



中文核心期刊 中国计算机学会会刊

ISSN 1002-137X  
CN50-1075/TP

# 计算机科学

## COMPUTER SCIENCE

第 39 卷 第 7 期

Vol.39 No.7

ISSN 1002-137X



9 771002 137001

2012.7

# 计算机器学

第39卷 第7期 2012年7月

## 目 次

基于横向局部性的多核计算模型.....	袁 良 张云泉(1)
开放云端计算环境中的任务执行代码安全机制.....	徐小龙 耿卫建 杨 庚 王汝传(7)
基于知识发现的网络安全态势感知系统 .....	王春雷 方 兰 王东霞 戴一奇(11)
统计聚类模型研究综述 .....	管 涛(18)

### 服务化科研成果

电子战本体论及其在仿真中的应用 .....	陈春鹏 董印权(25)
基于标号随机 Petri 网的 GSM 性能分析 .....	沙 静 杜玉越(29)

### 计算机网络与信息安全

面向 CPS 系统仿真的建模方法研究与设计 .....	刘 厦 王宇英 周兴社 张 凡(32)
动态自适应 DDS 实时中间件的研究与实现 .....	谷青范 康介祥 冯国良 付宇卓(36)
一种基于门限的电子投票方案 .....	邹秀斌 崔永泉 付 才(39)
作战超网络多 Agent 模型 .....	朱 江 刘大伟 李翼鹏(44)
移动 Ad hoc 网络基于链路质量的地理位置路由协议 .....	董 萍 兰少华 钱焕延(48)
基于局部路由的中高速传感器网络同步算法研究 .....	王越超 程良伦(52)
一种新型的无线传感器网络三维定位算法 .....	李 辉 熊盛武 段鹏飞(55)
一种基于层次分析法的信息系统漏洞量化评估方法 .....	李 鑫 李京春 郑雪峰 张友春 王少杰(58)
面向 LEO 卫星网的轻量级按需 QoS 源路由算法 .....	朱 军 饶 元 李绍穗 邵 星(64)
动态计算网络:一种面向物联网的普适计算框架 .....	卢 军 黄 健 许源平 郭本俊 岳 希(69)
基于 PKI 的通用无线认证协议研究 .....	谌双双 陈泽茂 王 浩(74)
NTRU 公钥密码体制的等价密钥 .....	熊志坚 王衍波 张 涛 王金双(78)
基于免疫优势克隆网络聚类的入侵检测 .....	白 琳(82)
基于节点稳定性预测机制的 Ad hoc 网络中关键节点探测算法研究 .....	沙 毅 李 娜 吴 斌(87)
基于 PSR-LSSVM 的网络流量预测 .....	陈卫民 陈志刚(92)
面向入侵检测的基于 IMGA 和 MKSVM 的特征选择算法 .....	井小沛 汪厚祥 聂 凯 罗志伟(96)
P2P 网络文件分发过程及影响传播因素研究 .....	陈宝钢 许 勇 胡金龙(100)
具有自适应能力的 Epidemic 路由算法 .....	孙践知 张迎新 陈 丹 韩忠明(104)
基于 QoS 与可信度融合的 Web 服务选择机制研究 .....	巫 茜 周 庆(108)

### 软件工程

无人机飞控软件系统建模与测试用例生成研究 .....	吴黎明 胡 军 曹 东 徐丙凤 于笑丰(112)
一种基于 MVC 模式的 Portlet 开发框架的设计与实现 .....	许 畅 杨 燕 王 帅 魏 峻(119)
模型驱动开发中模型演化语法和语义特性研究 .....	孙为军 李师贤 严玉清(123)
SMC/ADL:一种层级式构件系统的体系结构描述语言 .....	岳 洋 曾广平(127)
面向通信协议故障的分布式软件可靠性测试技术研究 .....	房友园 齐 瑞 战 茅(132)
多层次的软件演化追踪关系逆向恢复 .....	王金水 艾 伟 彭 鑫 赵文耘(135)

### 数据库与数据挖掘

一种基于相关反馈的信息检索模型 .....	金光赫 王兴伟 曲大鹏 蒋定德(140)
万方数据	

通过评估示例中概念的重要性来解决多示例学习问题.....	甘睿印鉴(144)
追踪复杂事件的形成世系.....	熊招招王永利(148)
面向个人简历的事件抽取和检索框架.....	李劲张华奉希武(154)
不确定性数据上频繁项集挖掘的预处理方法.....	李海峰章宇柴艳妹(161)
集合特征码及相关算法研究.....	王树西(165)

