful and constructive comments and suggestions that have led to an improved version of this paper. The work was supported in part by the National Natural Science Foundation of China (No. 71071161 and 61273209).

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**第 306 条，共 395 条**

**标题:** Some types of falling fuzzy filters of BL-algebras and its applications

**作者:** Zhan, JM (Zhan, Jianming); Jun, YB (Jun, Young Bae); Kim, HS (Kim, Hee Sik)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 4 **页:** 1675-1685 **DOI:** 10.3233/IFS-130847 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** The notions of falling fuzzy (implicative, positive implicative and fantastic) filters of a BL-algebra are introduced based on the theory of falling shadows and fuzzy sets. The relations between fuzzy (implicative, positive implicative and fantastic) filters and falling fuzzy (implicative, positive implicative and fantastic) filters are provided. Finally, we apply the concept of falling fuzzy inference relations to BL-algebras and obtain some related results.

**文献类型:** Article

**作者关键词:** Falling shadow; filter; fuzzy filter; falling fuzzy (implicative, positive implicative and fantastic) filter; falling fuzzy inference relation

**KeyWords Plus:** SHADOWS; (IS-AN-ELEMENT-OF; SETS

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基金资助致谢:

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61175055 |
| Innovation Term of Higher Education of Hubei Province, China | T201109 |
| Natural Science Foundation of Hubei Province | 2012FFB01101 |
| Natural Science Foundation of Education Committee of Hubei Province | D20131903 |
| Innovation Term of Hubei University for Nationalities | MY2012T002 |

This research is partially supported by a grant of National Natural Science Foundation of China (61175055), Innovation Term of Higher Education of Hubei Province, China (T201109), Natural Science Foundation of Hubei Province (2012FFB01101), Natural Science Foundation of Education Committee of Hubei Province (D20131903) and Innovation Term of Hubei University for Nationalities (MY2012T002).

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**第 307 条，共 395 条**

**标题:** Uncertainty measure of Atanassov's intuitionistic fuzzy T equivalence information systems

**作者:** Xu, WH (Xu, Weihua); Liu, YF (Liu, Yufeng); Sun, WX (Sun, Wenxin)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 4 **页:** 1799-1811 **DOI:** 10.3233/IFS-130859 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Atanassov's intuitionistic fuzzy T equivalence information systems are natural extensions of fuzzy T equivalence information systems. The aim of this paper is to investigate the uncertainty measures of knowledge in Atanassov's intuitionistic fuzzy T equivalence information systems. At the first, we introduce the concepts of knowledge granulation, knowledge entropy and knowledge uncertainty measure in Atanassov's intuitionistic fuzzy T equivalence information systems, and some important properties of them are studied. From these properties, it can be shown that these measures provide important approaches to measuring the discernibility ability of different

knowledge in Atanassov's intuitionistic fuzzy T equivalence information systems. And relationships among knowledge granulation, knowledge entropy and knowledge uncertainty measure are considered. Furthermore, we introduce the definition of rough entropy of rough sets in Atanassov's intuitionistic fuzzy T equivalence information systems. By an example, it is shown that the rough entropy of rough set is more accurate than natural extension of classical rough degree to measure the roughness of rough set in Atanassov's intuitionistic fuzzy T equivalence information systems.

**文献类型:** Article

**作者关键词:** Information system; Atanassov's intuitionistic fuzzy T equivalence relation; Atanassov's intuitionistic fuzzy rough sets; uncertainty measure

**KeyWords Plus:** ROUGH SET-THEORY; GROUP DECISION-MAKING; KNOWLEDGE GRANULATION; AGGREGATION OPERATORS; ENTROPY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61105041<br>71071124<br>11001227 |
| Postdoctoral Science Foundation of China | 20100481331 |
| Science and Technology Program of Board of Education of Chongqing | KJ120805 |
| National Natural Science Foundation of CQCSTC | cstc2011jjA40037 |
| Graduate Innovation Foundation of Chongqing University of Technology | YCX2011312 |

This work is supported by National Natural Science Foundation of China (No. 61105041, 71071124 and 11001227), Postdoctoral Science Foundation of China (No. 20100481331), Science and Technology Program of Board of Education of Chongqing (KJ120805), National Natural Science Foundation of CQCSTC (No. cstc2011jjA40037), and Graduate Innovation Foundation of Chongqing University of Technology (No. YCX2011312).

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**第 308 条，共 395 条**

**标题:** Design an intelligent proportional-derivative (PD) feedback linearization control for nonholonomic-wheeled mobile robot

**作者:** Khooban, MH (Khooban, Mohammad Hassan)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 4 **页:** 1833-1843 **DOI:** 10.3233/IFS-130863 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** This paper proposes a novel optimal Proportional-derivative (PD) Feedback linearization controller to achieve the best trajectory tracking for nonholonomic Wheeled Mobile Robots (WMRs). In the core of the proposed method, a novel population-based optimization technique, called Teaching-Learning-Based Optimization (TLBO), is employed for evolving the PD controller. The proposed controller can handle the problem of the integrated kinematic and dynamic tracking difficulty. To show the effectiveness of the proposed method, the performance of the optimal TLBO-PD controller is compared with the optimal PSO-PD controller. Simulation results demonstrate the superiority of the proposed control scheme.

**文献类型:** Article

**作者关键词:** Wheeled mobile robots (WMRs); feedback linearization; Teaching-Learning-Based Optimization (TLBO); particle swarm optimization (PSO); proportional-derivative (PD) controller

**KeyWords Plus:** SWARM OPTIMIZATION; ADAPTIVE-CONTROL; TRACKING CONTROL; SYSTEMS; UNCERTAINTIES

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**第 309 条，共 395 条**

**标题:** Fuzzy functional integro-differential equations under generalized H-differentiability

**作者:** Hoa, NV (Ngo Van Hoa); Phu, ND (Nguyen Dinh Phu)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 4 **页:** 2073-2085 **DOI:** 10.3233/IFS-130883 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** In this paper, we present the studies on two kinds of solutions to fuzzy functional integro-differential equations (FFIDEs). The different types of solutions to FFIDEs are generated by the usage of two different concepts of fuzzy derivative in the formulation of a differential problem. Some examples are given to illustrate these results.

**文献类型:** Article

**作者关键词:** Fuzzy sets; fuzzy differential equations; generalized Hukuhara derivative; fuzzy functional integro-differential equations

**KeyWords Plus:** VOLTERRA INTEGRAL-EQUATIONS; INITIAL-VALUE PROBLEM; CAUCHY-PROBLEM; VALUED FUNCTIONS; EXISTENCE; UNIQUENESS; DYNAMICS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Vietnam National Foundation for Science and Technology Development (NAFOSTED) | |

The authors would like to express his gratitude to the anonymous referees for their helpful comments and suggestions, which have greatly improved the paper. This research is funded by Vietnam National Foundation for Science and Technology Development (NAFOSTED).

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**第 310 条，共 395 条**

**标题:** A Bare-Metal and Asymmetric Partitioning Approach to Client Virtualization

**作者:** Zhou, YZ (Zhou, Yuezhi); Zhang, YX (Zhang, Yaoxue); Liu, H (Liu, Hao); Xiong, NX (Xiong, Naixue); Vasilakos, AV (Vasilakos, Athanasios V.)

**来源出版物:** IEEE TRANSACTIONS ON SERVICES COMPUTING **卷:** 7 **期:** 1 **页:** 40-53 **DOI:** 10.1109/TSC.2012.32 **出版年:** JAN-MAR 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** Advancements in cloud computing enable the easy deployment of numerous services. However, the analysis of cloud service access platforms from a client perspective shows that maintaining and managing clients remain a challenge for end users. In this paper, we present the design, implementation, and evaluation of an asymmetric virtual machine monitor (AVMM), which is an asymmetric partitioning-based bare-metal approach that achieves near-native performance while supporting a new out-of-operating system mechanism for value-added services. To achieve these goals, AVMM divides underlying platforms into two asymmetric partitions: a user partition and a service partition. The user partition runs a commodity user OS, which is assigned to most of the underlying resources, maintaining end-user experience. The service partition runs a specialized OS, which consumes only the needed resources for its tasks and provides enhanced features to the user OS. AVMM considerably reduces virtualization overhead through two approaches: 1) Peripheral devices, such as graphics equipment, are assigned to be monopolized by a single user OS. 2) Efficient resource management mechanisms are leveraged to alleviate complicated resource sharing in existing virtualization technologies. We implement a prototype that supports Windows and Linux systems. Experimental results show that AVMM is a feasible and efficient approach to client virtualization.

**文献类型:** Article

**作者关键词:** Virtual machine monitor; virtual machine; client virtualization; desktop virtualization; asymmetric partitioning

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National High Technology Research and Development Program of China | 2011AA01A203 |
| National Natural Science Foundation of China | 60903029 |
| Intel Corp | |

This work was supported by the National High Technology Research and Development Program of China (grant no. 2011AA01A203), the National Natural Science Foundation of China (grant no. 60903029), and the Intel Corp. The authors would like to thank the EFI PSI team of the platform software innovation division at the Intel Shanghai Lab, especially Ming Wu, Hua Zhou, and Ju Lu for their helpful comments and fruitful discussions.

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**第 311 条，共 395 条**

**标题:** Applications of soft union sets to hemirings via SU-h-ideals

**作者:** Zhan, JM (Zhan, Jianming); Cagman, N (Cagman, Naim); Sezer, AS (Sezer, Aslihan Sezgin)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 3 **页:** 1363-1370 **DOI:** 10.3233/IFS-130822 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** The aim of this article is to lay a foundation for providing a soft algebraic tool in considering many problems that contain uncertainties. In order to provide these soft algebraic structures, we introduce the concepts of soft union hemirings (soft union h-ideals) of hemirings by soft intersection-union product and obtain some related results. Finally, we investigate some characterizations of h-hemiregular hemirings by soft union h-ideals.

**文献类型:** Article

**作者关键词:** Soft set; soft intersection-union product; soft union hemiring; soft union h-ideal; h-hemiregular hemiring

**KeyWords Plus:** INT DECISION-MAKING; ALGEBRAS; VIEW

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61175055 |
| Innovation Term of Higher Education of Hubei Province, China | T201109 |
| Natural Science Foundation of Hubei Province | 2012FFB01101 |

This research is partially supported by a grant of National Natural Science Foundation of China (61175055), Innovation Term of Higher Education of Hubei Province, China (T201109), Natural Science Foundation of Hubei Province (2012FFB01101).

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**第 312 条，共 395 条**

**标题:** Ontology-based annotation and retrieval of services in the cloud

**作者:** Rodriguez-Garcia, MA (Rodriguez-Garcia, Miguel Angel); Valencia-Garcia, R (Valencia-Garcia, Rafael); Garcia-Sanchez, F (Garcia-Sanchez, Francisco); Samper-Zapater, JJ (Samper-Zapater, J. Javier)

**来源出版物:** KNOWLEDGE-BASED SYSTEMS **卷:** 56 **页:** 15-25 **DOI:** 10.1016/j.knosys.2013.10.006 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Cloud computing is a technological paradigm that permits computing services to be offered over the Internet. This new service model is closely related to previous well-known distributed computing initiatives such as Web services and grid computing. In the current socio-economic climate, the affordability of cloud computing has made it

one of the most popular recent innovations. This has led to the availability of more and more cloud services, as a consequence of which it is becoming increasingly difficult for service consumers to find and access those cloud services that fulfil their requirements. In this paper, we present a semantically-enhanced platform that will assist in the process of discovering the cloud services that best match user needs. This fully-fledged system encompasses two basic functions: the creation of a repository with the semantic description of cloud services and the search for services that accomplish the required expectations. The cloud service's semantic repository is generated by means of an automatic tool that first annotates the cloud service descriptions with semantic content and then creates a semantic vector for each service. The comprehensive evaluation of the tool in the ICT domain has led to very promising results that outperform state-of-the-art solutions in similarly broad domains. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Ontology; Semantic web; Semantic annotation; Cloud computing; Knowledge management

**KeyWords Plus:** SEMANTIC WEB; INFORMATION-RETRIEVAL; SEARCH ENGINE; SYSTEM; REQUIREMENTS; FRAMEWORK; METADATA; OWL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Spanish of Economy and Competitiveness | |
| European Commission (FEDER/ERDF) | TIN2010-18650 |

This work has been supported by the Spanish of Economy and Competitiveness and the European Commission (FEDER/ERDF) through project SeCloud (TIN2010-18650).

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**第 313 条，共 395 条**

**标题:** An augmented reality-based authoring tool for E-learning applications

**作者:** Jee, HK (Jee, Hyung-Keun); Lim, S (Lim, Sukhyun); Youn, J (Youn, Jinyoung); Lee, J (Lee, Junsuk)

**来源出版物:** MULTIMEDIA TOOLS AND APPLICATIONS **卷:** 68 **期:** 2 **页:** 225-235 **DOI:** 10.1007/s11042-011-0880-4 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** In recent years, augmented reality technologies have been a subject of great interest among the scientific community. However, most studies have focused on hardware and software development without particular emphasis on the authoring phase. As a consequence, the authoring process of augmented reality applications is accomplished today through hard-coding of a specific application. This approach, however, requires operators. In the education applications, the hard-coding methods tend to be retained, despite remarkable technological developments in the industrial area. Textbooks are mainly used in educational systems and many educators are very passive about applying new materials. In this paper, we present an immersive authoring tool for education using augmented reality, where applications authorized by our tool interact with the user in order to increase the learner's interest and reflect various desires of dynamic environment. Our authoring tool consists of a composing tool that can be used to create educational contents, a viewer that plays the content, and an engine to power the tool and viewer.

**文献类型:** Article

**作者关键词:** Augmented reality; E-learning application; Authoring tool; Multimedia tool

**KeyWords Plus:** EXPERIENCE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| IT R&D program of MKE/MCST/IITA, [Development of learner-participational and interactive 3D Virtual learning contents technology] | |

This work was supported by the IT R&D program of MKE/MCST/IITA, [Development of learner-participational and interactive 3D Virtual learning contents technology].

**第 314 条，共 395 条**

**标题:** 3D simulator for stability analysis of finite slope causing plane activity

**作者:** Kim, SH (Kim, Sung-Ho); Chung, KY (Chung, Kyung-Yong)

**来源出版物:** MULTIMEDIA TOOLS AND APPLICATIONS **卷:** 68 **期:** 2 **页:** 455-463 **DOI:** 10.1007/s11042-013-1356-5 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 11

**被引频次合计:** 11

**摘要:** This paper describes the development of a 3D simulator that enables a user to analyze the stability of a finite slope causing plane activity among a range of slopes comprised of a finite slope and infinite slope. Until now, there has been considerable theory and research into slope stability. Nevertheless, few systems can be confirmed directly by simulating the stability analysis of a slope, such as landslides. In other words, virtual experiments, such as the analysis of the slope, cannot be performed due to the absence of a system. For that reason, in this study, a 3D simulator was developed for stability analysis of a finite slope causing plane activity from the landslide phenomena that actually occurred or had very high probability. The Nvidia PhysX, which is utilized to develop computer games and simulators, was used to develop a 3D simulator with physical features. In addition, OpenGL was used to provide a three-dimensional visual effect from the simulator. In this paper, the values of each variable were determined to confirm whether landslides can occur easily when the factor of safety (F-s) was within a certain range in the 3D simulator. The 3D simulator developed in this paper was found to be quite useful because it can verify visually whether landslides occur easily in different environments and conditions.

**文献类型:** Article

**作者关键词:** Finite slope; Plane activity; Factor of safety; Stability analysis; 3D simulator

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Basic Science Research Program through the National Research Foundation of Korea | |
| Ministry of Education, Science and Technology | 2012-0004478 |

This research was supported by Basic Science Research Program through the National Research Foundation of Korea funded by the Ministry of Education, Science and Technology (No. 2012-0004478).

**第 315 条，共 395 条**

**标题:** Ranking and mapping of universities and research-focused institutions worldwide based on highly-cited papers A visualisation of results from multi-level models

**作者:** Bornmann, L (Bornmann, Lutz); Stefaner, M (Stefaner, Moritz); Anegon, FD (de Moya Anegon, Felix); Mutz, R (Mutz, Ruediger)

**来源出版物:** ONLINE INFORMATION REVIEW **卷:** 38 **期:** 1 **页:** 43-58 **DOI:** 10.1108/OIR-12-2012-0214 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Purpose - The web application presented in this paper allows for an analysis to reveal centres of excellence in different fields worldwide using publication and citation data. Only specific aspects of institutional performance are taken into account and other aspects such as teaching performance or societal impact of research are not considered. The purpose of this paper is to address these issues.
Design/methodology/approach - Based on data gathered from Scopus, field-specific excellence can be identified in institutions where highly-cited papers have been frequently published.
Findings - The web application (www.excellencemapping.net) combines both a list of institutions ordered by different indicator values and a map with circles visualising indicator values for geocoded institutions.
Originality/value - Compared to the mapping and ranking approaches introduced hitherto, our underlying statistics (multi-level models) are analytically oriented by allowing the estimation of values for the number of excellent papers for an institution which are statistically more appropriate than the observed values; the calculation of confidence intervals as measures of accuracy for the institutional citation impact; the comparison of a single institution with an "average" institution in a subject area: and the direct comparison of at least two institutions.

**文献类型:** Article

**作者关键词:** Geography of science; Google Maps; Highly-cited papers; Scientific excellence; Spatial scientometrics; University ranking

**KeyWords Plus:** POST HOC POWER; PREDICTIVE-VALIDITY; SOCIETAL IMPACT; SELF-CITATION; SCIENCE; GEOGRAPHY; EXCELLENCE; PATTERNS; CITIES; MAPS

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**第 316 条，共 395 条**

**标题:** MULTIPLICATIVE CONSISTENCY OF HESITANT FUZZY PREFERENCE RELATION AND ITS APPLICATION IN GROUP DECISION MAKING

**作者:** Liao, HC (Liao, Huchang); Xu, ZS (Xu, Zeshui); Xia, MM (Xia, Meimei)

**来源出版物:** INTERNATIONAL JOURNAL OF INFORMATION TECHNOLOGY & DECISION MAKING **卷:** 13 **期:** 1 **页:** 47-76 **DOI:** 10.1142/S0219622014500035 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 11

**被引频次合计:** 11

**摘要:** As we may have a set of possible values when comparing alternatives ( or criteria), the hesitant fuzzy preference relation becomes a suitable and powerful technique to deal with this case. This paper mainly focuses on the multiplicative consistency of the hesitant fuzzy preference relation. First of all, we explore some properties of the hesitant fuzzy preference relation and develop some new aggregation operators. Then we introduce the concepts of multiplicative consistency, perfect multiplicative consistency and acceptable multiplicative consistency for a hesitant fuzzy preference relation, based on which, two algorithms are given to improve the inconsistency level of a hesitant fuzzy preference relation. Furthermore, the consensus of group decision making is studied based on the hesitant fuzzy preference relations. Finally, several illustrative examples are given to demonstrate the practicality of our algorithms.

**文献类型:** Article

**作者关键词:** Hesitant fuzzy preference relation; hesitant fuzzy set; consensus; multiplicative consistency; group decision making

**KeyWords Plus:** CONSENSUS MODEL; SETS; INFORMATION; AGGREGATION; SUCCESS; ISSUES; MCDM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 71071161<br>61273209 |

The authors are very grateful to the anonymous reviewers for their insightful and constructive comments and suggestions that have led to an improved version of this paper. The work was supported in part by the National Natural Science Foundation of China (Nos. 71071161 and 61273209).

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**第 317 条，共 395 条**

**标题:** Exponential passivity of memristive neural networks with time delays

**作者:** Wu, AL (Wu, Ailong); Zeng, ZG (Zeng, Zhigang)

**来源出版物:** NEURAL NETWORKS **卷:** 49 **页:** 11-18 **DOI:** 10.1016/j.neunet.2013.09.002 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** Memristive neural networks are studied across many fields of science. To uncover their structural design principles, the paper introduces a general class of memristive neural networks with time delays. Passivity analysis is conducted by constructing suitable Lyapunov functional. The analysis in the paper employs the results from the theories of nonsmooth analysis and linear matrix inequalities. A numerical example is provided to illustrate the

effectiveness and less conservatism of the proposed results. Crown Copyright (C) 2013 Published by Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Hybrid systems; Memristive neural networks; Exponential passivity

**KeyWords Plus:** VARYING DELAYS; INTERVAL; DISCRETE; CRITERIA

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Natural Science Foundation of China | 61304057 |

The work is supported by the Natural Science Foundation of China under Grant 61304057. The work of A. Wu was done with the School of Automation, Huazhong University of Science and Technology, Wuhan, China.

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**第 318 条，共 395 条**

**标题:** Sparse Representation of a Polytope and Recovery of Sparse Signals and Low-Rank Matrices

**作者:** Cai, TT (Cai, T. Tony); Zhang, AR (Zhang, Anru)

**来源出版物:** IEEE TRANSACTIONS ON INFORMATION THEORY **卷:** 60 **期:** 1 **页:** 122-132 **DOI:** 10.1109/TIT.2013.2288639 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** This paper considers compressed sensing and affine rank minimization in both noiseless and noisy cases and establishes sharp restricted isometry conditions for sparse signal and low-rank matrix recovery. The analysis relies on a key technical tool, which represents points in a polytope by convex combinations of sparse vectors. The technique is elementary while yielding sharp results. It is shown that for any given constant t >= 4/3, in compressed sensing, delta(A)(tk)<root(t-1)/t guarantees the exact recovery of all k sparse signals in the noiseless case through the constrained l(1) minimization, and similarly, in affine rank minimization, delta(M)(tr) < root(t-1)/t ensures the exact reconstruction of all matrices with rank at most r in the noiseless case via the constrained nuclear norm minimization. In addition, for any epsilon > 0, delta(A)(tk) < root t-1/t + epsilon is not sufficient to guarantee the exact recovery of all k-sparse signals for large k. Similar results also hold for matrix recovery. In addition, the conditions delta(A)(tk) < root(t-1)/t and delta(M)(tr) < root(t-1)/t are also shown to be sufficient, respectively, for stable recovery of approximately sparse signals and low-rank matrices in the noisy case.

**文献类型:** Article

**作者关键词:** Affine rank minimization; compressed sensing; constrained l(1) minimization; low-rank matrix recovery; constrained nuclear norm minimization; restricted isometry; sparse signal recovery

**KeyWords Plus:** RESTRICTED ISOMETRY CONSTANTS; STABLE RECOVERY; MINIMIZATION; INEQUALITY; PROPERTY; BOUNDS; NOISE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| NSF FRG | DMS-0854973 |
| NIH | R01 CA127334-05 |

This work was supported in part by the NSF FRG under Grant DMS-0854973 and in part by the NIH under Grant R01 CA127334-05.

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**第 319 条，共 395 条**

**标题:** Optimal Locally Repairable and Secure Codes for Distributed Storage Systems

**作者:** Rawat, AS (Rawat, Ankit Singh); Koyluoglu, OO (Koyluoglu, Onur Ozan); Silberstein, N (Silberstein, Natalia); Vishwanath, S (Vishwanath, Sriram)

**来源出版物:** IEEE TRANSACTIONS ON INFORMATION THEORY **卷:** 60 **期:** 1 **页:** 212-236 **DOI:** 10.1109/TIT.2013.2288784 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** This paper aims to go beyond resilience into the study of security and local-repairability for distributed storage systems (DSSs). Security and local-repairability are both important as features of an efficient storage system, and this paper aims to understand the trade-offs between resilience, security, and local-repairability in these systems. In particular, this paper first investigates security in the presence of colluding eavesdroppers, where eavesdroppers are assumed to work together in decoding the stored information. Second, this paper focuses on coding schemes that enable optimal local repairs. It further brings these two concepts together to develop locally repairable coding schemes for DSS that are secure against eavesdroppers. The main results of this paper include: 1) an improved bound on the secrecy capacity for minimum storage regenerating codes; 2) secure coding schemes that achieve the bound for some special cases; 3) a new bound on minimum distance for locally repairable codes; 4) code construction for locally repairable codes that attain the minimum distance bound; and 5) repair-bandwidth-efficient locally repairable codes with and without security constraints.

**文献类型:** Article

**作者关键词:** Coding for distributed storage systems; locally repairable codes; repair bandwidth efficient codes; security

**KeyWords Plus:** ARRAY CODES; CONSTRUCTION; ERROR

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**第 320 条，共 395 条**

**标题:** Mining high utility itemsets by dynamically pruning the tree structure

**作者:** Song, W (Song, Wei); Liu, Y (Liu, Yu); Li, JH (Li, Jinhong)

**来源出版物:** APPLIED INTELLIGENCE **卷:** 40 **期:** 1 **页:** 29-43 **DOI:** 10.1007/s10489-013-0443-7 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 6

**摘要:** Mining high utility itemsets is one of the most important research issues in data mining owing to its ability to consider nonbinary frequency values of items in transactions and different profit values for each item. Mining such itemsets from a transaction database involves finding those itemsets with utility above a user-specified threshold. In this paper, we propose an efficient concurrent algorithm, called CHUI-Mine (Concurrent High Utility Itemsets Mine), for mining high utility itemsets by dynamically pruning the tree structure. A tree structure, called the CHUI-Tree, is introduced to capture the important utility information of the candidate itemsets. By recording changes in support counts of candidate high utility items during the tree construction process, we implement dynamic CHUI-Tree pruning, and discuss the rationality thereof. The CHUI-Mine algorithm makes use of a concurrent strategy, enabling the simultaneous construction of a CHUI-Tree and the discovery of high utility itemsets. Our algorithm reduces the problem of huge memory usage for tree construction and traversal in tree-based algorithms for mining high utility itemsets. Extensive experimental results show that the CHUI-Mine algorithm is both efficient and scalable.

**文献类型:** Article

**作者关键词:** Data mining; High utility itemset; CHUI-Tree; Dynamically pruning; Concurrency

**KeyWords Plus:** FREQUENT-PATTERN TREE; ASSOCIATION RULES; DISCOVERY; DATABASES; ALGORITHM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61105045 |
| Funding Project for Academic Human Resources Development in Institutions of Higher Learning Under the Jurisdiction of Beijing Municipality | PHR201108057 |
| North China University of Technology | CCXZ201303 |

We would like to express our deep gratitude to the anonymous reviewers of this paper. The work is partly supported by the National Natural Science Foundation of China (61105045), Funding Project for Academic Human Resources Development in Institutions of Higher Learning Under the Jurisdiction of Beijing Municipality (PHR201108057), and North China University of Technology (CCXZ201303).

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**第 321 条，共 395 条**

**标题:** Effective 3D action recognition using EigenJoints

**作者:** Yang, XD (Yang, Xiaodong); Tian, YL (Tian, YingLi)

**来源出版物:** JOURNAL OF VISUAL COMMUNICATION AND IMAGE REPRESENTATION **卷:** 25 **期:** 1 **特刊:** SI **页:** 2-11 **DOI:** 10.1016/j.jvcir.2013.03.001 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** In this paper, we propose an effective method to recognize human actions using 3D skeleton joints recovered from 3D depth data of RGBD cameras. We design a new action feature descriptor for action recognition based on differences of skeleton joints, i.e.,EigenJoints which combine action information including static posture, motion property, and overall dynamics. Accumulated Motion Energy (AME) is then proposed to perform informative frame selection, which is able to remove noisy frames and reduce computational cost. We employ non-parametric Naive-Bayes-Nearest-Neighbor (NBNN) to classify multiple actions. The experimental results on several challenging datasets demonstrate that our approach outperforms the state-of-the-art methods. In addition, we investigate how many frames are necessary for our method to perform classification in the scenario of online action recognition. We observe that the first 30-40% frames are sufficient to achieve comparable results to that using the entire video sequences on the MSR Action3D dataset. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Action recognition; RGBD camera; Depth data; Skeleton joints; 3D action feature representation; Accumulated motion energy; Informative frame selection; Naive-Bayes-Nearest-Neighbor

**KeyWords Plus:** MOTION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| NSF | IIS-0957016 |
| PSC-CUNY | 64720-00 42 |
| Microsoft Research | |

This work was supported in part by NSF grant IIS-0957016, PSC-CUNY #64720-00 42, and Microsoft Research. The authors thank the anonymous reviewers for their constructive comments and insightful suggestions that improved the quality of this paper.

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**第 322 条，共 395 条**

**标题:** Introducing cognition in TDM PONs with cooperative cyclic sleep through runtime sleep time determination

**作者:** Zanini, F (Zanini, Francesco); Valcarenghi, L (Valcarenghi, Luca); Van, DP (Dung Pham Van); Chincoli, M (Chincoli, Michele); Castoldi, P (Castoldi, Piero)

**来源出版物:** OPTICAL SWITCHING AND NETWORKING **卷:** 11 **页:** 113-118 **DOI:** 10.1016/j.osn.2013.08.007 **子辑:** A **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** In this paper cognition is exploited to maximize energy efficiency while guaranteeing quality of service (QoS) constraints in TDM PONs with time-variable network conditions. In the proposed solution the previously introduced cooperative cyclic sleep scheme exploits runtime computation and adaptation to network conditions of the sleep time. Simulation results show the potentials of the proposed approach in maximizing energy savings while guaranteeing average delay constraints when applied to limited buffer ONUs. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Cyclic sleep; Energy efficiency; PONs; Cognitive; QoS

**KeyWords Plus:** PASSIVE OPTICAL NETWORKS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| "Novel ONUs for Energy efficient optical access networks (NOE)" project, part of the joint higher education project "Providing training for applied and technological research (FORTEC)" | |
| Region of Tuscany | |

This work was funded in part by the "Novel ONUs for Energy efficient optical access networks (NOE)" project, part of the joint higher education project "Providing training for applied and technological research (FORTEC)", co-financed by the Region of Tuscany within the framework "POR CRO FSE 2007-2013 Asse IV-Capitale Umano".

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**第 323 条，共 395 条**

**标题:** Planning of survivable long-reach passive optical network (LR-PON) against single shared-risk link group (SRLG) failure

**作者:** Liu, YJ (Liu, Yejun); Guo, L (Guo, Lei); Yu, CQ (Yu, Cunqian); Yu, YP (Yu, Yinpeng); Wang, XR (Wang, Xiaorui)

**来源出版物:** OPTICAL SWITCHING AND NETWORKING **卷:** 11 **页:** 167-176 **DOI:** 10.1016/j.osn.2013.06.001 **子辑:** B **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 4

**摘要:** Long-Reach Passive Optical Network (LR-PON) is known as a promising and economical solution for Next-Generation PON (NG-PON). Survivability is one of the key issues in the planning of LR-PON because massive high-rate traffic flows may be interrupted in case of network component failure. However, the survivability issue for LR-PON is addressed in little works. More importantly, most of the previous works focus on single distribution fiber failure and remain untouched the simultaneous failure of multiple distribution fibers, which is a possible failure scenario in LR-PON. In this paper, we focus on the survivability of LR-PON against single Shared-Risk Link Group (SRLG) failure. A reliability model is proposed to represent the disconnection probability of the ONUs. Based on this reliability model, we propose a novel Backup Fibers Protection (BFP) scheme. In the BFP scheme, we deal with the optimization problem of allocating backup capacity and deploying backup fibers. Under the constraint of reliability requirement, our objective is to fully protect all traffic demand in the network with the minimum deployment cost of backup fibers. Both ILP-based approach and heuristic approach are proposed to solve the optimization problem in the BFP scheme. To the best of our knowledge, this paper is the first work regarding the survivability of LR-PON against single SRLG failure. Through extensive simulation, we investigate the performance of BFP and demonstrate its effectiveness in different scenarios. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article
**作者关键词:** Long-Reach Passive Optical Network; (LR-PON); Survivability; Protection; Backup fiber
**KeyWords Plus:** OFDM SYSTEMS; PROTECTION; ACCESS; ARCHITECTURES; SCHEME

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61172051<br>61071124 |
| Fok Ying Tung Education Foundation | 121065 |
| Program for New Century Excellent Talents in University | NCET-11-0075<br>NCET-12-0102 |
| Fundamental Research Funds for the Central Universities | N110604008<br>N110204001 |
| Specialized Research Fund for the Doctoral Program of Higher Education | 20110042110023<br>20110042120035<br>20120042120049 |

This work was supported in part by the National Natural Science Foundation of China (61172051 and 61071124), the Fok Ying Tung Education Foundation (121065), the Program for New Century Excellent Talents in University (NCET-11-0075 and NCET-12-0102), the Fundamental Research Funds for the Central Universities (N110604008 and N110204001), and the Specialized Research Fund for the Doctoral Program of Higher Education (20110042110023, 20110042120035, and 20120042120049).

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**第 324 条，共 395 条**

**标题:** Successful researchers publicizing research online An outlink analysis of European highly cited scientists' personal websites

**作者:** Mas-Bleda, A (Mas-Bleda, Amalia); Thelwall, M (Thelwall, Mike); Kousha, K (Kousha, Kayvan); Aguillo, IF (Aguillo, Isidro F.)

**来源出版物:** JOURNAL OF DOCUMENTATION **卷:** 70 **期:** 1 **页:** 148-172 **DOI:** 10.1108/JD-12-2012-0156 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** Purpose - This study aims to explore the link creating behaviour of European highly cited scientists based upon their online lists of publications and their institutional personal websites.
Design/methodology/approach - A total of 1,525 highly cited scientists working at European institutions were first identified. Outlinks from their online lists of publications and their personal websites pointing to a pre-defined collection of popular academic websites and file types were then gathered by a personal web crawler.
Findings - Perhaps surprisingly, a larger proportion of social scientists provided at least one outlink compared to the other disciplines investigated. By far the most linked-to file type was PDF and the most linked-to type of target website was scholarly databases, especially the Digital Object Identifier website. Health science and life science researchers mainly linked to scholarly databases, while scientists from engineering, hard sciences and social sciences linked to a wider range of target websites. Both book sites and social network sites were rarely linked to, especially the former. Hence, whilst successful researchers frequently use the Web to point to online copies of their articles, there are major disciplinary and other differences in how they do this.
Originality/value - This is the first study to analyse the outlinking patterns of highly cited researchers' institutional web presences in order to identify which web resources they use to provide access to their publications.

**文献类型:** Article

**作者关键词:** Open access; Link analysis; Outlinks; Highly cited researchers

**KeyWords Plus:** WEB-SITE INTERLINKING; INFORMAL SCHOLARLY COMMUNICATION; OPEN ACCESS; IMPACT FACTORS; LINK ANALYSIS; SCIENCE; CITATION; GENDER; PRODUCTIVITY; INSTITUTIONS

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**第 325 条，共 395 条**

**标题:** IMTL(MV)-filters and fuzzy IMTL(MV)-filters of residuated lattices

**作者:** Zhang, XH (Zhang, Xiaohong); Zhou, HJ (Zhou, Huijie); Mao, XY (Mao, Xiaoyan)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 2 **页:** 589-596 **DOI:** 10.3233/IFS-120752 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** Fuzzy logic has become a useful tool for computer science to deal with uncertain information, and various kinds of residuated lattices play an important role in modern fuzzy logic theory because they provide the algebraic frameworks to related fuzzy logic formal systems. The aim of this paper is to investigate the filter theory of residuated lattices. The notions of IMTL-filters (NM-filters, MV-filters) of residuated lattices are introduced, and the characterizations of IMTL-algebras (NM-algebras, MV-algebras) in residuated lattices are presented by these filters. Moreover, fuzzy IMTL(NM, MV)-filters and intuitionistic fuzzy IMTL(NM, MV)-filters are investigated.

**文献类型:** Article

**作者关键词:** Fuzzy logic; residuated lattice; IMTL-filter; MV-filter; intuitionistic fuzzy IMTL-filter

**KeyWords Plus:** MTL-ALGEBRAS; BL-ALGEBRAS; FILTERS; MONOIDS; LOGIC; SETS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61175044 |
| Science & Technology Program of Shanghai Maritime University | |

This work is supported by National Natural Science Foundation of China (No. 61175044) and Science & Technology Program of Shanghai Maritime University.

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**第 326 条，共 395 条**

**标题:** Modelling water retention and volume change behaviours of unsaturated soils in non-isothermal conditions

**作者:** Zhou, AN (Zhou, An-Nan); Sheng, DC (Sheng, Daichao); Li, J (Li, Jie)

**来源出版物:** COMPUTERS AND GEOTECHNICS **卷:** 55 **页:** 1-13 **DOI:** 10.1016/j.compgeo.2013.07.011 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3

**摘要:** This study presents a simple approach to modelling the effect of temperature on the soil-water retention curves (SWRCs) of deformable soils and takes into consideration the following two aspects: (1) the effect of temperature on the liquid-gas interfacial tension and (2) temperature-induced deformation of the soil skeleton. The first aspect, the temperature effect, can be modelled using an equation proposed by Grant and Salehzadeh [18], but the second aspect is generally neglected in the literature. To quantify the thermo-hydro-mechanical (THM) deformation of unsaturated soils (i.e., the second aspect mentioned above), a simple volume change equation, referred to as the non-isothermal SFG volumetric equation, is proposed on the basis of the original SFG framework [37]. A three-dimensional THM yield surface in the space of net mean stress, suction and temperature is presented here. The proposed volume change equation is integrated into the non-isothermal SWRC by means of a simple hydro-mechanical coupling law [38]. The performance of the non-isothermal SFG volumetric equation and the non-isothermal SWRC equation is investigated through several numerical examples. A number of experimental results reported in the literature are employed to confirm the validity of the proposed non-isothermal SFG volume change equation and the non-isothermal SWRC equation. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article
**作者关键词:** Soil-water retention curve (SWRC); Volume change; Temperature; Non-isothermal; Thermo-hydro-mechanical coupling; Unsaturated soils
**KeyWords Plus:** SATURATED CLAYS; CONSTITUTIVE MODEL; HYDRAULIC CONDUCTIVITY; CHARACTERISTIC CURVES; TEMPERATURE; STRESS; DENSITY; THERMOPLASTICITY; HYSTERESIS; EQUATIONS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Discovery Early Career Research Award (DECRA) from the Australian Research Council | DE130101342 |

This study was financially supported by the Discovery Early Career Research Award (DECRA) from the Australian Research Council (Project No. DE130101342).

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**第 327 条，共 395 条**

**标题:** Inductive pattern-based land use/cover change models: A comparison of four software packages

**作者:** Mas, JF (Mas, Jean-Francois); Kolb, M (Kolb, Melanie); Paegelow, M (Paegelow, Martin); Olmedo, MTC (Camacho Olmedo, Maria Teresa); Houet, T (Houet, Thomas)

**来源出版物:** ENVIRONMENTAL MODELLING & SOFTWARE **卷:** 51 **页:** 94-111 **DOI:** 10.1016/j.envsoft.2013.09.010 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3

**摘要:** Land use/cover change (LUCC), as an important factor in global change, is a topic that has recently received considerable attention in the prospective modeling domain. There are many approaches and software packages for modeling LUCC, many of them are empirical approaches based on past LUCC such as CLUE-S, DINAMICA EGO, CA_MARKOV and Land Change Modeler (both available in IDRISI). This study reviews the possibilities and the limits of these four modeling software packages. First, a revision of the methods and tools available for each model was performed, taking into account how the models carry out the different procedures involved in the modeling process: quantity of change estimate, change potential evaluation, spatial allocation of change, reproduction of temporal and spatial patterns, model evaluation and advanced modeling options. Additional considerations, such as flexibility and user friendliness were also taken into account. Then, the four models were applied to a virtual case study to illustrate the previous descriptions with a typical LUCC scenario that consists of four processes of change (conversion of forest to two different types of crops, crop abandonment and urban sprawl) that follow different spatial patterns and are conditioned by different drivers. The outputs were compared to assess the quantity of change estimates, the change potential and the simulated prospective maps. Finally, we discussed some basic criteria to define a "good" model. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** LUCC; Modeling; GIS; Virtual case study; Prospective; Simulation

**KeyWords Plus:** ARTIFICIAL NEURAL-NETWORKS; MADRE-DE-DIOS; BRAZILIAN AMAZON; CLIMATE-CHANGE; CONSERVATION BIOLOGY; CATEGORICAL MAPS; COVER CHANGES; FIRE REGIMES; DEFORESTATION; DYNAMICS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Simulaciones geomaticas para modelizar dinamicas ambientales | |

This research has been supported by the projects Simulaciones geomaticas para modelizar dinamicas ambientales. Avances metodologicos y tematicos (BIA2008-00681), Elaboracion y Aplicacion de modelos prospectivos de cambio de cobertura/uso del suelo (PAPIIT cave IN113511) and Puede la modelacion espacial ayudarnos a entender los procesos de cambio de cobertura/uso del suelo y de degradacion ambiental? (SEP-CONACYT 178816). We acknowledge L.A. Cetto for his inspiration and J.R. Eastman, B. Soares-Filho, H. Oliveira Rodrigues, P. Verburg and four anonymous reviewers for their very useful and constructive comments on a preliminary version of the manuscript. Opinions and errors are the authors' alone.

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**第 328 条，共 395 条**

**标题:** A negotiation support system for resolving an international trans-boundary natural resource conflict

**作者:** Madani, K (Madani, Kaveh); Rouhani, OM (Rouhani, Omid M.); Mirchi, A (Mirchi, Ali); Gholizadeh, S (Gholizadeh, Sona)

**来源出版物:** ENVIRONMENTAL MODELLING & SOFTWARE **卷:** 51 **页:** 240-249 **DOI:** 10.1016/j.envsoft.2013.09,029 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Post-Soviet legal governance regime of Caspian Sea - the largest inland body of water on earth - remains a source of conflict among the five coastal states of Azerbaijan, Iran, Kazakhstan, Russia, and Turkmenistan. Although different division methods have been suggested for sharing the sea and its valuable resources, the actual gain of the countries is unclear as the proposed methods focus either on the oil and gas or the areal share of the parties. The Caspian Sea Negotiation Support System (Caspian Sea NSS) is developed in this study to delineate optimal boundaries for sharing the sea through simultaneous consideration of the countries' areal and resource shares under different sharing methods. This NSS is a complex optimization model, with a solver engine that provides reliable results with a reasonable computational effort using a heuristic method. The model is run under different division scenarios to evaluate the sensitivity of each party's gain and locations of nautical boundaries to the division rules and the economic values of the resources. Results show a high sensitivity of the optimal nautical boundaries to the division rules and an indirect relationship between the allocated area and resource shares. The findings highlight the

necessity for considering utility shares in negotiations as opposed to adopting areal division rules which ignore the utilities and might result in unfair resource allocation. The main policy implication of the study is that clarification of the countries' resource and areal gain under any suggested legal regime for governing the Caspian Sea is essential to the success of the negotiations. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Caspian Sea; Negotiation support system; Conflict resolution; Resource allocation; Combinatorial optimization

**KeyWords Plus:** CASPIAN SEA DILEMMA; TABU SEARCH; COOPERATIVE ALLOCATION; WATER; OPTIMIZATION; ALGORITHMS; GAME; PERSPECTIVES; MANAGEMENT; CALIFORNIA

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**第 329 条，共 395 条**

**标题:** A big data urban growth simulation at a national scale: Configuring the GIS and neural network based Land Transformation Model to run in a High Performance Computing (HPC) environment

**作者:** Pijanowski, BC (Pijanowski, Bryan C.); Tayyebi, A (Tayyebi, Amin); Doucette, J (Doucette, Jarrod); Pekin, BK (Pekin, Burak K.); Braun, D (Braun, David); Plourde, J (Plourde, James)

**来源出版物:** ENVIRONMENTAL MODELLING & SOFTWARE **卷:** 51 **页:** 250-268 **DOI:** 10.1016/j.envsoft.2013.09.015 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** The Land Transformation Model (LTM) is a Land Use Land Cover Change (LUCC) model which was originally developed to simulate local scale LUCC patterns. The model uses a commercial windows-based GIS program to process and manage spatial data and an artificial neural network (ANN) program within a series of batch routines to learn about spatial patterns in data. In this paper, we provide an overview of a redesigned LTM capable of running at continental scales and at a fine (30m) resolution using a new architecture that employs a windows-based High Performance Computing (HPC) cluster. This paper provides an overview of the new architecture which we discuss within the context of modeling LUCC that requires: (1) using an HPC to run a modified version of our LTM; (2) managing large datasets in terms of size and quantity of files; (3) integration of tools that are executed using different scripting languages; and (4) a large number of steps necessitating several aspects of job management. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Land use land cover change; Big data simulation; Land Transformation Model; High Performance Computing; Extensible Markup Language; Python environment; Visual Studio 10 (C#); Continental scale

**KeyWords Plus:** CLIMATE-CHANGE; UNITED-STATES; GREAT-LAKES; UPPER MIDWEST; RIVER-BASIN; SYSTEM; SEQUESTRATION; CONSERVATION; BIODIVERSITY; IMPACT

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**第 330 条，共 395 条**

**标题:** Mining frequent itemsets in a stream

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**来源出版物:** INFORMATION SYSTEMS **卷:** 39 **特刊:** SI **页:** 233-255 **DOI:** 10.1016/j.is.2012.01.005 **出版**

**年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4
**摘要:** Mining frequent itemsets in a datastream proves to be a difficult problem, as itemsets arrive in rapid succession and storing parts of the stream is typically impossible. Nonetheless, it has many useful applications; e.g., opinion and sentiment analysis from social networks. Current stream mining algorithms are based on approximations. In earlier work, mining frequent items in a stream under the max-frequency measure proved to be effective for items. In this paper, we extended our work from items to itemsets. Firstly, an optimized incremental algorithm for mining frequent itemsets in a stream is presented. The algorithm maintains a very compact summary of the stream for selected itemsets. Secondly, we show that further compacting the summary is non-trivial. Thirdly, we establish a connection between the size of a summary and results from number theory. Fourthly, we report results of extensive experimentation, both of synthetic and real-world datasets, showing the efficiency of the algorithm both in terms of time and space. (C) 2012 Elsevier Ltd. All rights reserved.
**文献类型:** Article
**作者关键词:** Frequent itemset mining; Datastream; Theory; Algorithm; Experiments
**KeyWords Plus:** SLIDING WINDOW; SPACE
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**第 331 条，共 395 条**
**标题:** HOCA: Healthcare Aware Optimized Congestion Avoidance and control protocol for wireless sensor networks
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**来源出版物:** JOURNAL OF NETWORK AND COMPUTER APPLICATIONS **卷:** 37 **页:** 216-228 **DOI:** 10.1016/j.jnca.2013.02.014 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3
**摘要:** Wireless sensor networks consist of a large number of small, low-power sensors that communicate through wireless links. Wireless sensor networks for healthcare have emerged in recent years as a result of the need to collect data about patients' physical, physiological, and vital signs in the spaces ranging from personal to hospital and availability of the low cost sensors that enables this data collection. One of the major challenges in these networks is to mitigate congestion. In healthcare applications, such as medical emergencies or monitoring vital, signs of patients, because of the importance and criticality of transmitted data, it is essential to avoid congestion as much as possible (and in cases when congestion avoidance is not possible, to control the congestion). In this paper, a data centric congestion management protocol using AQM (Active Queue Managements) is proposed for healthcare applications with respect to the inherent characteristics of these applications. This study deals with end to end delay, energy consumption, lifetime and fairness. The proposed protocol which is called HOCA avoids congestion in the first step (routing phase) using multipath and QoS (Quality of Service) aware routing. And in cases where congestion cannot be avoided, it will be mitigated via an optimized congestion control algorithm. The efficiency of HOCA was evaluated using the OPNET simulator. Simulation results indicated that HOCA was able to achieve its goals. (C) 2013 Elsevier Ltd. All rights reserved.
**文献类型:** Article
**作者关键词:** Wireless sensor networks; Congestion control; Healthcare; Routing protocol; Optimization
**KeyWords Plus:** ROUTING PROTOCOL
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**第 332 条，共 395 条**
**标题:** Mining maximal frequent patterns by considering weight conditions over data streams
**作者:** Yun, U (Yun, Unil); Lee, G (Lee, Gangin); Ryu, KH (Ryu, Keun Ho)

**来源出版物:** KNOWLEDGE-BASED SYSTEMS **卷:** 55 **页:** 49-65 **DOI:** 10.1016/j.knosys.2013.10.011 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** Frequent pattern mining over data streams is currently one of the most interesting fields in data mining. Current databases have needed more immediate processes since enormous amounts of data are being accumulated and updated in real time. However, existing traditional approaches have not been entirely suitable for a data stream environment since they operate with more than two database scans. Moreover, frequent pattern mining over data streams mostly generates an enormous number of frequent patterns, thereby causing a significant amount of overheads. In addition, as weight conditions are very useful factors in reflecting importance for each object in the real world, it is necessary to apply them to the mining process in order to obtain more practical, meaningful patterns. To consider and solve these problems, we propose a novel method for mining Weighted Maximal Frequent Patterns (WMFPs) over data streams, called MWS (Maximal frequent pattern mining with Weight conditions over data Streams). MWS guarantees efficient mining performance in the data stream environment by scanning stream databases only once, and prevents overheads of pattern extractions with an abbreviated notation: a maximal frequent pattern form instead of the general one. Furthermore, MWS contributes to enhanced reliability of the mining results by applying weight conditions to each element of the data streams. Extensive experiments report that MWS has outstanding performance in comparison to previous algorithms. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Data stream; Data mining; Maximal frequent pattern mining; Weight condition; Knowledge discovery

**KeyWords Plus:** EFFICIENT ALGORITHMS; SEQUENTIAL PATTERNS; ITEMSETS; SEQUENCES; MODELS; TREES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Research Foundation of Korea (NRF) | |
| Ministry of Education, Science and Technology (NRF) | 2013005682 20080062611 |

This research was supported by the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology (NRF Nos. 2013005682 and 20080062611).

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**第 333 条，共 395 条**

**标题:** Multiple-output support vector regression with a firefly algorithm for interval-valued stock price index forecasting

**作者:** Xiong, T (Xiong, Tao); Bao, YK (Bao, Yukun); Hu, ZY (Hu, Zhongyi)

**来源出版物:** KNOWLEDGE-BASED SYSTEMS **卷:** 55 **页:** 87-100 **DOI:** 10.1016/j.knosys.2013.10.012 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** Highly accurate interval forecasting of a stock price index is fundamental to successfully making a profit when making investment decisions, by providing a range of values rather than a point estimate. In this study, we investigate the possibility of forecasting an interval-valued stock price index series over short and long horizons using multi-output support vector regression (MSVR). Furthermore, this study proposes a firefly algorithm (FA)-based approach, built on the established MSVR, for determining the parameters of MSVR (abbreviated as FA-MSVR). Three globally traded broad market indices are used to compare the performance of the proposed FA-MSVR method with selected counterparts. The quantitative and comprehensive assessments are performed on the basis of statistical criteria, economic criteria, and computational cost. In terms of statistical criteria, we compare the out-of-sample forecasting using goodness-of-forecast measures and testing approaches. In terms of economic criteria, we assess the relative forecast performance with a simple trading strategy. The results obtained in this study indicate that the proposed FA-MSVR method is a promising alternative for forecasting interval-valued financial time series. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Stock price forecasting; Interval-valued data; Multiple-output support vector regression; Firefly algorithm; Trading strategy

**KeyWords Plus:** FUNCTION APPROXIMATION; TIME-SERIES; MODEL; EXCHANGE; OPTIMIZATION; INTEGRATION; MIXTURE; SYSTEMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Natural Science Foundation of China | 70771042 |
| Fundamental Research Funds for the Central Universities | 2012QN208-HUST |
| MOE (Ministry of Education in China) | 13YJA630002 |
| Modern Information Management Research Center at Huazhong University of Science and Technology | 2013WZ005<br>2012WJD002 |

This work was supported by the Natural Science Foundation of China under Project No. 70771042, the Fundamental Research Funds for the Central Universities (2012QN208-HUST), the MOE (Ministry of Education in China) Project of Humanities and Social Science (Project No. 13YJA630002), and a grant from the Modern Information Management Research Center at Huazhong University of Science and Technology (2013WZ005 2012WJD002).

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**第 334 条，共 395 条**

**标题:** Effects of resampling method and adaptation on clustering ensemble efficacy

**作者:** Minaei-Bidgoli, B (Minaei-Bidgoli, Behrouz); Parvin, H (Parvin, Hamid); Alinejad-Rokny, H (Alinejad-Rokny, Hamid); Alizadeh, H (Alizadeh, Hosein); Punch, WF (Punch, William F.)

**来源出版物:** ARTIFICIAL INTELLIGENCE
REVIEW **卷:** 41 **期:** 1 **页:** 27-48 **DOI:** 10.1007/s10462-011-9295-x **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5

**摘要:** Clustering ensembles combine multiple partitions of data into a single clustering solution of better quality. Inspired by the success of supervised bagging and boosting algorithms, we propose non-adaptive and adaptive resampling schemes for the integration of multiple independent and dependent clusterings. We investigate the effectiveness of bagging techniques, comparing the efficacy of sampling with and without replacement, in conjunction with several consensus algorithms. In our adaptive approach, individual partitions in the ensemble are sequentially generated by clustering specially selected subsamples of the given dataset. The sampling probability for each data point dynamically depends on the consistency of its previous assignments in the ensemble. New subsamples are then drawn to increasingly focus on the problematic regions of the input feature space. A measure of data point clustering consistency is therefore defined to guide this adaptation. Experimental results show improved stability and accuracy for clustering structures obtained via bootstrapping, subsampling, and adaptive techniques. A meaningful consensus partition for an entire set of data points emerges from multiple clusterings of bootstraps and subsamples. Subsamples of small size can reduce computational cost and measurement complexity for many unsupervised data mining tasks with distributed sources of data. This empirical study also compares the performance of adaptive and non-adaptive clustering ensembles using different consensus functions on a number of datasets. By focusing attention on the data points with the least consistent clustering assignments, whether one can better approximate the inter-cluster boundaries or can at least create diversity in boundaries and this results in improving clustering accuracy and convergence speed as a function of the number of partitions in the ensemble. The comparison of adaptive and non-adaptive approaches is a new avenue for research, and this study helps to pave the way for the useful application of distributed data mining methods.

**文献类型:** Article
**作者关键词:** Clustering ensembles; Consensus functions; Distributed data mining; Bootstrap; Subsampling; Adaptive clustering

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**第 335 条，共 395 条**

**标题:** PANFIS: A Novel Incremental Learning Machine

**作者:** Pratama, M (Pratama, Mahardhika); Anavatti, SG (Anavatti, Sreenatha. G.); Angelov, PP (Angelov, Plamen. P.); Lughofer, E (Lughofer, Edwin)

**来源出版物:** IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS **卷:** 25 **期:** 1 **特刊:** SI **页:** 55-68 **DOI:** 10.1109/TNNLS.2013.2271933 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 11

**被引频次合计:** 11

**摘要:** Most of the dynamics in real-world systems are compiled by shifts and drifts, which are uneasy to be overcome by omnipresent neuro-fuzzy systems. Nonetheless, learning in nonstationary environment entails a system owning high degree of flexibility capable of assembling its rule base autonomously according to the degree of nonlinearity contained in the system. In practice, the rule growing and pruning are carried out merely benefiting from a small snapshot of the complete training data to truncate the computational load and memory demand to the low level. An exposure of a novel algorithm, namely parsimonious network based on fuzzy inference system (PANFIS), is to this end presented herein. PANFIS can commence its learning process from scratch with an empty rule base. The fuzzy rules can be stitched up and expelled by virtue of statistical contributions of the fuzzy rules and injected datum afterward. Identical fuzzy sets may be alluded and blended to be one fuzzy set as a pursuit of a transparent rule base escalating human's interpretability. The learning and modeling performances of the proposed PANFIS are numerically validated using several benchmark problems from real-world or synthetic datasets. The validation includes comparisons with state-of-the-art evolving neuro-fuzzy methods and showcases that our new method can compete and in some cases even outperform these approaches in terms of predictive fidelity and model complexity.

**文献类型:** Article

**作者关键词:** Evolving neuro-fuzzy systems (ENFSs); incremental learning; sample-wise training

**KeyWords Plus:** FUZZY NEURAL-NETWORKS; FUNCTION APPROXIMATION; INFERENCE SYSTEM; UNIVERSAL APPROXIMATORS; LOGIC CONTROLLER; IDENTIFICATION; ALGORITHM; PREDICTION; MODELS; RULES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Austrian fund for promoting scientific research | I328-N23 |
| IREFS | |
| Austrian Center of Competence in Mechatronics | |
| COMET K2 program of the Austrian government | |

This work was supported in part by the Austrian fund for promoting scientific research under Contract I328-N23, the IREFS, the research program with the Austrian Center of Competence in Mechatronics, and the COMET K2 program of the Austrian government.

**第 336 条，共 395 条**

**标题:** An Interval Type-2 Neural Fuzzy Chip With On-Chip Incremental Learning Ability for Time-Varying Data Sequence Prediction and System Control

**作者:** Juang, CF (Juang, Chia-Feng); Chen, CY (Chen, Chi-You)

**来源出版物:** IEEE TRANSACTIONS ON NEURAL NETWORKS AND LEARNING SYSTEMS **卷:** 25 **期:** 1 **特刊:** SI **页:** 216-228 **DOI:** 10.1109/TNNLS.2013.2253799 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** This paper proposes a new circuit to implement a Mamdani-type interval type-2 neural fuzzy chip with on-chip incremental learning ability (IT2NFC-OL) for applications in changing environments. Traditional interval type-2 fuzzy systems use an iterative procedure to find the system outputs, which is computationally expensive, especially for hardware implementation. To address this problem, the IT2NFC-OL uses a simplified type reduction operation to reduce the hardware implementation cost without degrading the learning performance. The software-implemented

IT2NFC-OL is characterized by online structure learning and parameter learning using a gradient descent algorithm. The learned fuzzy model is then implemented in a field-programmable gate array (FPGA) chip. The FPGA-implemented IT2NFC-OL performs not only fuzzy inference but also online consequent parameter learning for applications in changing environments. Novel circuits for the computation of system outputs and the update of interval consequent values are proposed. The learning performance of the software-implemented IT2NFC-OL and the on-chip learning ability are verified with applications to time-varying data sequence prediction and system control problems and by comparisons with different software-implemented type-1 and type-2 neural fuzzy systems and interval type-2 fuzzy chips.

**文献类型:** Article

**作者关键词:** Fuzzy chip; incremental learning; neural fuzzy systems; on-chip learning ability; type-2 fuzzy systems

**KeyWords Plus:** WALL-FOLLOWING CONTROL; FPGA IMPLEMENTATION; LOGIC CONTROLLER; TEMPERATURE CONTROL; INFERENCE; NETWORK; IDENTIFICATION; OPTIMIZATION; UNCERTAINTY; ALGORITHM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Science Council, Taiwan | NSC 100-2628-E-005-005-MY2 |

This work was supported by the National Science Council, Taiwan, under Grant NSC 100-2628-E-005-005-MY2.

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**第 337 条，共 395 条**

**标题:** An automatic method to determine the number of clusters using decision-theoretic rough set

**作者:** Yu, H (Yu, Hong); Liu, ZG (Liu, Zhanguo); Wang, GY (Wang, Guoyin)

**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 1 **特刊:** SI **页:** 101-115 **DOI:** 10.1016/j.ijar.2013.03.018 **子辑:** 2 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** Clustering provides a common means of identifying structure in complex data, and there is renewed interest in clustering as a tool for the analysis of large data sets in many fields. Determining the number of clusters in a data set is one of the most challenging and difficult problems in cluster analysis. To combat the problem, this paper proposes an efficient automatic method by extending the decision-theoretic rough set model to clustering. A new clustering validity evaluation function is designed based on the risk calculated by loss functions and possibilities. Then a hierarchical clustering algorithm, ACA-DTRS algorithm, is proposed, which is proved to stop automatically at the perfect number of clusters without manual interference. Furthermore, a novel fast algorithm, FACA-DTRS, is devised based on the conclusion obtained in the validation of the ACA-DTRS algorithm. The performance of algorithms has been studied on some synthetic and real world data sets. The algorithm analysis and the results of comparison experiments show that the new method, without manual parameter specified in advance, is more valid to determine the number of clusters and more efficient in terms of time cost. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Clustering; Clustering validity evaluation; Number of clusters; Decision-theoretic rough set model

**KeyWords Plus:** ATTRIBUTE REDUCTION; MODEL; ALGORITHMS; TREE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| China NNSFC Grant | 61272060<br>61075019 |

We gratefully thank anonymous reviewers for their constructive comments and suggestions. Special thanks go to Dr. Yiyu Yao for his discussion and suggestions. This work was supported in part by the China NNSFC Grant (No. 61272060 & 61075019).

**第 338 条，共 395 条**

**标题:** An axiomatic characterization of probabilistic rough sets

**作者:** Li, TJ (Li, Tong-Jun); Yang, XP (Yang, Xiao-Ping)

**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 1 **特刊:** SI **页:** 130-141 **DOI:** 10.1016/j.ijar.2013.02.012 **子辑:** 2 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** Probabilistic approaches were successfully applied to the theory of rough sets in recent decades. As a result, various types of probabilistic rough set models have been proposed in constructive approaches. This paper focuses on axiomatic approaches of probabilistic rough sets. Some new properties of probabilistic rough set approximation operators are examined in detail. By investigating the dependence among these properties, the axiom sets characterizing two types of the probabilistic rough set approximation operators are given. Each set of axioms guarantees the existence of an equivalence relation reproducing the corresponding probabilistic rough set approximation operators. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Rough sets; Probabilistic rough sets; Approximation operators; Axioms

**KeyWords Plus:** APPROXIMATION OPERATORS; RISK DECISION; MODEL; UNIVERSES; REDUCTION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 11071284<br>61075120<br>61272021<br>61202206 |
| Zhejiang Provincial Natural Science Foundation of China | LY12F02021<br>LZ12F03002 |

We would like to thank the anonymous referees for their valuable suggestions in improving this paper, also thank Professor JingTao Yao and Professor YiYu Yao from Department of Computer Science at University of Regina, Canada, for their support for this paper. This work was supported by grants from the National Natural Science Foundation of China (Nos. 11071284, 61075120, 61272021, 61202206) and the Zhejiang Provincial Natural Science Foundation of China (Nos. LY12F02021, LZ12F03002).

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**第 339 条，共 395 条**

**标题:** Analyzing uncertainties of probabilistic rough set regions with game-theoretic rough sets

**作者:** Azam, N (Azam, Nouman); Yao, JT (Yao, JingTao)

**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 1 **特刊:** SI **页:** 142-155 **DOI:** 10.1016/j.ijar.2013.03.015 **子辑:** 2 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 15

**被引频次合计:** 16

**摘要:** Probabilistic rough set approach defines the positive, negative and boundary regions, each associated with a certain level of uncertainty. A pair of threshold values determines the uncertainty levels in these regions. A critical issue in the community is the determination of optimal values of these thresholds. This problem may be investigated by considering a possible relationship between changes in probabilistic thresholds and their impacts on uncertainty levels of different regions. We investigate the use of game-theoretic rough set (GTRS) model in exploring such a relationship. A threshold configuration mechanism is defined with the GTRS model in order to minimize the overall uncertainty level of rough set based classification. By realizing probabilistic regions as players in a game, a mechanism is introduced that repeatedly tunes the parameters in order to calculate effective threshold parameter values. Experimental results on text categorization suggest that the overall uncertainty of probabilistic regions may be reduced with the threshold configuration mechanism. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Game-theoretic rough sets; Probabilistic rough sets; Uncertainty

**KeyWords Plus:** TEXT CATEGORIZATION; FEATURE-SELECTION; MODEL; APPROXIMATIONS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| NSERC Canada | |
| University of Regina FGSR Dean's Scholarship Program | |

This work was partially supported by a Discovery Grant from NSERC Canada and the University of Regina FGSR Dean's Scholarship Program.

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**第 340 条，共 395 条**

**标题:** On an optimization representation of decision-theoretic rough set model

**作者:** Jia, XY (Jia, Xiuyi); Tang, ZM (Tang, Zhenmin); Liao, WH (Liao, Wenhe); Shang, L (Shang, Lin)

**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 1 **特刊:** SI **页:** 156-166 **DOI:** 10.1016/j.ijar.2013.02.010 **子辑:** 2 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 14
**被引频次合计:** 14

**摘要:** Decision-theoretic rough set model can derive several probabilistic rough set models by providing proper cost functions. Learning cost functions from data automatically is the key to improving the applicability of decision-theoretic rough set model. Many region-related attribute reductions are not appropriate for probabilistic rough set models as the monotonic property of regions does not always hold. In this paper, we propose an optimization representation of decision-theoretic rough set model. An optimization problem is proposed by considering the minimization of the decision cost. Two significant inferences can be drawn from the solution of the optimization problem. Firstly, cost functions and thresholds used in decision-theoretic rough set model can be learned from the given data automatically. An adaptive learning algorithm and a genetic algorithm are designed. Secondly, a minimum cost attribute reduction can be defined. The attribute reduction is interpreted as finding the minimal attribute set to make the decision cost minimum. A heuristic approach and a particle swarm optimization approach are also proposed. The optimization representation can bring some new insights into the research on decision-theoretic rough set model. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article
**作者关键词:** Optimization representation; Attribute reduction; Parameters learning; Decision-theoretic rough set model
**KeyWords Plus:** ATTRIBUTE REDUCTION; 3-WAY DECISION; FRAMEWORK; SYSTEMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61035003<br>61170180 |

This work is supported by the National Natural Science Foundation of China under Grant Nos. 61035003 and 61170180.

---

**第 341 条，共 395 条**

**标题:** Feature selection with test cost constraint

**作者:** Min, F (Min, Fan); Hu, QH (Hu, Qinghua); Zhu, W (Zhu, William)

**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 1 **特刊:** SI **页:** 167-179 **DOI:** 10.1016/j.ijar.2013.04.003 **子辑:** 2 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 11
**被引频次合计:** 12

**摘要:** Feature selection is an important preprocessing step in machine learning and data mining. In real-world applications, costs, including money, time and other resources, are required to acquire the features. In some cases, there is a test cost constraint due to limited resources. We shall deliberately select an informative and cheap feature subset for classification. This paper proposes the feature selection with test cost constraint problem for this issue. The new problem has a simple form while described as a constraint satisfaction problem (CSP). Backtracking is a general algorithm for CSP, and it is efficient in solving the new problem on medium-sized data. As the backtracking algorithm is not scalable to large datasets, a heuristic algorithm is also developed. Experimental results show that the heuristic algorithm can find the optimal solution in most cases. We also redefine some existing feature selection problems in rough sets, especially in decision-theoretic rough sets, from the viewpoint of CSP. These new definitions provide insight to some new research directions. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Feature selection; Cost-sensitive learning; Constraint satisfaction problem; Backtracking algorithm; Heuristic algorithm; Decision-theoretic rough sets

**KeyWords Plus:** ROUGH SET MODEL; SENSITIVE ATTRIBUTE REDUCTION; CLASSIFICATION; APPROXIMATIONS; CONSTRUCTION; OPTIMIZATION; DEFINITION; ALGORITHMS; PARTITION; NETWORKS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61170128 |
| Natural Science Foundation of Fujian Province, China | 2012J01294 |
| Fujian Province Foundation of Higher Education | JK2012028 |

This work is supported in part by the National Natural Science Foundation of China under Grant No. 61170128, the Natural Science Foundation of Fujian Province, China under Grant No. 2012J01294, and Fujian Province Foundation of Higher Education under Grant No. JK2012028.

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**第 342 条，共 395 条**

**标题:** Generalized probabilistic approximations of incomplete data

**作者:** Grzymala-Busse, JW (Grzymala-Busse, Jerzy W.); Clark, PG (Clark, Patrick G.); Kuehnhausen, M (Kuehnhausen, Martin)

**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 1 **特刊:** SI **页:** 180-196 **DOI:** 10.1016/j.ijar.2013.04.007 **子辑:** 2 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** In this paper we discuss a generalization of the idea of probabilistic approximations. Probabilistic (or parameterized) approximations, studied mostly in variable precision rough set theory, were originally defined using equivalence relations. Recently, probabilistic approximations were defined for arbitrary binary relations. Such approximations have an immediate application to data mining from incomplete data because incomplete data sets are characterized by a characteristic relation which is reflexive but not necessarily symmetric or transitive. In contrast, complete data sets are described by indiscernibility which is an equivalence relation.
The main objective of this paper was to compare experimentally, for the first time, two generalizations of probabilistic approximations: global and local. Additionally, we explored the problem how many distinct probabilistic approximations may be defined for a given data set. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Probabilistic approximations; Parameterized approximations; Generalization of probabilistic approximations; Singleton, subset and concept probabilistic approximations; Local.probabilistic approximations

**KeyWords Plus:** THEORETIC ROUGH SETS; RULE INDUCTION; INDISCERNIBILITY RELATION; INFORMATION-SYSTEMS; MODEL; CLASSIFICATION

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**第 343 条，共 395 条**
**标题:** Incorporating logistic regression to decision-theoretic rough sets for classifications
**作者:** Liu, D (Liu, Dun); Li, TR (Li, Tianrui); Liang, DC (Liang, Decui)
**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 1 **特刊:** SI **页:** 197-210 **DOI:** 10.1016/j.ijar.2013.02.013 **子辑:** 2 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 14
**被引频次合计:** 14
**摘要:** Logistic regression analysis is an effective approach to the classification problem. However, it may lead to high misclassification rate in real decision procedures. Decision-Theoretic Rough Sets (DTRS) employs a three-way decision to avoid most direct misclassification. We integrate logistic regression and DTRS to provide a new classification approach. On one hand, DTRS is utilized to systematically calculate the corresponding thresholds with Bayesian decision procedure. On the other hand, logistic regression is employed to compute the conditional probability of the three-way decision. The empirical studies of corporate failure prediction and high school program choices' prediction validate the rationality and effectiveness of the proposed approach. (C) 2013 Elsevier Inc. All rights reserved.
**文献类型:** Article
**作者关键词:** Decision-theoretic rough sets; Binary logistic analysis; Multivariate logistic regression; Decision making
**KeyWords Plus:** ATTRIBUTE REDUCTION; DISCRIMINANT-ANALYSIS; MODEL SELECTION; 3-WAY DECISION; RISK DECISION; DISCRETIZATION; SYSTEMS
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Science Foundation of China | 71201133<br>61175047<br>71090402/G1 |
| Youth Social Science Foundation of the Chinese Education Commission | 11YJC630127 |
| Research Fund for the Doctoral Program of Higher Education of China | 20120184120028 |
| China Postdoctoral Science Foundation | 2012M520310 |
| Fundamental Research Funds for the Central Universities of China | SWJTU12CX117 |

This paper is an extended version of the paper published in the proceedings of RSKT2011. This work is partially supported by the National Science Foundation of China (Nos. 71201133, 61175047, 71090402/G1), the Youth Social Science Foundation of the Chinese Education Commission (No. 11YJC630127), the Research Fund for the Doctoral Program of Higher Education of China (No. 20120184120028), the China Postdoctoral Science Foundation (No. 2012M520310) and the Fundamental Research Funds for the Central Universities of China (No. SWJTU12CX117).

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**第 344 条，共 395 条**
**标题:** Multi-class decision-theoretic rough sets
**作者:** Zhou, B (Zhou, Bing)
**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 1 **特刊:** SI **页:** 211-224 **DOI:** 10.1016/j.ijar.2013.04.006 **子辑:** 2 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 7
**被引频次合计:** 8
**摘要:** As a natural extension to rough set approximations with two decision classes, this paper provides a new formulation of multi-class decision-theoretic rough sets. Instead of making an immediate acceptance or rejection decision, a third option of making a deferment decision is added to each class. This gives users the flexibility of further examining the suspicious objects, thereby reducing the chance of misclassification. Different types of misclassification errors are treated separately based on the notion of loss functions from Bayesian decision theory.

The losses incurred for making deferment and rejection decisions to each class are also considered. The presented approach appears to be well suited for cost-sensitive classification tasks where different types of classification errors have different costs. The connections and differences with other existing multi-class rough set models are analyzed. 

**文献类型:** Article

**作者关键词:** Bayesian inference; Bayesian decision theory; Bayes' theorem; Rough sets; Naive Bayes classifier; Three-way decisions

**KeyWords Plus:** BAYESIAN CONFIRMATION MEASURES; 3-WAY DECISION; MODEL; FRAMEWORK; RULES

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**第 345 条，共 395 条**

**标题:** Multigranulation decision-theoretic rough sets

**作者:** Qian, YH (Qian, Yuhua); Zhang, H (Zhang, Hu); Sang, YL (Sang, Yanli); Liang, JY (Liang, Jiye)

**来源出版物:** INTERNATIONAL JOURNAL OF APPROXIMATE REASONING **卷:** 55 **期:** 1 **特刊:** SI **页:** 225-237 **DOI:** 10.1016/j.ijar.2013.03.004 **子辑:** 2 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 20

**被引频次合计:** 21

**摘要:** The Bayesian decision-theoretic rough sets propose a framework for studying rough set approximations using probabilistic theory, which can interprete the parameters from existing forms of probabilistic approaches to rough sets. Exploring rough sets in the viewpoint of multigranulation is becoming one of desirable directions in rough set theory, in which lower/upper approximations are approximated by granular structures induced by multiple binary relations. Through combining these two ideas, the objective of this study is to develop a new multigranulation rough set model, called a multigranulation decision-theoretic rough set. Many existing multigranulation rough set models can be derived from the multigranulation decision-theoretic rough set framework. 

**文献类型:** Article

**作者关键词:** Decision-theoretic rough sets; Granular computing; Multigranulation; Bayesian decision theory

**KeyWords Plus:** INCOMPLETE INFORMATION-SYSTEMS; MODEL; GRANULATION; APPROXIMATION; REDUCTION; RULES; ACQUISITION; UNCERTAINTY; TABLES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| City University of Hong Kong | SRG: 7002681 |
| National Natural Science Fund of China | 71031006<br>61202018 |
| National Key Basic Research and Development Program of China(973) | 2013CB329404 |
| Program for New Century Excellent Talents in University | |
| Research Fund for the Doctoral Program of Higher Education | 20121401110013 |
| Shanxi Scholarship Council of China | 201008 |
| Program for the Innovative Talents of Higher Learning Institutions of Shanxi, China | 20120301 |

This work was partially supported by SRG: 7002681 of City University of Hong Kong, supported by National Natural Science Fund of China (Nos. 71031006, 61202018), National Key Basic Research and Development Program of China(973) (No. 2013CB329404), Program for New Century Excellent Talents in University, the Research Fund for the Doctoral Program of Higher Education (20121401110013), the Research Project Supported by Shanxi Scholarship Council of China (No. 201008), and Supported by Program for the Innovative Talents of Higher Learning Institutions of Shanxi, China (20120301).

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**第 346 条，共 395 条**

**标题:** Blind DOA and polarization estimation for polarization-sensitive array using dimension reduction MUSIC

**作者:** Zhang, XF (Zhang, Xiaofei); Chen, C (Chen, Chen); Li, JF (Li, Jianfeng); Xu, DZ (Xu, Dazhuan)

**来源出版物:** MULTIDIMENSIONAL SYSTEMS AND SIGNAL PROCESSING **卷:** 25 **期:** 1 **页:** 67-82 **DOI:** 10.1007/s11045-012-0186-3 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 6

**被引频次合计:** 6

**摘要:** A novel blind direction-of-arrival (DOA) and polarization estimation algorithm for polarization-sensitive uniform linear array using dimension reduction multiple signal classification (MUSIC) is proposed in this paper. The proposed algorithm utilizes the signal subspace to obtain an initial estimation of DOA, then estimates more accurate DOA through a one-dimensional (1-D) local searching according to the initial estimation of DOA, and finally obtains polarization parameter estimation via the estimated polarization steering vectors. The proposed algorithm, which only requires a one-dimension local searching, can avoid the high computational cost within multi-dimensional MUSIC algorithm. The simulation results reveal that the proposed algorithm has better DOA and polarization estimation performance than both estimation of signal parameters via rotational invariance technique algorithm and trilinear decomposition algorithm. Furthermore, the proposed algorithm can be suitable for irregular array geometry, obtain automatically paired multi-dimensional parameter estimation, and avoid multi-dimensional searching. Simulation results verify the effectiveness of the proposed algorithm.

**文献类型:** Article

**作者关键词:** Polarization sensitive array; Uniform linear array; Direction-of-arrival (DOA) estimation; Polarization estimation; Multiple signal classification (MUSIC)

**KeyWords Plus:** DIRECTION-OF-ARRIVAL; ESPRIT; ANGLE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| China NSF Grants | 60801052 |
| Fundamental Research Funds for the Central Universities | NZ2012010 |
| Graduate Innovative Base Open Funding of Nanjing University of Aeronautics Astronautics | kfjj20110215, kfjj20110131 |

This work is supported by China NSF Grants (60801052), the Fundamental Research Funds for the Central Universities (NZ2012010), and Graduate Innovative Base Open Funding of Nanjing University of Aeronautics & Astronautics (kfjj20110215, and Li Jianfeng's kfjj20110131).

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**第 347 条，共 395 条**

**标题:** Selection of parameters in iris recognition system

**作者:** Marciniak, T (Marciniak, Tomasz); Dabrowski, A (Dabrowski, Adam); Chmielewska, A (Chmielewska, Agata); Krzykowska, AA (Krzykowska, Agnieszka Anna)

**来源出版物:** MULTIMEDIA TOOLS AND APPLICATIONS **卷:** 68 **期:** 1 **页:** 193-208 **DOI:** 10.1007/s11042-012-1035-y **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** This paper presents the detailed analysis of implementation issues occurred during preparation of the novel iris recognition system. First, we shortly describe the currently available acquisition systems and databases of iris images, which were used for our tests. Next, we concentrate on the feature extraction and coding with the execution time analysis. Results of the average execution time of loading the image, segmentation, normalization, and feature encoding, are presented. Finally, DET plots illustrate the recognition accuracy for IrisBath database.

**文献类型:** Article

**作者关键词:** Iris recognition; Biometric; CASIA; IrisBath

**KeyWords Plus:** IMAGES

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**第 348 条，共 395 条**

**标题:** Cuckoo search: recent advances and applications

**作者:** Yang, XS (Yang, Xin-She); Deb, S (Deb, Suash)

**来源出版物:** NEURAL COMPUTING & APPLICATIONS **卷:** 24 **期:** 1 **特刊:** SI **页:** 169-174 **DOI:** 10.1007/s00521-013-1367-1 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 20

**被引频次合计:** 20

**摘要:** Cuckoo search (CS) is a relatively new algorithm, developed by Yang and Deb in 2009, and the same has been found to be efficient in solving global optimization problems. In this paper, we review the fundamental ideas of cuckoo search and the latest developments as well as its applications. We analyze the algorithm and gain insight into its search mechanisms and find out why it is efficient. We also discuss the essence of algorithms and its link to self-organizing systems, and finally, we propose some important topics for further research.

**文献类型:** Review

**作者关键词:** Cuckoo search; Convergence; Swarm intelligence optimization; Metaheuristic; Nature-inspired algorithm

**KeyWords Plus:** PARTICLE SWARM OPTIMIZATION; ALGORITHM; CONVERGENCE; NETWORK

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**第 349 条，共 395 条**

**标题:** Drug identification and interaction checker based on IoT to minimize adverse drug reactions and improve drug compliance

**作者:** Jara, AJ (Jara, Antonio J.); Zamora, MA (Zamora, Miguel A.); Skarmeta, AF (Skarmeta, Antonio F.)

**来源出版物:** PERSONAL AND UBIQUITOUS COMPUTING **卷:** 18 **期:** 1 **特刊:** SI **页:** 5-17 **DOI:** 10.1007/s00779-012-0622-2 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** Drug compliance and adverse drug reactions (ADR) are two of the most important issues regarding patient safety throughout the worldwide healthcare sector. ADR prevalence is 6.7 % throughout hospitals worldwide, with an international death rate of 0.32 % of the total of the patients. This rate is even higher in Ambient Assisted Living environments, where 15 % of the patients suffer clinically significant interactions due to patient non-compliance to drug dosage and schedule of intake in addition to suffering from polypharmacy. These instances increase with age and cause risks of drug interactions, adverse effects, and toxicity. However, with a tight follow-up of the drug treatment, complications of incorrect drug use can be reduced. For that purpose, we propose an innovative system based on the Internet of Things (IoT) for the drug identification and the monitoring of medication. IoT is applied to examine drugs in order to fulfill treatment, to detect harmful side effects of pharmaceutical excipients, allergies, liver/renal contradictions, and harmful side effects during pregnancy. The IoT design acknowledges that the aforementioned problems are worldwide so the solution supports several IoT identification technologies: barcode, Radio Frequency Identification, Near Field Communication, and a new solution developed for low-income countries based on IrDA in collaboration with the World Health Organization. These technologies are integrated in personal devices such as smart-phones, PDAs, PCs, and in our IoT-based personal healthcare device called Movital.

**文献类型:** Article

**作者关键词:** Internet of things; Drug identification; Drug checker; m-Health; AAL

**KeyWords Plus:** EVENTS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Fundacion Seneca | 04552/GERM/06 |

| | |
|---|---|
| European Project "Universal Integration of the Internet of Things through an IPv6-based Service Oriented Architecture enabling heterogeneous components interoperability (IoT6)" from the FP7 | 288445 |
| Spanish ministry for Industry, Tourism and infrastructure | |
| ministry for education, social politics and sport | TSI-020302-2009-89 |
| "Architecture for Intelligent Respiratory Evaluation (AIRE)" | TSI-020302-2010-95 |
| FPU program | AP2009-3981 |

This research has been conducted by the Intelligent Systems and Networks group of the University of Murcia, Espinardo, Spain. This research group has been awarded for its excellence as a research group in the frames of the Spanish "Plan de Ciencia y Tecnologia de la Region de Murcia" from the "Fundacion Seneca" (04552/GERM/06). The authors would like to thank the European Project "Universal Integration of the Internet of Things through an IPv6-based Service Oriented Architecture enabling heterogeneous components interoperability (IoT6)" from the FP7 with the grant agreement no: 288445, the Spanish ministry for Industry, Tourism and infrastructure, and the ministry for education, social politics and sport for sponsoring the research activities under the grants "Intelligent Beds for Clinical Environments" (TSI-020302-2009-89), "Architecture for Intelligent Respiratory Evaluation (AIRE)" (TSI-020302-2010-95), and FPU program (AP2009-3981). Finally, a special thanks to all of the volunteers nurses and physicians who assisted in the evaluation of this project: Fermin Alcolea, Jose Javier Campuzano, Maria Jesus Carrillo. And last but not least, thank you to Madeleine de Rosas-Valera, MD (Technical Officer in Patient Safety from the World Health Organization), to the pharmacology specialist Mona Alsaedy from United Kingdom, and to the pharmaceutical technician Consuelo Olmos from Spain.

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**第 350 条，共 395 条**

**标题:** An efficient privacy-preserving solution for finding the nearest doctor

**作者:** Drosatos, G (Drosatos, George); Efraimidis, PS (Efraimidis, Pavlos S.)

**来源出版物:** PERSONAL AND UBIQUITOUS COMPUTING **卷:** 18 **期:** 1 **特刊:** SI **页:** 75-90 **DOI:** 10.1007/s00779-012-0619-x **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 3

**被引频次合计:** 3

**摘要:** In this work, we define the Nearest Doctor Problem for finding the nearest doctor in case of an emergency and present a privacy-preserving protocol for solving it. The solution is based on cryptographic primitives and makes use of the current location of each participating doctor. The protocol is efficient and protects the privacy of the doctors' locations. A prototype implementing the proposed solution for a community of doctors that use mobile devices to obtain their current location is presented. The prototype is evaluated on experimental communities with up to several hundred doctor agents.

**文献类型:** Article

**作者关键词:** Location privacy; Personal data; Privacy-preserving computation; Peer-to-Peer network

**KeyWords Plus:** THRESHOLD HOMOMORPHIC ENCRYPTION; MULTIPARTY COMPUTATION; CRYPTOSYSTEMS; PROTOCOL; SYSTEM; CHORD

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**第 351 条，共 395 条**

**标题:** A survey of structural and multidisciplinary continuum topology optimization: post 2000

**作者:** Deaton, JD (Deaton, Joshua D.); Grandhi, RV (Grandhi, Ramana V.)

**来源出版物:** STRUCTURAL AND MULTIDISCIPLINARY OPTIMIZATION **卷:** 49 **期:** 1 **页:** 1-38 **DOI:** 10.1007/s00158-013-0956-z **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 10

**被引频次合计:** 10

**摘要:** Topology optimization is the process of determining the optimal layout of material and connectivity inside a design domain. This paper surveys topology optimization of continuum structures from the year 2000 to 2012. It focuses on new developments, improvements, and applications of finite element-based topology optimization, which include a maturation of classical methods, a broadening in the scope of the field, and the introduction of new methods for multiphysics problems. Four different types of topology optimization are reviewed: (1) density-based methods, which include the popular Solid Isotropic Material with Penalization (SIMP) technique, (2) hard-kill methods,

including Evolutionary Structural Optimization (ESO), (3) boundary variation methods (level set and phase field), and (4) a new biologically inspired method based on cellular division rules. We hope that this survey will provide an update of the recent advances and novel applications of popular methods, provide exposure to lesser known, yet promising, techniques, and serve as a resource for those new to the field. The presentation of each method's focuses on new developments and novel applications.

**文献类型:** Review

**作者关键词:** Topology optimization; Density methods; Level set; Evolutionary structural optimization; Phase field; Continuum topology

**KeyWords Plus:** LEVEL-SET METHOD; GEOMETRICALLY NONLINEAR STRUCTURES; DESIGN-DEPENDENT LOADS; ELEMENT CONNECTIVITY PARAMETERIZATION; PHOTONIC CRYSTAL-STRUCTURES; DISPLACEMENT COMPLIANT MECHANISMS; GENERALIZED SHAPE OPTIMIZATION; POPULAR BENCHMARK PROBLEMS; LOCAL STRESS CONSTRAINTS; CELLULAR DIVISION METHOD

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| U.S. Air Force Research Laboratory (AFRL), the Collaborative Center for Multidisciplinary Sciences (CCMS) | FA8650-09-2-3938 |

This work has been funded by the U.S. Air Force Research Laboratory (AFRL) through contract FA8650-09-2-3938, the Collaborative Center for Multidisciplinary Sciences (CCMS). The views and conclusions contained herein are those of the authors and should not be interpreted as representing official policies or endorsements, either expressed or implied, of the Air Force Research Laboratory or the U.S. Government.

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**第 352 条，共 395 条**

**标题:** Adaptive reference-free compression of sequence quality scores

**作者:** Janin, L (Janin, Lilian); Rosone, G (Rosone, Giovanna); Cox, AJ (Cox, Anthony J.)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 1 **页:** 24-30 **DOI:** 10.1093/bioinformatics/btt257 **出版年:** JAN 1 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** Motivation: Rapid technological progress in DNA sequencing has stimulated interest in compressing the vast datasets that are now routinely produced. Relatively little attention has been paid to compressing the quality scores that are assigned to each sequence, even though these scores may be harder to compress than the sequences themselves. By aggregating a set of reads into a compressed index, we find that the majority of bases can be predicted from the sequence of bases that are adjacent to them and, hence, are likely to be less informative for variant calling or other applications. The quality scores for such bases are aggressively compressed, leaving a relatively small number at full resolution. As our approach relies directly on redundancy present in the reads, it does not need a reference sequence and is, therefore, applicable to data from metagenomics and de novo experiments as well as to re-sequencing data.

Results: We show that a conservative smoothing strategy affecting 75% of the quality scores above Q2 leads to an overall quality score compression of 1 bit per value with a negligible effect on variant calling. A compression of 0.68 bit per quality value is achieved using a more aggressive smoothing strategy, again with a very small effect on variant calling.

**文献类型:** Article

**KeyWords Plus:** BURROWS-WHEELER TRANSFORM; STRING COLLECTIONS; ERROR-CORRECTION; ALGORITHMS; DISCOVERY; ACCURACY; BWT

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**第 353 条，共 395 条**

**标题:** Informed and automated k-mer size selection for genome assembly

**作者:** Chikhi, R (Chikhi, Rayan); Medvedev, P (Medvedev, Paul)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 1 **页:** 31-37 **DOI:** 10.1093/bioinformatics/btt310 **出版年:** JAN 1 2014

**Web of Science 核心合集中的 "被引频次":** 10

**被引频次合计:** 10

**摘要:** Motivation: Genome assembly tools based on the de Bruijn graph framework rely on a parameter k, which represents a trade-off between several competing effects that are difficult to quantify. There is currently a lack of tools that would automatically estimate the best k to use and/or quickly generate histograms of k-mer abundances that would allow the user to make an informed decision.
Results: We develop a fast and accurate sampling method that constructs approximate abundance histograms with several orders of magnitude performance improvement over traditional methods. We then present a fast heuristic that uses the generated abundance histograms for putative k values to estimate the best possible value of k. We test the effectiveness of our tool using diverse sequencing data-sets and find that its choice of k leads to some of the best assemblies.

**文献类型:** Article

**KeyWords Plus:** BACTERIAL GENOMES; SINGLE-CELL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Genomics Institute of the Huck Institutes of the Life Sciences | |

The authors would like to thank Qunhua Li and Francesca Chiaromonte for useful discussions. We gratefully acknowledge the support of the Genomics Institute of the Huck Institutes of the Life Sciences.

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**第 354 条，共 395 条**

**标题:** A poor man's BLASTX-high-throughput metagenomic protein database search using PAUDA

**作者:** Huson, DH (Huson, Daniel H.); Xie, C (Xie, Chao)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 1 **页:** 38-39 **DOI:** 10.1093/bioinformatics/btt254 **出版年:** JAN 1 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 5

**摘要:** In the context of metagenomics, we introduce a new approach to protein database search called PAUDA, which runs similar to 10 000 times faster than BLASTX, while achieving about one-third of the assignment rate of reads to KEGG orthology groups, and producing gene and taxon abundance profiles that are highly correlated to those obtained with BLASTX. PAUDA requires <80 CPU hours to analyze a dataset of 246 million Illumina DNA reads from permafrost soil for which a previous BLASTX analysis (on a subset of 176 million reads) reportedly required 800 000 CPU hours, leading to the same clustering of samples by functional profiles.

**文献类型:** Article

**KeyWords Plus:** ALIGNMENT; TOOL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Research Foundation | |
| Ministry of Education Singapore under its Research Centre of Excellence Programme | |

National Research Foundation and Ministry of Education Singapore under its Research Centre of Excellence Programme.

**第 355 条，共 395 条**

**标题:** MSPrep-Summarization, normalization and diagnostics for processing of mass spectrometry-based metabolomic data

**作者:** Hughes, G (Hughes, Grant); Cruickshank-Quinn, C (Cruickshank-Quinn, Charmion); Reisdorph, R (Reisdorph, Richard); Lutz, S (Lutz, Sharon); Petrache, I (Petrache, Irina); Reisdorph, N (Reisdorph, Nichole); Bowler, R (Bowler, Russell); Kechris, K (Kechris, Katerina)

**来源出版物:** BIOINFORMATICS **卷:** 30 **期:** 1 **页:** 133-134 **DOI:** 10.1093/bioinformatics/btt589 **出版年:** JAN 1 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Motivation: Although R packages exist for the pre-processing of metabolomic data, they currently do not incorporate additional analysis steps of summarization, filtering and normalization of aligned data. We developed the MSPrep R package to complement other packages by providing these additional steps, implementing a selection of popular normalization algorithms and generating diagnostics to help guide investigators in their analyses.

**文献类型:** Article

**KeyWords Plus:** PROFILE DATA

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| NIH/NHLBI | P20 HL113445 |

NIH/NHLBI P20 HL113445.

**第 356 条，共 395 条**

**标题:** Lattice Boltzmann modeling and evaluation of fluid flow in heterogeneous porous media involving multiple matrix constituents

**作者:** Gao, JF (Gao, Jinfang); Xing, HL (Xing, Huilin); Tian, ZW (Tian, Zhiwei); Muhlhaus, H (Muhlhaus, Hans)

**来源出版物:** COMPUTERS & GEOSCIENCES **卷:** 62 **页:** 198-207 **DOI:** 10.1016/j.cageo.2013.07.019 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Geomaterials are typical heterogeneous porous media involving multiple types of matrix constituents which dominate the subsurface flow behavior. An improved lattice Boltzmann method (LBM) approach is developed for analyzing the detailed flow characteristics through multiple matrix constituents, investigating sample size effects on the permeability variation, and evaluating characteristic information at the representative elementary volume (REV) scale for the macroscale reference. Applications are conducted in both 2D and 3D to numerically investigate the impact of geometric topology and matrix property on the detailed velocity field, and effects of sample sizes on the permeability for evaluating effective REV scale fluid flow parameters. The simulation results demonstrate that the improved LBM approach is able to quantitatively describe and simulate complex fluid flow through multiple-matrix constructed heterogeneous porous media, which provides more realistic simulation results for up-scaled research and engineering. Crown Copyright (C) 2013 Published by Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Lattice Boltzmann method (LBM); Porous media; Heterogeneity; Multiple matrix constituents; Permeable minerals; Permeability; Representative elementary volume (REV)

**KeyWords Plus:** EQUATION

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**第 357 条，共 395 条**
**标题:** XMapTools: A MATLAB (c)-based program for electron microprobe X-ray image processing and geothermobarometry
**作者:** Lanari, P (Lanari, Pierre); Vidal, O (Vidal, Olivier); De Andrade, V (De Andrade, Vincent); Dubacq, B (Dubacq, Benoit); Lewin, E (Lewin, Eric); Grosch, EG (Grosch, Eugene G.); Schwartz, S (Schwartz, Stephane)
**来源出版物:** COMPUTERS & GEOSCIENCES **卷:** 62 **页:** 227-240 **DOI:** 10.1016/j.cageo.2013.08.010 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4
**摘要:** XMapTools is a MATLAB(C)-based graphical user interface program for electron microprobe X-ray image processing, which can be used to estimate the pressure-temperature conditions of crystallization of minerals in metamorphic rocks. This program (available online at http://www.xmaptools.com) provides a method to standardize raw electron microprobe data and includes functions to calculate the oxide weight percent compositions for various minerals. A set of external functions is provided to calculate structural formulae from the standardized analyses as well as to estimate pressure-temperature conditions of crystallization, using empirical and semi-empirical thermobarometers from the literature. Two graphical user interface modules, Chem2D and Triplot3D, are used to plot mineral compositions into binary and ternary diagrams. As an example, the software is used to study a high-pressure Himalayan eclogite sample from the Stak massif in Pakistan. The high-pressure paragenesis consisting of omphacite and garnet has been retrogressed to a symplectitic assemblage of amphibole, plagioclase and clinopyroxene. Mineral compositions corresponding to 165,000 analyses yield estimates for the eclogitic pressure-temperature retrograde path from 25 kbar to 9 kbar. Corresponding pressuretemperature maps were plotted and used to interpret the link between the equilibrium conditions of crystallization and the symplectitic microstructures. This example illustrates the usefulness of XMapTools for studying variations of the chemical composition of minerals and for retrieving information on metamorphic conditions on a microscale, towards computation of continuous pressure-temperature-and relative time path in zoned metamorphic minerals not affected by post-crystallization diffusion. (C) 2013 Elsevier Ltd. All rights reserved.
**文献类型:** Article
**作者关键词:** XMapTools program; X-ray chemical imaging; Quantitative micro-mapping; PT-maps
**KeyWords Plus:** GARNET-CLINOPYROXENE GEOTHERMOMETER; PHASE-EQUILIBRIUM EXPERIMENTS; NATURAL PELITIC ASSEMBLAGES; IN-HORNBLENDE BAROMETER; FE-MG GEOTHERMOMETER; EXPERIMENTAL CALIBRATION; THERMODYNAMIC MODEL; COEXISTING GARNET; SOLID-SOLUTION; HIGH-PRESSURE
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| French ANR | |

Authors acknowledge A. Pourteau for his help with the EPMA analyses, N. Riel, C. Martin, M. Burn, C. Loury, F. Guillot, B. Gardonio, F. Bernier, M. Engi, M. Mufioz, K. Malamoud, A. Robert, J. de Sigoyer, P. Agard and S. Guillot for help, comments, data and/or collaborations in order to test the different versions of XMapTools. Authors thank G. Ortolan, D. Waters and one anonymous reviewers for constructive comments and Jef Caers for editorial handling. This work was supported by the French ANR project "ERD-Alps".

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**第 358 条，共 395 条**
**标题:** Training and assessing classification rules with imbalanced data

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**来源出版物:** DATA MINING AND KNOWLEDGE DISCOVERY **卷:** 28 **期:** 1 **页:** 92-122 **DOI:** 10.1007/s10618-012-0295-5 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5
**摘要:** The problem of modeling binary responses by using cross-sectional data has been addressed with a number of satisfying solutions that draw on both parametric and nonparametric methods. However, there exist many real situations where one of the two responses (usually the most interesting for the analysis) is rare. It has been largely reported that this class imbalance heavily compromises the process of learning, because the model tends to focus on the prevalent class and to ignore the rare events. However, not only the estimation of the classification model is affected by a skewed distribution of the classes, but also the evaluation of its accuracy is jeopardized, because the scarcity of data leads to poor estimates of the model's accuracy. In this work, the effects of class imbalance on model training and model assessing are discussed. Moreover, a unified and systematic framework for dealing with the problem of imbalanced classification is proposed, based on a smoothed bootstrap re-sampling technique. The proposed technique is founded on a sound theoretical basis and an extensive empirical study shows that it outperforms the main other remedies to face imbalanced learning problems.
**文献类型:** Article
**作者关键词:** Accuracy; Binary classification; Bootstrap; Kernel density estimation; Imbalanced learning
**KeyWords Plus:** SUPPORT VECTOR MACHINES; SKEWED BINARY CLASSIFICATION; DATA SETS; CLASSIFIERS; PERFORMANCE; TREES; PREDICTION
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**第 359 条，共 395 条**

**标题:** Anomaly detection in large-scale data stream networks

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**来源出版物:** DATA MINING AND KNOWLEDGE DISCOVERY **卷:** 28 **期:** 1 **页:** 145-189 **DOI:** 10.1007/s10618-012-0297-3 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3
**摘要:** This paper addresses the anomaly detection problem in large-scale data mining applications using residual subspace analysis. We are specifically concerned with situations where the full data cannot be practically obtained due to physical limitations such as low bandwidth, limited memory, storage, or computing power. Motivated by the recent compressed sensing (CS) theory, we suggest a framework wherein random projection can be used to obtained compressed data, addressing the scalability challenge. Our theoretical contribution shows that the spectral property of the CS data is approximately preserved under a such a projection and thus the performance of spectral-based methods for anomaly detection is almost equivalent to the case in which the raw data is completely available. Our second contribution is the construction of the framework to use this result and detect anomalies in the compressed data directly, thus circumventing the problems of data acquisition in large sensor networks. We have conducted extensive experiments to detect anomalies in network and surveillance applications on large datasets, including the benchmark PETS 2007 and 83 GB of real footage from three public train stations. Our results show that our proposed method is scalable, and importantly, its performance is comparable to conventional methods for anomaly detection when the complete data is available.
**文献类型:** Article
**作者关键词:** Anomaly detection; Random projection; Sensor network data; Spectral methods; Compressed sensing; Residual subspace analysis; Stream data processing
**KeyWords Plus:** EVENT DETECTION; PROJECTIONS; MATRICES
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**第 360 条，共 395 条**

**标题:** Protein secondary structure optimization using an improved artificial bee colony algorithm based on AB

off-lattice model

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**来源出版物:** ENGINEERING APPLICATIONS OF ARTIFICIAL INTELLIGENCE **卷:** 27 **页:** 70-79 **DOI:** 10.1016/j.engappai.2013.06.010 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** Predicting the secondary structure of protein has been the focus of scientific research for decades, but it remains to be a challenge in bioinformatics due to the increasing computation complexity. In this paper, AB off-lattice model is introduced to transforms the prediction task into a numerical optimization problem. Artificial Bee Colony algorithm (ABC) is an effective swarm intelligence algorithm, which works well in exploration but poor at exploitation. To improve the convergence performance of ABC, a novel internal feedback strategy based ABC (IF-ABC) is proposed. In this strategy, internal states are fully used in each of the iterations to guide subsequent searching process, and to balance local exploration with global exploitation. We provide the mechanism together with the convergence proof of the modified algorithm. Simulations are conducted on artificial Fibonacci sequences and real sequences in the database of Protein Data Bank (PDB). The analysis implies that IF-ABC is more effective to improve convergence rate than ABC, and can be employed for this specific protein structure prediction issues. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Artificial Bee Colony algorithm (ABC); AB off-lattice model; Protein secondary structure optimization; Convergence of algorithm

**KeyWords Plus:** STRUCTURE PREDICTION SERVER; GLOBAL OPTIMIZATION; TOY MODEL; SPACE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| School of Advanced Engineering (SAE) in Beihang University | |
| 5th National College Students' Innovative and Entrepreneurial Training Program | |
| 6th National College Students' Innovative and Entrepreneurial Training Program | |

We would like to thank the referees very much for their valuable comments and suggestions. The work was supported in part by the School of Advanced Engineering (SAE) in Beihang University and sponsored by 5th and 6th National College Students' Innovative and Entrepreneurial Training Programs.

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**第 361 条，共 395 条**

**标题:** Semantic Search-Based Genetic Programming and the Effect of Intron Deletion

**作者:** Castelli, M (Castelli, Mauro); Vanneschi, L (Vanneschi, Leonardo); Silva, S (Silva, Sara); Agapitos, A (Agapitos, Alexandros); O'Neill, M (O'Neill, Michael)

**来源出版物:** IEEE TRANSACTIONS ON CYBERNETICS **卷:** 44 **期:** 1 **页:** 103-113 **DOI:** 10.1109/TSMCC.2013.2247754 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** The concept of semantics (in the sense of input-output behavior of solutions on training data) has been the subject of a noteworthy interest in the genetic programming (GP) research community over the past few years. In this paper, we present a new GP system that uses the concept of semantics to improve search effectiveness. It maintains a distribution of different semantic behaviors and biases the search toward solutions that have similar semantics to the best solutions that have been found so far. We present experimental evidence of the fact that the new semantics based GP system outperforms the standard GP and the well-known bacterial GP on a set of test functions, showing particularly interesting results for noncontinuous (i.e., generally harder to optimize) test functions. We also observe that the solutions generated by the proposed GP system often have a larger size than the ones returned by standard GP and bacterial GP and contain an elevated number of introns, i.e., parts of code that do not have any effect on the semantics. Nevertheless, we show that the deletion of introns during the evolution does not affect the performance of the proposed method.

**文献类型:** Article

**作者关键词:** Generalization; genetic programming (GP); introns; semantics

**KeyWords Plus:** CLASSIFICATION; FITNESS; SELECTION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| FCT | Pest-OE/EEI/LA0021/2011<br>PTDC/EIA-CCO/103363/2008 |

This work was supported by National Funds through FCT under Contract Pest-OE/EEI/LA0021/2011 and Project PTDC/EIA-CCO/103363/2008. This paper was recommended by Associate Editor N. O. Attoh-Okine of the former IEEE Transactions on Systems, Man and Cybernetics, Part C: Applications and Reviews.

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**第 362 条，共 395 条**

**标题:** Self-Learning Based Image Decomposition With Applications to Single Image Denoising

**作者:** Huang, DA (Huang, De-An); Kang, LW (Kang, Li-Wei); Wang, YCF (Wang, Yu-Chiang Frank); Lin, CW (Lin, Chia-Wen)

**来源出版物:** IEEE TRANSACTIONS ON MULTIMEDIA **卷:** 16 **期:** 1 **页:** 83-93 **DOI:** 10.1109/TMM.2013.2284759 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3

**摘要:** Decomposition of an image into multiple semantic components has been an effective research topic for various image processing applications such as image denoising, enhancement, and inpainting. In this paper, we present a novel self-learning based image decomposition framework. Based on the recent success of sparse representation, the proposed framework first learns an over-complete dictionary from the high spatial frequency parts of the input image for reconstruction purposes. We perform unsupervised clustering on the observed dictionary atoms (and their corresponding reconstructed image versions) via affinity propagation, which allows us to identify image-dependent components with similar context information. While applying the proposed method for the applications of image denoising, we are able to automatically determine the undesirable patterns (e. g., rain streaks or Gaussian noise) from the derived image components directly from the input image, so that the task of single-image denoising can be addressed. Different from prior image processing works with sparse representation, our method does not need to collect training image data in advance, nor do we assume image priors such as the relationship between input and output image dictionaries. We conduct experiments on two denoising problems: single-image denoising with Gaussian noise and rain removal. Our empirical results confirm the effectiveness and robustness of our approach, which is shown to outperform state-of-the-art image denoising algorithms.

**文献类型:** Article
**作者关键词:** Denoising; image decomposition; rain removal; self-learning; sparse representation
**KeyWords Plus:** SPARSE REPRESENTATION; DICTIONARIES; RAIN

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**第 363 条，共 395 条**

**标题:** Exploiting Click Constraints and Multi-view Features for Image Re-ranking

**作者:** Yu, J (Yu, Jun); Rui, Y (Rui, Yong); Chen, B (Chen, Bo)

**来源出版物:** IEEE TRANSACTIONS ON

MULTIMEDIA **卷:** 16 **期:** 1 **页:** 159-168 **DOI:** 10.1109/TMM.2013.2284755 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 7
**被引频次合计:** 7

**摘要:** Image re-ranking is effective in improving performance of text-based image searches. However, improvements from existing re-ranking algorithms are limited by two factors: one is that the associated textual information of images often mismatches their actual visual contents; the other is that a visual's features cannot accurately describe the semantic similarities between images. In this paper, we adopt click data to bridge the semantic gap. We propose a novel multi-view hypergraph-based learning (MHL) method that adaptively integrates click data with varied visual features. In particular, MHL considers pairwise discriminative constraints from click data to maximally distinguish images with high click counts from images with no click counts, and a semantic manifold is constructed. It then adopts hypergraph learning to build multiple manifolds from varied visual features. Finally, MHL integrates the semantic manifold with visual manifolds through an iterative optimization procedure. The weights of different manifolds and the re-ranking score are simultaneously obtained after using this optimization strategy. We conduct experiments on real world datasets and the results demonstrate that MHL outperforms state-of-the-art image re-ranking methods.

**文献类型:** Article
**作者关键词:** Hypergraph; image re-ranking; multi-view
**KeyWords Plus:** NONLINEAR DIMENSIONALITY REDUCTION; PAIRWISE CONSTRAINTS; SEARCH; CLASSIFICATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Natural Science Foundation of China | 61100104 |
| Program for New Century Excellent Talents in University | NCET-12-0323 |
| Natural Science Foundation of Fujian Province of China | 2012J01287 |

This work was supported in part by the National Natural Science Foundation of China under Grant 61100104, the Program for New Century Excellent Talents in University under Grant NCET-12-0323, and the Natural Science Foundation of Fujian Province of China under Grant 2012J01287. The associate editor coordinating the review of this manuscript and approving it for publication was Dr. Cees Snoek..

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**第 364 条，共 395 条**

**标题:** Similarity measures between interval neutrosophic sets and their applications in multicriteria decision-making
**作者:** Ye, J (Ye, Jun)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 1 **页:** 165-172 **DOI:** 10.3233/IFS-120724 **出版年:** 2014
**Web of Science 核心合集中的 "被引频次":** 13
**被引频次合计:** 13

**摘要:** An interval neutrosophic set is an instance of a neutrosophic set, which can be used in real scientific and engineering applications. In the paper, the Hamming and Euclidean distances between interval neutrosophic sets (INSs) are defined and the similarity measures between INSs are proposed based on the relationship between similarity measures and distances. In the applications of the similarity measures, a multicriteria decision-making method is established in interval neutrosophic setting, in which criterion values with respect to alternatives are evaluated by the form of interval neutrosophic values (INVs) and the criterion weights are known information. We utilize the similarity measures between each alternative and the ideal alternative to rank the alternatives and to determine the best one. Finally, an illustrative example demonstrates the applications of the proposed decision-making method.

**文献类型:** Article
**作者关键词:** Interval neutrosophic set; Hamming distance; Euclidean distance; similarity measure; multicriteria decision-making
**KeyWords Plus:** INTUITIONISTIC FUZZY-SETS

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**第 365 条，共 395 条**

**标题:** Short term load forecasting of distribution systems by a new hybrid modified FA-backpropagation method

**作者:** Kavousi-Fard, A (Kavousi-Fard, Abdollah); Niknam, T (Niknam, Taher); Golmaryami, M (Golmaryami, Marjan)

**来源出版物:** JOURNAL OF INTELLIGENT & FUZZY SYSTEMS **卷:** 26 **期:** 1 **页:** 517-522 **DOI:** 10.3233/IFS-131025 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Distribution systems as the final link between the production side and the consumers engage the most contributions to the unavailability of electrical services. In fact, in the operation of distribution systems, forecasting the short term load is a precious and critical task. With a more accurate load forecasting, the distribution system operation management would be improved and more economical trade off with the electricity market can be achieved. However, as the result of high nonlinearity and variation of the loads in distribution systems, short term load forecasting in these systems is hard and complex. In this regard, this paper proposes a new hybrid method based on firefly algorithm (FA) and artificial neural network (ANN) to reach a more reliable and accurate forecasting model. The proposed method makes use of both the learning ability of ANN and the powerful search ability of FA to create a nonlinear mapping between the input and output load pattern data. In contrast to the other evolutionary based on ANN training methods, this work preserves a good balance between ANN traditional training techniques such as back-propagation method and evolutionary random search ability of FA in a hybrid framework. Meanwhile, a new sufficient two-stage modification method is proposed for FA to improve its ability in both the local and global searches. The feasibility and satisfying performance of the proposed method is examined on the practical daily peak load of a part of Shiraz distribution system, Iran.

**文献类型:** Article

**作者关键词:** Modified firefly algorithm (MFA); artificial neural network (ANN); short term load forecasting (STLF)

**KeyWords Plus:** DISTRIBUTION FEEDER RECONFIGURATION; PARTICLE SWARM OPTIMIZATION; ARTIFICIAL NEURAL-NETWORKS; ALGORITHM

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**第 366 条，共 395 条**

**标题:** Investigation on runtime partitioning of elastic mobile applications for mobile cloud computing

**作者:** Shiraz, M (Shiraz, Muhammad); Ahmed, E (Ahmed, Ejaz); Gani, A (Gani, Abdullah); Han, Q (Han, Qi)

**来源出版物:** JOURNAL OF SUPERCOMPUTING **卷:** 67 **期:** 1 **页:** 84-103 **DOI:** 10.1007/s11227-013-0988-6 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** The latest developments in mobile computing technology have increased the computing capabilities of smartphones in terms of storage capacity, features support such as multimodal connectivity, and support for customized user applications. Mobile devices are, however, still intrinsically limited by low bandwidth, computing power, and battery lifetime. Therefore, the computing power of computational clouds is tapped on demand basis for mitigating resources limitations in mobile devices. Mobile cloud computing (MCC) is believed to be able to leverage cloud application processing services for alleviating the computing limitations of smartphones. In MCC, application offloading is implemented as a significant software level solution for sharing the application processing load of smartphones. The challenging aspect of application offloading frameworks is the resources intensive mechanism of runtime profiling and partitioning of elastic mobile applications, which involves additional computing resources utilization on Smart Mobile Devices (SMDs). This paper investigates the overhead of runtime application partitioning on SMD by analyzing additional resources utilization on SMD in the mechanism of runtime application profiling and partitioning. We evaluate the mechanism of runtime application partitioning on SMDs in the SmartSim simulation environment and validate the overhead of runtime application profiling by running prototype application in the real mobile computing environment. Empirical results indicate that additional computing resources are utilized in runtime application profiling and partitioning. Hence, lightweight alternatives with optimal distributed deployment and management mechanism are mandatory for accessing application processing services of computational clouds.

**文献类型:** Article

**作者关键词:** Mobile cloud computing; Elastic applications; Distributed systems; Application offloading

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Malaysian Ministry of Higher Education under the University of Malaya High Impact Research Grant | UM.C/HIR/MOHE/FCSIT/03 |

This work is part of the Mobile Cloud Computing research project at the Mobile Cloud Computing Research Lab at the Department of Computer Systems and Technology, Faculty of Computer Science and Information Technology, University of Malaya, Malaysia. The project is funded by the Malaysian Ministry of Higher Education under the University of Malaya High Impact Research Grant with reference UM.C/HIR/MOHE/FCSIT/03.

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**第 367 条，共 395 条**

**标题:** Social-oriented visual image search

**作者:** Liu, SW (Liu, Shaowei); Cui, P (Cui, Peng); Luan, HB (Luan, Huanbo); Zhu, WW (Zhu, Wenwu); Yang, SQ (Yang, Shiqiang); Tian, Q (Tian, Qi)

**来源出版物:** COMPUTER VISION AND IMAGE UNDERSTANDING **卷:** 118 **页:** 30-39 **DOI:** 10.1016/j.cviu.2013.06.011 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3

**摘要:** Many research have been focusing on how to match the textual query with visual images and their surrounding texts or tags for Web image search. The returned results are often unsatisfactory due to their deviation from user intentions, particularly for queries with heterogeneous concepts (such as "apple", "jaguar") or general (non-specific) concepts (such as "landscape", "hotel"). In this paper, we exploit social data from social media platforms to assist image search engines, aiming to improve the relevance between returned images and user intentions (i.e., social relevance). Facing the challenges of social data sparseness, the tradeoff between social relevance and visual relevance, and the complex social and visual factors, we propose a community-specific Social-Visual Ranking (SVR) algorithm to rerank the Web images returned by current image search engines. The SVR algorithm is implemented by PageRank over a hybrid image link graph, which is the combination of an image social-link graph and an image visual-link graph. By conducting extensive experiments, we demonstrated the importance of both visual factors and social factors, and the advantages of social-visual ranking algorithm for Web image search. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article
**作者关键词:** Social image search; Image reranking; Social relevance
**KeyWords Plus:** WEB; PAGERANK

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61370022<br>61003097<br>60933013<br>61210008 |
| International Science and Technology Cooperation Program of China | 2013DFG12870 |
| National Program on Key Basic Research Project | 2011CB302206 |
| ARO | W911NF-12-1-0057 |
| NSF | IIS 1052851 |
| Google | |

| | |
|---|---|
| FXPAL | |
| NEC Laboratories of America | |
| UTSA START-R Research Award | |
| NSFC | 61128007 |
| NExT Research Center | |
| MDA, Singapore | WBS:R-252-300-001-490 |

This work is supported by National Natural Science Foundation of China, No. 61370022, No. 61003097, No. 60933013, and No. 61210008; International Science and Technology Cooperation Program of China, No. 2013DFG12870; National Program on Key Basic Research Project, No. 2011CB302206. This work is also supported in part to Dr. Qi Tian by ARO grant W911NF-12-1-0057, NSF IIS 1052851, Faculty Research Awards by Google, FXPAL, and NEC Laboratories of America, and 2012 UTSA START-R Research Award respectively. This work is supported in part by NSFC 61128007. Thanks for the support of NExT Research Center funded by MDA, Singapore, under the research grant, WBS:R-252-300-001-490.

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**第 368 条，共 395 条**

**标题:** Multiview Hessian discriminative sparse coding for image annotation

**作者:** Liu, WF (Liu, Weifeng); Tao, DC (Tao, Dacheng); Cheng, J (Cheng, Jun); Tang, YY (Tang, Yuanyan)

**来源出版物:** COMPUTER VISION AND IMAGE UNDERSTANDING **卷:** 118 **页:** 50-60 **DOI:** 10.1016/j.cviu.2013.03.007 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 13

**被引频次合计:** 13

**摘要:** Sparse coding represents a signal sparsely by using an overcomplete dictionary, and obtains promising performance in practical computer vision applications, especially for signal restoration tasks such as image denoising and image inpainting. In recent years, many discriminative sparse coding algorithms have been developed for classification problems, but they cannot naturally handle visual data represented by multiview features. In addition, existing sparse coding algorithms use graph Laplacian to model the local geometry of the data distribution. It has been identified that Laplacian regularization biases the solution towards a constant function which possibly leads to poor extrapolating power. In this paper, we present multiview Hessian discriminative sparse coding (mHDSC) which seamlessly integrates Hessian regularization with discriminative sparse coding for multiview learning problems. In particular, mHDSC exploits Hessian regularization to steer the solution which varies smoothly along geodesics in the manifold, and treats the label information as an additional view of feature for incorporating the discriminative power for image annotation. We conduct extensive experiments on PASCAL VOC'07 dataset and demonstrate the effectiveness of mHDSC for image annotation. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Image annotation; Hessian; Multiview; Sparse coding

**KeyWords Plus:** MULTIMEDIA ANALYSIS; FEATURE-SELECTION; K-SVD; CARTOON; REGULARIZATION; CLASSIFICATION; DICTIONARIES; INFORMATION; FUSION; MODEL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Natural Science Foundation of China | 61271407<br>61301242 |
| Australian ARC Discovery Project | DP-120103730 |
| Shandong Provincial Natural Science Foundation, China | ZR2011FQ016 |
| Fundamental Research Funds for the Central Universities | |
| China University of Petroleum (East China) | 13CX02096A |

| | |
|---|---|
| Guangdong-CAS Strategic Cooperation Program | 2012B090400044 |
| Shenzhen Technology Project | ZD201111040087A |
| CAS | |
| Locality Cooperation Projects | ZNGZ-2011-012 |
| Guangdong Innovative Research Team Program | 201001D0104648280 |

This work was supported in part by the following projects: the National Natural Science Foundation of China (61271407, 61301242), the Australian ARC Discovery Project (DP-120103730), Shandong Provincial Natural Science Foundation, China (ZR2011FQ016), the Fundamental Research Funds for the Central Universities, China University of Petroleum (East China) (13CX02096A), Guangdong-CAS Strategic Cooperation Program (2012B090400044), Shenzhen Technology Project (ZD201111040087A), CAS and Locality Cooperation Projects (ZNGZ-2011-012), and Guangdong Innovative Research Team Program (201001D0104648280).

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**第 369 条，共 395 条**

**标题:** Practical graph isomorphism, II

**作者:** McKay, BD (McKay, Brendan D.); Piperno, A (Piperno, Adolfo)

**来源出版物:** JOURNAL OF SYMBOLIC COMPUTATION **卷:** 60 **页:** 94-112 **DOI:** 10.1016/j.jsc.2013.09.003 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 8

**摘要:** We report the current state of the graph isomorphism problem from the practical point of view. After describing the general principles of the refinement-individualization paradigm and proving its validity, we explain how it is implemented in several of the key implementations. In particular, we bring the description of the best known program nauty up to date and describe an innovative approach called Traces that outperforms the competitors for many difficult graph classes. Detailed comparisons against saucy, Bliss and conauto are presented. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Graph isomorphism; Canonical labelling; Nauty; Traces; Partition refinement

**KeyWords Plus:** LINEAR-TIME; ALGORITHM; TREES

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| Australian Research Council | |

Supported by the Australian Research Council.

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**第 370 条，共 395 条**

**标题:** Cognitive diagnostic like approaches using neural-network analysis of serious educational videogames

**作者:** Lamb, RL (Lamb, Richard L.); Annetta, L (Annetta, Leonard); Vallett, DB (Vallett, David B.); Sadler, TD (Sadler, Troy D.)

**来源出版物:** COMPUTERS & EDUCATION **卷:** 70 **页:** 92-104 **DOI:** 10.1016/j.compedu.2013.08.008 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** There has been an increase in student achievement testing focusing on content and not underlying student cognition. This is of concern as student cognition provided for a more generalizable analysis of learning. Through a cognitive diagnostic approach, the authors model the propagation of cognitive attributes related to science learning using Serious Educational Games. One-way to increase the focus on the cognitive aspects of learning that are additional to content learning is through the use cognitive attribute task-based assessments (Cognitive Diagnostics) using an Artificial Neural Network. Results of this study provide a means to examine underlying cognition which, influences successful task completion within science themed SEGs. Results of this study also suggest it is possible to define, measure, and produce a hierarchical model of latent cognitive attributes using a Q-matrix relating virtual SEGs tasks, which are similar to real-life tasks aiding in the modeling of transference. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article
**作者关键词:** Cognitive diagnostics; Neural-network analysis; Serious educational games; Science education
**KeyWords Plus:** ITEM RESPONSE THEORY; MATHEMATICS; VALIDATION; INDEXES; GAMES
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**第 371 条，共 395 条**
**标题:** Students' perceptions of Facebook for academic purposes
**作者:** Sanchez, RA (Arteaga Sanchez, R.); Cortijo, V (Cortijo, V.); Javed, U (Javed, U.)
**来源出版物:** COMPUTERS & EDUCATION **卷:** 70 **页:** 138-149 **DOI:** 10.1016/j.compedu.2013.08.012 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 3
**被引频次合计:** 3
**摘要:** Facebook is the most popular Social Network Site (SNS) among college students. Despite the popularity and extensive use of Facebook by students, its use has not made significant inroads into classroom usage. In this study, we seek to examine why this is the case and whether it would be worthwhile for faculty to invest the time to integrate Facebook into their teaching. To this end, we decided to undertake a study with a sample of 214 undergraduate students at the University of Huelva (Spain). We applied the structural equation model specifically designed by Mazman and Usluel (2010) to identify the factors that may motivate these students to adopt and use social network tools, specifically Facebook, for educational purposes.
According to our results, Social Influence is the most important factor in predicting the adoption of Facebook; students are influenced to adopt it to establish or maintain contact with other people with whom they share interests. Regarding the purposes of Facebook usage, Social Relations is perceived as the most important factor among all of the purposes collected. Our findings also revealed that the educational use of Facebook is explained directly by its purposes of usage and indirectly by its adoption. (C) 2013 Elsevier Ltd. All rights reserved.

**作者关键词:** Facebook; Diffusion of innovation; University; Educational context
**KeyWords Plus:** TECHNOLOGY ACCEPTANCE MODEL; INFORMATION-TECHNOLOGY; NETWORKING SITES; HIGHER-EDUCATION; USER ACCEPTANCE; DIGITAL NATIVES; SELF-ESTEEM; WEB 2.0; UNIVERSITY; PERSPECTIVE
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**第 372 条，共 395 条**
**标题:** Interoperability evaluation models: A systematic review
**作者:** Rezaei, R (Rezaei, Reza); Chiew, TK (Chiew, Thiam Kian); Lee, SP (Lee, Sai Peck); Aliee, ZS (Aliee, Zeinab Shams)
**来源出版物:** COMPUTERS IN INDUSTRY **卷:** 65 **期:** 1 **页:** 1-23 **DOI:** 10.1016/j.compind.2013.09.001 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4
**摘要:** Interoperability is defined as the ability for two (or more) systems or components to exchange information and to use the information that has been exchanged. There is increasing demand for interoperability between individual software systems. Developing an interoperability evaluation model between software and information systems is difficult, and becoming an important challenge. An interoperability evaluation model allows knowing the degree of interoperability, and lead to the improvement of interoperability. This paper describes the existing interoperability evaluation models, and performs a comparative analysis among their findings to determine the similarities and differences in their philosophy and implementation. This analysis yields a set of recommendations for any party that is open to the idea of creating or improving an interoperability evaluation model. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Review
**作者关键词:** Interoperability; Evaluation; Measurement; Assessment
**KeyWords Plus:** SEMANTIC INTEROPERABILITY
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| University of Malaya Research Grant (UMRG) | RG055-11ICT |

This research is funded by the University of Malaya Research Grant (UMRG) RG055-11ICT.

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**第 373 条，共 395 条**
**标题:** Cooperative Spectrum Sharing: A Contract-Based Approach
**作者:** Duan, LJ (Duan, Lingjie); Gao, L (Gao, Lin); Huang, JW (Huang, Jianwei)
**来源出版物:** IEEE TRANSACTIONS ON MOBILE COMPUTING **卷:** 13 **期:** 1 **页:** 174-187 **DOI:** 10.1109/TMC.2012.231 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 8
**被引频次合计:** 8
**摘要:** Providing economic incentives to all parties involved is essential for the success of dynamic spectrum access. Cooperative spectrum sharing is one effective way to achieve this, where secondary users (SUs) relay traffics for primary users (PUs) in exchange for dedicated spectrum access time for SUs' own communications. In this paper, we study the cooperative spectrum sharing under incomplete information, where SUs' wireless characteristics are private information and not known by a PU. We model the PU-SU interaction as a labor market using contract theory. In contract theory, the employer generally does not completely know employees' private information before the employment and needs to offers employees a contract under incomplete information. In our problem, the PU and SUs are, respectively, the employer and employees, and the contract consists of a set of items representing combinations of spectrum accessing time (i.e., reward) and relaying power (i.e., contribution). We study the optimal contract design for both weakly and strongly incomplete information scenarios. In the weakly incomplete information scenario, we show that the PU will optimally hire the most efficient SUs and the PU achieves the same maximum utility as in the complete information benchmark. In the strongly incomplete information scenario, however, the PU may conservatively hire less efficient SUs as well. We further propose a decompose-and-compare (DC) approximate algorithm that achieves a close-to-optimal contract. We further show that the PU's average utility loss due to the suboptimal DC algorithm and the strongly incomplete information are relatively small (less than 2 and 1.3 percent, respectively, in our numerical results with two SU types).
**文献类型:** Article
**作者关键词:** Dynamic spectrum access; spectrum trading; cooperative spectrum sharing; contract theory; game theory
**KeyWords Plus:** COGNITIVE RADIO NETWORKS; WIRELESS NETWORKS; POWER ALLOCATION; DIVERSITY; PROTOCOLS; SYSTEM
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| General Research Funds | 412710<br>412511 |
| SUTD Start-Up Research Grant | SRG ESD 2012 042 |
| SUTD-MIT International Design Centre (IDC) Grant | IDS-F1200106OH |

Part of these results appeared at IEEE DySPAN, April 2011 [1]. This work was supported by the General Research Funds (Project Number 412710 and 412511) established under the University Grant Committee of the Hong Kong Special Administrative Region, China. This work was also supported by the SUTD Start-Up Research Grant (Project Number: SRG ESD 2012 042) and the SUTD-MIT International Design Centre (IDC) Grant (Project Number: IDS-F1200106OH).

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**第 374 条，共 395 条**

**标题:** A fast learning algorithm for evolving neo-fuzzy neuron

**作者:** Silva, AM (Silva, Alisson Marques); Caminhas, W (Caminhas, Walmir); Lemos, A (Lemos, Andre); Gomide, F (Gomide, Fernando)

**来源出版物:** APPLIED SOFT COMPUTING **卷:** 14 **页:** 194-209 **DOI:** 10.1016/j.asoc.2013.03.022 **子辑:** B **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** This paper introduces an evolving neural fuzzy modeling approach constructed upon the neo-fuzzy neuron and network. The approach uses an incremental learning scheme to simultaneously granulatethe input space and update the neural network weights. The neural network structure and parameters evolve simultaneously as data are input. Initially the space of each input variable is granulated using two complementary triangular membership functions. New triangular membership functions may be added, excluded and/or have their parameters adjusted depending on the input data and modeling error. The parameters of the network are updated using a gradient-based scheme with optimal learning rate. The performance of the approach is evaluated using instances of times series forecasting and nonlinear system identification problems. Computational experiments and comparisons against alternative evolving models show that the evolving neural neo-fuzzy network is accurate and fast, characteristics which are essential for adaptive systems modeling, especially in real-time, on-line environments. (C) 2013 Elsevier B. V. All rights reserved.

**文献类型:** Article

**作者关键词:** Evolving neural fuzzy systems; Neo-fuzzy neuron; Adaptive modeling

**KeyWords Plus:** INFERENCE SYSTEM; DATA STREAMS; ONLINE IDENTIFICATION; PROCESS PARAMETERS; MODELS; CLASSIFIERS; CLASSIFICATION; CONTROLLER; PREDICTION; FLEXFIS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| CAPES | |
| Brazilian Minister of Education and Innovation | |
| Brazilian National Research Council (CNPq) | |
| Research Foundation of the State of Minas Gerais (FAPEMIG) | |

This work was supported by CAPES of the Brazilian Minister of Education and Innovation, the Brazilian National Research Council (CNPq) and the Research Foundation of the State of Minas Gerais (FAPEMIG). The authors are grateful to the anonymous reviewers for their constructive comments and help to improve the paper.

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**第 375 条，共 395 条**

**标题:** Evolving intelligent algorithms for the modelling of brain and eye signals

**作者:** Rubio, JD (de Jesus Rubio, Jose)

**来源出版物:** APPLIED SOFT COMPUTING **卷:** 14 **页:** 259-268 **DOI:** 10.1016/j.asoc.2013.07.023 **子辑:** B **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 13

**被引频次合计:** 13

**摘要:** In this paper, the modelling problem of brain and eye signals is considered. To solve this problem, three important evolving and stable intelligent algorithms are applied: the sequential adaptive fuzzy inference system (SAFIS), uniform stable backpropagation algorithm (SBP), and online self-organizing fuzzy modified least-squares networks (SOFMLS). The effectiveness of the studied methods is verified by simulations. (C) 2013 Elsevier B. V. All

**文献类型:** Article

**作者关键词:** Evolving intelligent systems; Stable intelligent systems; Modelling; Brain signals; Eye signals

**KeyWords Plus:** NONLINEAR-SYSTEM IDENTIFICATION; RECURRENT NEURAL-NETWORKS; BACKPROPAGATION ALGORITHM; FUZZY; CONVERGENCE; RECOGNITION; CLASSIFIERS; MOVEMENTS

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**第 376 条，共 395 条**

**标题:** Democratic PSO for truss layout and size optimization with frequency constraints

**作者:** Kaveh, A (Kaveh, A.); Zolghadr, A (Zolghadr, A.)

**来源出版物:** COMPUTERS & STRUCTURES **卷:** 130 **页:** 10-21 **DOI:** 10.1016/j.compstruc.2013.09.002 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 9

**被引频次合计:** 9

**摘要:** This paper represents a new algorithm for structural optimization with frequency constraints. The new algorithm is termed Democratic Particle Swarm Optimization. The emphasis is placed upon alleviating the premature convergence phenomenon which is believed to be one of flaws of the original PSO. When considering frequency constraints in a structural optimization problem, the search spaces happen to be highly non-linear and non-convex hyper-surfaces with numerous local optima and naturally the problem of premature convergence is amplified. The proposed algorithm is capable of coping with this problem. Four numerical examples are presented to demonstrate the viability of the algorithm. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Democratic Particle Swarm Optimization (DPSO); Frequency constraints; Optimal design; Truss structures

**KeyWords Plus:** PARTICLE SWARM OPTIMIZATION; STRUCTURAL DESIGN OPTIMIZATION; SHAPE OPTIMIZATION; NATURAL FREQUENCY; SYSTEM SEARCH; ALGORITHM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
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| Iran National Science Foundation | |

The first author is grateful to the Iran National Science Foundation for the support.

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**第 377 条，共 395 条**

**标题:** Time Synchronization Based on Slow-Flooding in Wireless Sensor Networks

**作者:** Yildirim, KS (Yildirim, Kasim Sinan); Kantarci, A (Kantarci, Aylin)

**来源出版物:** IEEE TRANSACTIONS ON PARALLEL AND DISTRIBUTED SYSTEMS **卷:** 25 **期:** 1 **页:** 244-253 **DOI:** 10.1109/TPDS.2013.40 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** The accurate and efficient operation of many applications and protocols in wireless sensor networks require synchronized notion of time. To achieve network-wide time synchronization, a common strategy is to flood current time information of a reference node into the network, which is utilized by the de facto time-synchronization protocol Flooding Time-Synchronization Protocol (FTSP). In FTSP, the propagation speed of the flood is slow because each node waits for a given period of time to propagate its time information about the reference node. It has been shown that slow-flooding decreases the synchronization accuracy and scalability of FTSP drastically. Alternatively, rapid-flooding approach is proposed in the literature, which allows nodes to propagate time information as quickly as possible. However, rapid flooding is difficult and has several drawbacks in wireless sensor networks. In this paper, our aim is to reduce the undesired effect of slow-flooding on the synchronization accuracy without changing the

propagation speed of the flood. Within this context, we realize that the smaller the difference between the speeds of the clocks, the smaller the undesired effect of waiting times on the synchronization accuracy. In the light of this realization, our main contribution is to show that the synchronization accuracy and scalability of slow-flooding can drastically be improved by employing a clock speed agreement algorithm among the sensor nodes. We present an evaluation of this strategy on a testbed setup including 20 MICAz sensor nodes. Our theoretical findings and experimental results show that employing a clock speed agreement algorithm among the sensor nodes drastically improves the synchronization accuracy and scalability of slow-flooding.

**文献类型:** Article

**作者关键词:** Distributed algorithms; time synchronization; slow-flooding; least-squares; clock speed agreement

**KeyWords Plus:** CLOCK SYNCHRONIZATION; PROTOCOL

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Turkish Scientific and Technical Research Council (TUBITAK) | BAYG-2211 |

The authors thank the anonymous reviewers for their constructive comments to improve this manuscript. Kasim Sinan YILDIRIM acknowledges The Turkish Scientific and Technical Research Council (TUBITAK) for supporting this work through a domestic PhD scholarship program (BAYG-2211).

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**第 378 条，共 395 条**

**标题:** A Physarum Polycephalum Optimization Algorithm for the Bi-objective Shortest Path Problem

**作者:** Zhang, XG (Zhang, Xiaoge); Wang, Q (Wang, Qing); Chan, FTS (Chan, Felix T. S.); Mahadevan, S (Mahadevan, Sankaran); Deng, Y (Deng, Yong)

**来源出版物:** INTERNATIONAL JOURNAL OF UNCONVENTIONAL COMPUTING **卷:** 10 **期:** 1-2 **页:** 143-162 **出版年:** 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** Multi-objective shortest path problem (MOSP) plays an important role in practical applications, which seeks for the efficient paths satisfying several conflicting objectives between two nodes of a network. In this paper, we present an algorithm based on Physarum Polycephahtm model to solve the bi-objective shortest path problem. By aggregating the two attributes into one by weighted sum, we successfully convert the bi-objective shortest path problem (BOSP) into the shortest path problem. Here, in order to reduce the computational time, binary weight allocation (BWA) technique is implemented to distribute the weight for each criterion. To check the quality of the proposed method and the accuracy of the algorithm, experimental analyzes are conducted. Random networks are generated to verify the accuracy of the proposed algorithm. Results on the testing problems are compared with label correcting algorithm known as an efficient algorithm for solving the BOSP. The results demonstrate the proposed Physarunz Polycephahtm optimization algorithm can produce the non-dominated solutions successfully when dealing with the BOSP.

**文献类型:** Article

**作者关键词:** Shortest path problem; plzysarum polycephahun; pareto frontiers; bi-objective shortest path problem

**KeyWords Plus:** HAZARDOUS MATERIALS; TRANSPORT NETWORKS; PATTERN-FORMATION; ROAD-NETWORK; SLIME-MOLD; MODEL; PLASMODIUM

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Chongqing Natural Science Foundation | CSCT, 2010BA2003 |
| National Natural Science Foundation of China | 61174022<br>71271061 |
| National High Technology Research and Development Program of China (863 Program) | 2013AA013801 |

| | |
|---|---|
| Science and Technology Planning Project of Guangdong Province, China | 2010B 010600034<br>2012B 091100192 |
| Guangdong University of Foreign Studies | TD1202 |
| Southwest University | SWU110021 |

Thanks for the reviewers' valuable comments to improve this paper. The work is partially supported Chongqing Natural Science Foundation, Grant No. CSCT, 2010BA2003, National Natural Science Foundation of China, Grant Nos. 61174022 and 71271061, National High Technology Research and Development Program of China (863 Program) (No.2013AA013801), Science and Technology Planning Project of Guangdong Province, China (2010B 010600034, 2012B 091100192), Business Intelligence Key Team of Guangdong University of Foreign Studies (TD1202), Doctor Funding of Southwest University Grant No. SWU110021.


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**第 379 条，共 395 条**

**标题:** Forty Years of Periodic Vehicle Routing

**作者:** Campbell, AM (Campbell, Ann Melissa); Wilson, JH (Wilson, Jill Hardin)

**来源出版物:** NETWORKS 卷: 63 期: 1 页: 2-15 **DOI:** 10.1002/net.21527 出版年: JAN 2014

**Web of Science 核心合集中的 "被引频次":** 5

**被引频次合计:** 5

**摘要:** The periodic vehicle routing problem (PVRP) first appeared in 1974 in a paper about garbage collection (Beltrami and Bodin, Networks 4 (1974), 65-74). The wide applicability and versatility of the problem has led to a vast body of literature addressing both novel applications and solution methods. This article discusses the wide array of circumstances and settings in which the PVRP has been applied and describes the development of solution methods, both exact and heuristic, for the PVRP. As with many core research problems, many variants have been proposed. We will describe additional problem variants and extensions, as well as discuss the future of research for the PVRP. (c) 2013 Wiley Periodicals, Inc. NETWORKS, Vol. 63(1), 2-15 2014

**文献类型:** Article

**作者关键词:** periodic routing; literature review

**KeyWords Plus:** VARIABLE NEIGHBORHOOD SEARCH; INFECTIOUS WASTE COLLECTION; RURAL POSTMAN PROBLEM; SCHEDULING PROBLEM; MULTI-DEPOT; HEURISTIC ALGORITHM; TIME WINDOWS; HYBRID; SYSTEM; DELIVERIES

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**第 380 条，共 395 条**

**标题:** Hybrid intelligent modeling schemes for heart disease classification

**作者:** Shao, YE (Shao, Yuehjen E.); Hou, CD (Hou, Chia-Ding); Chiu, CC (Chiu, Chih-Chou)

**来源出版物:** APPLIED SOFT COMPUTING 卷: 14 特刊: SI 页: 47-52 **DOI:** 10.1016/j.asor.2013.09.020 子辑: A 出版年: JAN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Heart disease is the leading cause of death among both men and women in most countries in the world. Thus, people must be mindful of heart disease risk factors. Although genetics play a role, certain lifestyle factors are crucial contributors to heart disease. Traditional approaches use thirteen risk factors or explanatory variables to classify heart disease. Diverging from existing approaches, the present study proposes a new hybrid intelligent modeling scheme to obtain different sets of explanatory variables, and the proposed hybrid models effectively classify heart disease. The proposed hybrid models consist of logistic regression (LR), multivariate adaptive regression splines (MARS), artificial neural network (ANN), and rough set (RS) techniques. The initial stage of the proposed process includes the use of LR, MARS, and RS techniques to reduce the set of explanatory variables. The remaining variables are subsequently used as inputs for the ANN method employed in the second stage. A real heart disease data set was used to demonstrate the development of the proposed hybrid models. The modeling results revealed that the proposed hybrid schemes effectively classify heart disease and outperform the typical, single-stage ANN method. (C) 2013 Elsevier B.V. All rights reserved.

**文献类型:** Article

**作者关键词:** Hybrid Logistic regression; MARS; Artificial neural network; Rough sets; Heart disease

**KeyWords Plus:** ADAPTIVE REGRESSION SPLINES; ARTIFICIAL NEURAL-NETWORKS;

INTERCONNECTED SYSTEMS; CANCER

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Science Council of the Republic of China | NSC 102-2221-E-030-019<br>NSC 102-2118-M-030-001 |

This work was partially supported by the National Science Council of the Republic of China (Grant nos. NSC 102-2221-E-030-019 and NSC 102-2118-M-030-001).

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**第 381 条，共 395 条**

**标题:** Linear and nonlinear analysis of normal and CAD-affected heart rate signals

**作者:** Acharya, UR (Acharya, U. Rajendra); Faust, O (Faust, Oliver); Sree, V (Sree, Vinitha); Swapna, G (Swapna, G.); Martis, RJ (Martis, Roshan Joy); Kadri, NA (Kadri, Nahrizul Adib); Suri, JS (Suri, Jasjit S.)

**来源出版物:** COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE **卷:** 113 **期:** 1 **页:** 55-68 **DOI:** 10.1016/j.cmpb.2013.08.017 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** Coronary artery disease (CAD) is one of the dangerous cardiac disease, often may lead to sudden cardiac death. It is difficult to diagnose CAD by manual inspection of electrocardiogram (ECG) signals. To automate this detection task, in this study, we extracted the heart rate (HR) from the ECG signals and used them as base signal for further analysis. We then analyzed the HR signals of both normal and CAD subjects using (i) time domain, (ii) frequency domain and (iii) nonlinear techniques. The following are the nonlinear methods that were used in this work: Poincare plots, Recurrence Quantification Analysis (RQA) parameters, Shannon entropy, Approximate Entropy (ApEn), Sample Entropy (SampEn), Higher Order Spectra (HOS) methods, Detrended Fluctuation Analysis (DFA), Empirical Mode Decomposition (EMD), Cumulants, and Correlation Dimension. As a result of the analysis, we present unique recurrence, Poincare and HOS plots for normal and CAD subjects. We have also observed significant variations in the range of these features with respect to normal and CAD classes, and have presented the same in this paper. We found that the RQA parameters were higher for CAD subjects indicating more rhythm. Since the activity of CAD subjects is less, similar signal patterns repeat more frequently compared to the normal subjects. The entropy based parameters, ApEn and SampEn, are lower for CAD subjects indicating lower entropy (less activity due to impairment) for CAD. Almost all HOS parameters showed higher values for the CAD group, indicating the presence of higher frequency content in the CAD signals. Thus, our study provides a deep insight into how such nonlinear features could be exploited to effectively and reliably detect the presence of CAD. (C) 2013 Elsevier Ireland Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Heart rate; CAD; ECG; HOS; Poincare plot; Recurrence plot

**KeyWords Plus:** CORONARY-ARTERY-DISEASE; TIME-SERIES ANALYSIS; RATE-VARIABILITY; CARDIOVASCULAR-DISEASE; APPROXIMATE ENTROPY; RECURRENCE PLOTS; RATE DYNAMICS; CLASSIFICATION; ELECTROCARDIOGRAMS; QUANTIFICATION

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**第 382 条，共 395 条**

**标题:** Personalized identification of abdominal wall hernia meshes on computed tomography

**作者:** Pham, TD (Pham, Tuan D.); Le, DTP (Le, Dinh T. P.); Xu, JW (Xu, Jinwei); Nguyen, DT (Nguyen, Duc T.); Martindale, RG (Martindale, Robert G.); Deveney, CW (Deveney, Clifford W.)

**来源出版物:** COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE **卷:** 113 **期:** 1 **页:** 153-161 **DOI:** 10.1016/j.cmpb.2013.09.019 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** An abdominal wall hernia is a protrusion of the intestine through an opening or area of weakness in the abdominal wall. Correct pre-operative identification of abdominal wall hernia meshes could help surgeons adjust the surgical plan to meet the expected difficulty and morbidity of operating through or removing the previous mesh. First, we present herein for the first time the application of image analysis for automated identification of hernia meshes. Second, we discuss the novel development of a new entropy-based image texture feature using geostatistics and indicator kriging. Third, we seek to enhance the hernia mesh identification by combining the new texture feature with the gray-level co-occurrence matrix feature of the image. The two features can characterize complementary information of anatomic details of the abdominal hernia wall and its mesh on computed tomography. Experimental results have demonstrated the effectiveness of the proposed study. The new computational tool has potential for personalized mesh identification which can assist surgeons in the diagnosis and repair of complex abdominal wall hernias. (C) 2013 Elsevier Ireland Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Abdominal wall hernia mesh; Computed tomography; Pattern classification; Geostatistical entropy; Co-occurrence matrix; Information fusion

**KeyWords Plus:** IMAGE TEXTURE ANALYSIS; MEDICAL IMAGES; CLASSIFICATION; FEATURES; WAVELET; REPAIR; EXTRACTION; MANAGEMENT; TIME

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| University of Aizu Competitive Research Funding | |

This work was supported by the 2012 University of Aizu Competitive Research Funding to the first author (T.D. Pham).

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**第 383 条，共 395 条**

**标题:** Lung cancer classification using neural networks for CT images

**作者:** Kuruvilla, J (Kuruvilla, Jinsa); Gunavathi, K (Gunavathi, K.)

**来源出版物:** COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE **卷:** 113 **期:** 1 **页:** 202-209 **DOI:** 10.1016/j.cmpb.2013.10.011 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** Early detection of cancer is the most promising way to enhance a patient's chance for survival. This paper presents a computer aided classification method in computed tomography (CT) images of lungs developed using artificial neural network. The entire lung is segmented from the CT images and the parameters are calculated from the segmented image. The statistical parameters like mean, standard deviation, skewness, kurtosis, fifth central moment and sixth central moment are used for classification. The classification process is done by feed forward and feed forward back propagation neural networks. Compared to feed forward networks the feed forward back propagation network gives better classification. The parameter skewness gives the maximum classification accuracy. Among the already available thirteen training functions of back propagation neural network, the Traingdx function gives the maximum classification accuracy of 91.1%. Two new training functions are proposed in this paper. The results show that the proposed training function 1 gives an accuracy of 93.3%, specificity of 100% and sensitivity of 91.4% and a mean square error of 0.998. The proposed training function 2 gives a classification accuracy of 93.3% and minimum mean square error of 0.0942. (C) 2013 Elsevier Ireland Ltd. All rights reserved.

**文献类型:** Article
**作者关键词:** Computed tomography; Skewness Kurtosis; Neural network
**KeyWords Plus:** CONJUGATE-GRADIENT ALGORITHM; COMPUTER-AIDED DIAGNOSIS; PULMONARY NODULES
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**第 384 条，共 395 条**
**标题:** Kubios HRV - Heart rate variability analysis software
**作者:** Tarvainen, MP (Tarvainen, Mika P.); Niskanen, JP (Niskanen, Juha-Pekka); Lipponen, JA (Lipponen, Jukka A.); Ranta-aho, PO (Ranta-aho, Perttu O.); Karjalainen, PA (Karjalainen, Pasi A.)
**来源出版物:** COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE **卷:** 113 **期:** 1 **页:** 210-220 **DOI:** 10.1016/j.cmpb.2013.07.024 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 10
**被引频次合计:** 11
**摘要:** Kubios HRV is an advanced and easy to use software for heart rate variability (HRV) analysis. The software supports several input data formats for electrocardiogram (ECG) data and beat-to-beat RR interval data. It includes an adaptive QRS detection algorithm and tools for artifact correction, trend removal and analysis sample selection. The software computes all the commonly used time-domain and frequency-domain HRV parameters and several nonlinear parameters. There are several adjustable analysis settings through which the analysis methods can be optimized for different data. The ECG derived respiratory frequency is also computed, which is important for reliable interpretation of the analysis results. The analysis results can be saved as an ASCII text file (easy to import into MS Excel or SPSS), Matlab MAT-file, or as a PDF report. The software is easy to use through its compact graphical user interface. The software is available free of charge for Windows and Linux operating systems at http://kubios.uerfi.

**文献类型:** Article
**作者关键词:** Heart rate variability; HRV; Analysis software; Computer program; Matlab
**KeyWords Plus:** SPECTRAL-ANALYSIS; TIME-SERIES; SIGNALS; TOOL; QUANTIFICATION; COMPONENTS; ALGORITHM
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**第 385 条，共 395 条**
**标题:** Simulation of surface EMG for the analysis of muscle activity during whole body vibratory stimulation
**作者:** Fratini, A (Fratini, Antonio); Bifulco, P (Bifulco, Paolo); Romano, M (Romano, Maria); Clemente, F (Clemente, Fabrizio); Cesarelli, M (Cesarelli, Mario)
**来源出版物:** COMPUTER METHODS AND PROGRAMS IN BIOMEDICINE **卷:** 113 **期:** 1 **页:** 314-322 **DOI:** 10.1016/j.cmpb.2013.10.009 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 5
**摘要:** This study aims to reproduce the effect of motor-unit synchronization on surface EMG recordings during vibratory stimulation to highlight vibration evoked muscle activity. The authors intended to evaluate, through numerical simulations, the changes in surface EMG spectrum in muscles undergoing whole body vibration stimulation. In some specific bands, in fact, vibration induced motion artifacts are also typically present.
In addition, authors meant to compare the simulated EMGs with respect to real recordings in order to discriminate the effect of synchronization of motor units discharges with vibration frequencies from motion artifacts.
Computations were performed using a model derived from previous studies and modified to consider the effect of vibratory stimulus, the motor unit synchronization and the endplates-electrodes relative position on the EMG signal.
Results revealed that, in particular conditions, synchronization of MUs' discharge generates visible peaks at stimulation frequency and its harmonics. However, only a part of the total power of surface EMGs might be enclosed within artifacts related bands (+/- 1 Hz centered at the stimulation frequency and its superior harmonics) even in case of strong synchronization of motor units discharges with the vibratory stimulus. (C) 2013 Elsevier Ireland Ltd. All

**文献类型:** Article

**作者关键词:** Whole body vibration; Motor unit synchronization; EMG; Motion artifact

**KeyWords Plus:** MOTOR UNIT; INNERVATION ZONE; RESPONSES; ELECTRODE; REFLEX; RECORDINGS; VIBRATIONS; EXPOSURE

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**第 386 条，共 395 条**

**标题:** Data Mining with Big Data

**作者:** Wu, XD (Wu, Xindong); Zhu, XQ (Zhu, Xingquan); Wu, GQ (Wu, Gong-Qing); Ding, W (Ding, Wei)

**来源出版物:** IEEE TRANSACTIONS ON KNOWLEDGE AND DATA ENGINEERING **卷:** 26 **期:** 1 **页:** 97-107 **DOI:** 10.1109/TKDE.2013.109 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 10

**被引频次合计:** 10

**摘要:** Big Data concern large-volume, complex, growing data sets with multiple, autonomous sources. With the fast development of networking, data storage, and the data collection capacity, Big Data are now rapidly expanding in all science and engineering domains, including physical, biological and biomedical sciences. This paper presents a HACE theorem that characterizes the features of the Big Data revolution, and proposes a Big Data processing model, from the data mining perspective. This data-driven model involves demand-driven aggregation of information sources, mining and analysis, user interest modeling, and security and privacy considerations. We analyze the challenging issues in the data-driven model and also in the Big Data revolution.

**文献类型:** Article

**作者关键词:** Big Data; data mining; heterogeneity; autonomous sources; complex and evolving associations

**KeyWords Plus:** SOCIAL NETWORKS; ALGORITHMS; KNOWLEDGE; PRIVACY; CLASSIFICATION; BEHAVIOR; SYSTEMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National 863 Program of China | 2012AA011005 |
| National 973 Program of China | 2013CB329604 |
| National Natural Science Foundation of China | NSFC 61229301<br>61273297<br>61273292 |
| US National Science Foundation | NSF CCF-0905337 |
| Australian Research Council (ARC) | FT100100971<br>DP130102748 |

This work was supported by the National 863 Program of China (2012AA011005), the National 973 Program of China (2013CB329604), the National Natural Science Foundation of China (NSFC 61229301, 61273297, and 61273292), the US National Science Foundation (NSF CCF-0905337), and the Australian Research Council (ARC) Future Fellowship (FT100100971) and Discovery Project (DP130102748). The authors would like to thank the anonymous reviewers for their valuable and constructive comments on improving the paper.

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**第 387 条，共 395 条**

**标题:** Speckle reduction in polarimetric SAR imagery with stochastic distances and nonlocal means

**作者:** Torres, L (Torres, Leonardo); Sant'Anna, SJS (Sant'Anna, Sidnei J. S.); Freitas, CD (Freitas, Corina da Costa); Frery, AC (Frery, Alejandro C.)

**来源出版物:** PATTERN RECOGNITION **卷:** 47 **期:** 1 **特刊:** SI **页:** 141-157 **DOI:** 10.1016/j.patcog.2013.04.001 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 8

**被引频次合计:** 11

**摘要:** This paper presents a technique for reducing speckle in Polarimetric Synthetic Aperture Radar (PolSAR) imagery using nonlocal means and a statistical test based on stochastic divergences. The main objective is to select homogeneous pixels in the filtering area through statistical tests between distributions. This proposal uses the complex Wishart model to describe PolSAR data, but the technique can be extended to other models. The weights of the location-variant linear filter are function of the p-values of tests which verify the hypothesis that two samples come from the same distribution and, therefore, can be used to compute a local mean. The test stems from the family of (h-phi) divergences which originated in Information Theory. This novel technique was compared with the Boxcar, Refined Lee and IDAN filters. Image quality assessment methods on simulated and real data are employed to validate the performance of this approach. We show that the proposed filter also enhances the polarimetric entropy and preserves the scattering information of the targets. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Hypothesis testing; Information theory; Multiplicative noise; PolSAR imagery; Speckle reduction; Stochastic distances; Synthetic aperture radar

**KeyWords Plus:** SYNTHETIC-APERTURE RADAR; QUALITY ASSESSMENT; REGULARIZATION

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| CNPq | |
| Capes | |
| FAPESP | |

The authors are grateful to CNPq, Capes and FAPESP for the funding of this research, and to Professor Jose Claudio Mura (Divisao de Sensoriamento Remoto, Instituto Nacional de Pesquisas Espaciais, Brazil) for enlightening discussions about the PolSARpro toolbox and PolSAR image decomposition.

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**第 388 条，共 395 条**

**标题:** Models and a relaxation algorithm for continuous network design problem with a tradable credit scheme and equity constraints

**作者:** Wang, GM (Wang, Guangmin); Gao, ZY (Gao, Ziyou); Xu, M (Xu, Meng); Sun, HJ (Sun, Huijun)

**来源出版物:** COMPUTERS & OPERATIONS RESEARCH **卷:** 41 **页:** 252-261 **DOI:** 10.1016/j.cor.2012.11.010 **出版年:** JAN 2014

**Web of Science 核心合集中的 "被引频次":** 7

**被引频次合计:** 7

**摘要:** The sustainable problems of transportation have become noticeable in the majority of cities worldwide. Many researchers are devoted themselves into traffic congestion. Generally, traffic congestion could be alleviated via increasing road capacity (supply) or reducing traffic (demand). In this paper, we model CNDP which has a tradable credit scheme and equity constraints in order to research on the way of releasing congestion by combining increasing supply and reducing demand. Firstly, the bilevel programming problem is proposed to model the CNDP with a tradable credit scheme. The upper level (the government) chooses optimal capacity enhancement for some existing links to minimize the total system costs under a budget constraint. The lower level chooses the optimal route based on considering the generalized travel cost in which both travel time and credit charging for using the link are involved. And then, considering the inequity problem in terms of equilibrium O-D travel cost and link travel time, the model is proposed by incorporating equity constraints into CNDP with a tradable credit scheme. After presenting a relaxation algorithm, the experiments on Sioux Falls network are illustrated. Finally, conclusion and some future research directions are presented. (C) 2012 Elsevier Ltd. All rights reserved.

**文献类型:** Article

**作者关键词:** Continuous network design problem (CNDP); Bilevel programming problem; Relaxation algorithm; Tradable credit scheme; Equity

**KeyWords Plus:** VARIATIONAL INEQUALITY CONSTRAINTS; MATHEMATICAL PROGRAMS;

TRADEABLE PERMITS; BILEVEL; RESTRICTIONS; OPTIMIZATION; EQUILIBRIUM; SENSITIVITY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| National Basic Research Program of China | 2012CB725400 |
| National Natural Science Foundation of China | 71071014<br>71271023<br>71201146 |
| China Postdoctoral Science Foundation | 2012T50041<br>20110490008 |
| Fundamental Research Funds for the Central Universities | CUG120410<br>2012JBZ005<br>2011JBM245 |

This research was funded by the National Basic Research Program of China (no. 2012CB725400), the National Natural Science Foundation of China (nos. 71071014, 71271023 and 71201146), China Postdoctoral Science Foundation (nos. 2012T50041 and 20110490008) and the Fundamental Research Funds for the Central Universities (nos. CUG120410, 2012JBZ005 and 2011JBM245).

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**第 389 条，共 395 条**

**标题:** Comparative experiments using supervised learning and machine translation for multilingual sentiment analysis

**作者:** Balahur, A (Balahur, Alexandra); Turchi, M (Turchi, Marco)

**来源出版物:** COMPUTER SPEECH AND LANGUAGE **卷:** 28 **期:** 1 **页:** 56-75 **DOI:** 10.1016/j.csl.2013.03.004 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 9
**被引频次合计:** 9

**摘要:** Sentiment analysis is the natural language processing task dealing with sentiment detection and classification from texts. In recent years, due to the growth in the quantity and fast spreading of user-generated contents online and the impact such information has on events, people and companies worldwide, this task has been approached in an important body of research in the field. Despite different methods having been proposed for distinct types of text, the research community has concentrated less on developing methods for languages other than English. In the above-mentioned context, the present work studies the possibility to employ machine translation systems and supervised methods to build models able to detect and classify sentiment in languages for which less/no resources are available for this task when compared to English, stressing upon the impact of translation quality on the sentiment classification performance. Our extensive evaluation scenarios show that machine translation systems are approaching a good level of maturity and that they can, in combination to appropriate machine learning algorithms and carefully chosen features, be used to build sentiment analysis systems that can obtain comparable performances to the one obtained for English. (C) 2013 Elsevier Ltd. All rights reserved.

**文献类型:** Article
**作者关键词:** Multilingual sentiment analysis; Opinion mining; Machine translation; Supervised learning

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**第 390 条，共 395 条**

**标题:** Geo Spray: A geographic routing protocol for vehicular delay-tolerant networks

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**来源出版物:** INFORMATION FUSION **卷:** 15 **特刊:** SI **页:** 102-113 **DOI:** 10.1016/j.inffus.2011.11.003 **出版**

**年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 9
**被引频次合计:** 10
**摘要:** Vehicular networks are characterized by a highly dynamic network topology, and disruptive and intermittent connectivity. In such network environments, a complete path from source to destination does not exist on the most part of the time. Vehicular delay-tolerant network (VDTN) architecture was introduced to deal with these connectivity constraints. VDTN assumes asynchronous, bundle-oriented communication, and a store-carry-and-forward routing paradigm. A routing protocol for VDTNs should make the best use of the tight resources available in network nodes to create a multi-hop path that exists over time. This paper proposes a VDTN routing protocol, called GeoSpray, which takes routing decisions based on geographical location data, and combines a hybrid approach between multiple-copy and single-copy schemes. First, it starts with a multiple-copy scheme, spreading a limited number of bundle copies, in order to exploit alternative paths. Then, it switches to a forwarding scheme, which takes advantage of additional contact opportunities. In order to improve resources utilization, it clears delivered bundles across the network nodes. It is shown that GeoSpray improves significantly the delivery probability and reduces the delivery delay, compared to traditional location and non location-based single-copy and multiple-copy routing protocols. (C) 2011 Elsevier B.V. All rights reserved.
**文献类型:** Article
**作者关键词:** Geographic routing; Multiple-copy routing; Single-copy routing; Vehicular delay-tolerant networks; Routing protocols; Design; Performance assessment
**KeyWords Plus:** CONNECTED MOBILE NETWORKS; AD HOC NETWORKS; CHALLENGES
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Institut de Telecomunicaco~es, Next Generation Networks and Applications Group (NetGNA), Portugal | |
| FCT - Fundacao para a Ciencia e a Tecnologia | PEst-OE/EEI/LA0008/2011 |

Part of this work has been supported by the Institut de Telecomunicaco~es, Next Generation Networks and Applications Group (NetGNA), Portugal, in the framework of the VDTN@Lab Project, by the Euro-NF Network of Excellence of the Seventh Framework Programme of EU, in the framework of the Specific Joint Research Project VDTN, and by National Funding from the FCT - Fundacao para a Ciencia e a Tecnologia through the PEst-OE/EEI/LA0008/2011 Project.

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**第 391 条，共 395 条**
**标题:** Supplier selection using AHP methodology extended by D numbers
**作者:** Deng, XY (Deng, Xinyang); Hu, Y (Hu, Yong); Deng, Y (Deng, Yong); Mahadevan, S (Mahadevan, Sankaran)
**来源出版物:** EXPERT SYSTEMS WITH APPLICATIONS **卷:** 41 **期:** 1 **页:** 156-167 **DOI:** 10.1016/j.eswa.2013.07.018 **出版年:** JAN 2014
**Web of Science 核心合集中的 "被引频次":** 24
**被引频次合计:** 24
**摘要:** Supplier selection is an important issue in supply chain management (SCM), and essentially is a multi-criteria decision-making problem. Supplier selection highly depends on experts' assessments. In the process of that, it inevitably involves various types of uncertainty such as imprecision, fuzziness and incompleteness due to the inability of human being's subjective judgment. However, the existing methods cannot adequately handle these types of uncertainties. In this paper, based on a new effective and feasible representation of uncertain information, called D numbers, a D-AHP method is proposed for the supplier selection problem, which extends the classical analytic hierarchy process (AHP) method. Within the proposed method, D numbers extended fuzzy preference relation has been involved to represent the decision matrix of pairwise comparisons given by experts. An illustrative example is presented to demonstrate the effectiveness of the proposed method. (C) 2013 Elsevier Ltd. All rights reserved.
**文献类型:** Article
**作者关键词:** Supplier selection; D numbers; D-AHP; Analytic hierarchy process; Fuzzy preference relation
**KeyWords Plus:** FUZZY PREFERENCE RELATIONS; GROUP DECISION-MAKING; ANALYTIC HIERARCHY PROCESS; DISTRIBUTION NETWORKS; CHAIN MANAGEMENT; CONSENSUS MODEL;

WATER-QUALITY; RISK ANALYSIS; DATA FUSION; CONSISTENCY

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Chongqing Natural Science Foundation | CSCT, 2010BA2003 |
| National Natural Science Foundation of China | 61174022<br>71271061<br>70801020 |
| Program for New Century Excellent Talents in University | NCET-08-0345 |
| Science and Technology Planning Project of Guangdong Province, China | 2010B010600034<br>2012B091100192 |
| Business Intelligence Key Team of Guangdong University of Foreign Studies | TD1202 |
| Doctor Funding of Southwest University | SWU110021 |

The work is partially supported by Chongqing Natural Science Foundation (for distinguished young scientist), Grant No. CSCT, 2010BA2003, National Natural Science Foundation of China, Grant Nos. 61174022, 71271061, 70801020, Program for New Century Excellent Talents in University, Grant No. NCET-08-0345, the Science and Technology Planning Project of Guangdong Province, China, Grant Nos. 2010B010600034, 2012B091100192, Business Intelligence Key Team of Guangdong University of Foreign Studies, Grant No. TD1202, and Doctor Funding of Southwest University, Grant No. SWU110021.

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**第 392 条，共 395 条**

**标题:** Personalized news recommendation via implicit social experts

**作者:** Lin, C (Lin, Chen); Xie, RQ (Xie, Runquan); Guan, XJ (Guan, Xinjun); Li, L (Li, Lei); Li, T (Li, Tao)

**来源出版物:** INFORMATION SCIENCES **卷:** 254 **页:** 1-18 **DOI:** 10.1016/j.ins.2013.08.034 **出版年:** JAN 1 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** .Personalized news recommendation has become a promising research direction as the Internet provides fast access to real-time information around the world. A variety of news recommender systems based on different strategies have been proposed to provide news personalization services for online news readers. However, little research work has been reported on utilizing the implicit "social" factors (i.e., the potential influential experts in news reading community) among news readers to facilitate news personalization. In this paper, we investigate the feasibility of integrating content-based methods, collaborative filtering and information diffusion models by employing probabilistic matrix factorization techniques. We propose PRemiSE, a novel Personalized news Recommendation framework via implicit Social Experts, in which the opinions of potential influencers on virtual social networks extracted from implicit feedbacks are treated as auxiliary resources for recommendation. We evaluate and compare our proposed recommendation method with various baselines on a collection of news articles obtained from multiple popular news websites. Experimental results demonstrate the efficacy and effectiveness of our method, particularly, on handling the so-called cold-start problem. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Personalization; News recommendation; Probabilistic matrix factorization; Implicit social network; Influential experts; Information diffusion

**KeyWords Plus:** SYSTEMS

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Shanghai Key Laboratory of Intelligent Information Processing | IIPL-2011-004 |
| China Natural Science Foundation | NSFC61102136<br>NSFC61370010<br>NSFC81101115 |
| Natural Science Foundation of Fujian Province of China | 2011J05158<br>2011J01371 |
| Fundamental Research Funds for Central Universities | 2011121049 |
| CCF-Tencent Hornbill Funds | CCF-Tencent20130101 |
| Base Research Project of Shenzhen Bureau of Science,Technology, and Information | JCYJ20120618155655087 |

Chen Lin is partially supported by Shanghai Key Laboratory of Intelligent Information Processing under Grant No. IIPL-2011-004, China Natural Science Foundation under Grant Nos. NSFC61102136, NSFC61370010, NSFC81101115, the Natural Science Foundation of Fujian Province of China under Grant Nos. 2011J05158, 2011J01371, Fundamental Research Funds for Central Universities under Grant No. 2011121049, CCF-Tencent Hornbill Funds under Grant No. CCF-Tencent20130101, Base Research Project of Shenzhen Bureau of Science,Technology, and Information under Grand No. JCYJ20120618155655087.

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**第 393 条，共 395 条**

**标题:** Semantic security against web application attacks

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**来源出版物:** INFORMATION SCIENCES **卷:** 254 **页:** 19-38 **DOI:** 10.1016/j.ins.2013.08.007 **出版年:** JAN 1 2014

**Web of Science 核心合集中的 "被引频次":** 4

**被引频次合计:** 4

**摘要:** In this paper, we propose a method of detecting and classifying web application attacks. In contrast to current signature-based security methods, our solution is an ontology based technique. It specifies web application attacks by using semantic rules, the context of consequence and the specifications of application protocols. The system is capable of detecting sophisticated attacks effectively and efficiently by analyzing the specified portion of a user request where attacks are possible. Semantic rules help to capture the context of the application, possible attacks and the protocol that was used. These rules also allow inference to run over the ontological models in order to detect, the often complex polymorphic variations of web application attacks. The ontological model was developed using Description Logic that was based on the Web Ontology Language (OWL). The inference rules are Horn Logic statements and are implemented using the Apache JENA framework. The system is therefore platform and technology independent.

Prior to the evaluation of the system the knowledge model was validated by using OntoClean to remove inconsistency, incompleteness and redundancy in the specification of ontological concepts. The experimental results show that the detection capability and performance of our system is significantly better than existing state of the art solutions. The system successfully detects web application attacks whilst generating few false positives. The examples that are presented demonstrate that a semantic approach can be used to effectively detect zero day and more sophisticated attacks in a real-world environment. (C) 2013 Elsevier Inc. All rights reserved.

**文献类型:** Article

**作者关键词:** Application security; Semantic security; Semantic rule engine

**KeyWords Plus:** ANOMALY DETECTION; NETWORK SECURITY; ACCESS-CONTROL; ALGORITHM; SERVICES; THREAT

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**第 394 条，共 395 条**

**标题:** Quick attribute reduction in inconsistent decision tables

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**来源出版物:** INFORMATION SCIENCES **卷:** 254 **页:** 155-180 **DOI:** 10.1016/j.ins.2013.08.038 **出版年:** JAN 1 2014

**Web of Science 核心合集中的 "被引频次":** 5
**被引频次合计:** 6
**摘要:** This paper focuses on three types of attribute reducts in inconsistent decision tables: assignment reduct, distribution reduct, and maximum distribution reduct. It is quite inconvenient to judge these three types of reduct directly according to their definitions. This paper proposes judgment theorems for the assignment reduct, the distribution reduct and the maximum distribution reduct, which are expected to greatly simplify the judging of these three types of reducts. On this basis, we derive three new types of attribute significance measures and construct the Q-ARA (Quick Assignment Reduction Algorithm), the Q-DRA (Quick Distribution Reduction Algorithm), and the Q-MDRA (Quick Maximum Distribution Reduction Algorithm). These three algorithms correspond to the three types of reducts. We conduct a series of comparative experiments with twelve UCI (machine learning data repository, University of California at Irvine) data sets (including consistent and inconsistent decision tables) to evaluate the performance of the three reduction algorithms proposed with the relevant algorithm QuickReduct [9,34]. The experimental results show that QuickReduct possesses weak robustness because it cannot find the reduct even for consistent data sets, whereas our proposed three algorithms show strong robustness because they can find the reduct for each data set. In addition, we compare the Q-DRA (Quick Distribution Reduction Algorithm) with the CEBARKNC (conditional entropy-based algorithm for reduction of knowledge without a computing core) [43] because both find the distribution reduct by using a heuristic search. The experimental results demonstrate that Q-DRA runs faster than CEBARKNC does because the distribution function of Q-DRA has a lower calculation cost. Instructive conclusions for these reduction algorithms are drawn from the perspective of classification performance for the C4.5 and RBF-SVM classifiers. Last, we make a comparison between discernibility matrix-based methods and our algorithms. The experimental results indicate that our algorithms are efficient and feasible. (C) 2013 Elsevier Inc. All rights reserved.
**文献类型:** Article
**作者关键词:** Rough set; Attribute reduction; Inconsistent decision table; Assignment reduct; Distribution reduct; Maximum distribution reduct
**KeyWords Plus:** ROUGH SET-THEORY; KNOWLEDGE REDUCTION; INFORMATION-SYSTEMS; COMPLEX-SYSTEMS; MODEL; RULES; APPROXIMATION
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**基金资助致谢:**

| 基金资助机构 | 授权号 |
|---|---|
| National Science Foundation of China | 61363047 |
| Jiangxi Provincial Natural Science Foundation | 2011ZBAB201006 |
| funds from Jiangxi Education Department | GJJ13760 |
| funds from Science and Technology Support Foundation ofJiangxi Province | 20111BBE50008 |

We would like to thank all the referees for their critical and constructive comments and suggestions to improve the presentation of the paper. Research on this work was partially supported by the grants from the. National Science Foundation of China (No. 61363047), by Jiangxi Provincial Natural Science Foundation (No. 2011ZBAB201006), by the funds from Jiangxi Education Department (No. GJJ13760), and by the funds from Science and Technology Support Foundation ofJiangxi Province (No. 20111BBE50008).

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**第 395 条，共 395 条**
**标题:** Tail mean and related robust solution concepts
**作者:** Ogryczak, W (Ogryczak, Wlodzimierz)
**来源出版物:** INTERNATIONAL JOURNAL OF SYSTEMS SCIENCE **卷:** 45 **期:** 1 **特刊:** SI **页:** 29-38 **DOI:** 10.1080/00207721.2012.669868 **出版年:** JAN 1 2014
**Web of Science 核心合集中的 "被引频次":** 4
**被引频次合计:** 4
**摘要:** Robust optimisation might be viewed as a multicriteria optimisation problem where objectives correspond to the scenarios although their probabilities are unknown or imprecise. The simplest robust solution concept represents a conservative approach focused on the worst-case scenario results optimisation. A softer concept allows one to optimise the tail mean thus combining performances under multiple worst scenarios. We show that while considering

robust models allowing the probabilities to vary only within given intervals, the tail mean represents the robust solution for only upper bounded probabilities. For any arbitrary intervals of probabilities the corresponding robust solution may be expressed by the optimisation of appropriately combined mean and tail mean criteria thus remaining easily implementable with auxiliary linear inequalities. Moreover, we use the tail mean concept to develope linear programming implementable robust solution concepts related to risk averse optimisation criteria.

**文献类型:** Article

**作者关键词:** decisions under uncertainty; robust optimisation; tail means; linear programming; multiple criteria

**KeyWords Plus:** VALUE-AT-RISK; CONDITIONAL VALUE; PORTFOLIO SELECTION; OPTIMIZATION; MODELS; UTILITY; CHOICE

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**基金资助致谢:**

| 基金资助机构 | 授权号 |
| --- | --- |
| Polish National Budget Funds for science | N N514 044438 |

This research was partially supported by the Polish National Budget Funds 2010-2013 for science under the grant N N514 044438. The author is indebted to anonymous referees for their helpful comment

主办：浙江工业大学图书馆信息咨询部

本期编辑：万跃华

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