## 人工智能

一种基于 Web 的术语翻译获取及验证方法 .....	张晶曹存根王石(170)
基于动态可行域划分的 SVM 主动学习 .....	张晓宇(175)
区间决策粗糙集 .....	刘盾李天瑞李华雄(178)
一种适用于大规模变量的并行遗传算法研究 .....	李东潘志松(182)
联网审计绩效的动态评价方法:基于 AHP 和 GM(1,1)的组合应用 .....	陈伟 SMIELIAUSKAS Wally 刘思峰(185)
基于规则的连用关系标记的自动标识研究 .....	胡金柱陈江曼杨进才舒江波雷利利(190)
线性可分结构系对二进神经元的覆盖问题.....	杨娟陆阳黄镇谨(195)
基于跨事件理论的缺失事件角色填充研究.....	侯立斌李培峰朱巧明钱培德(200)
融合人工鱼群机理的 PPI 网络聚类模型与算法.....	吴爽雷秀娟(205)
一种高效的核属性动态更新算法.....	钱文彬杨炳儒徐章艳李慧(210)
一种半监督协同训练的正则化算法.....	王娇罗四维(215)
多测度 Vague 集相似度量 .....	韦波黎胜黎珍惜(219)
基于支持向量机分类问题的勒让德核函数 .....	张瑞王文剑张亚丹孙芳玲(222)
函数 P-集合与信息规律的属性控制 .....	林蓉史开泉(225)
基于覆盖的粗糙集模型比较 .....	王丽娟杨习贝杨静宇吴陈(229)
$k$ -median 问题反向贪心随机算法 .....	王守强(232)
基于动态规划法求解动态 0-1 背包问题 .....	贺毅朝田海燕张新禄王志威高镇刚(237)
基于范畴论的形式化地理本体对齐和集成研究 .....	胡玲李霖王红(242)
倒向 P-推理与内 P-属性类特征 .....	赵树理范成贤史开泉(245)
一种基于权重的文本特征选择方法 .....	雷军程黄同威柳小文(250)

## 图形图像

基于最小方差滤波的相对熵阈值分割方法 .....	张弘范九伦(253)
基于 GPU 的实时图像拼接 .....	郭一汉史美萍吴涛(257)
一种甲藻显微图像顶刺区域分割及特征提取方法 .....	乔小燕姬光荣(262)
基于区别缺损对象的视频序列修复方法 .....	刘春英房庆云胡维华(267)
基于 RJMCMC 的视觉多目标跟踪算法 .....	周维许海霞郑金华(270)
语义特征建模系统中布尔算法的研究 .....	金瑛浩孙立铸(276)
基于遗传 LBG 的图像矢量化改进算法 .....	陈倩(280)
一种基于最大相似子阵的彩色图像检索算法 .....	何国斌代秀娟李航(282)
运动轨迹估计算法在关键人物自动捕获中的应用 .....	谭显波(287)
基于 PCA 和数据融合的遥感图像数字水印算法 .....	顾成喜李亚琴顾才东(290)
机载遥感系统超光谱图像分层近无损压缩 .....	张威田峰(293)

## 体系结构

提升缓存效率的 Xen 虚拟机调度优化 .....	胥平勇钱柱中茅兵谢立(297)
基于中断向量表重构的固件代码反汇编技术 .....	崔晨李清宝胡刚王炜(302)
不确定 NCS 动态输出反馈鲁棒 $H_\infty$ 保性能容错控制 .....	李炜曹慧超(305)
片上系统并行建模的软件开发方法研究 .....	全盛程王勇(313)

# COMPUTER SCIENCE

Vol. 39 No. 7 July 2012

## CONTENTS

Multi-core Parallel Computational Model Based on Horizontal Locality .....	YUAN Liang et al. (1)
Code Execution Security Mechanism for Open Cloud & Client Computing .....	XU Xiao-long et al. (7)
Network Security Situation Awareness System Based on Knowledge Discovery .....	WANG Chun-lei et al. (11)
Overview of Statistical Clustering Models .....	GUAN Tao (18)

### Scientific Research Achievements in Service

Electronic Warfare Ontology and it's Application in Simulation Systems .....	CHEN Chun-peng et al. (25)
Performance Analysis of GSM Based on Labled Stochastic Petri Net .....	SHA Jing et al. (29)

### Computer Network & Information Security

Research and Design for the Modeling of Simulation of CPS .....	LIU Sha et al. (32)
Research on Implementation of Dynamic Adaptive Real-time Middleware Based on DDS .....	GU Qing-fan et al. (36)
Threshold-based Electronic Voting Scheme .....	ZOU Xiu-bin et al. (39)
Combat Super Network Multi Agent Model .....	ZHU Jiang et al. (44)
Link-quality Aware Beacon-less Geographic Routing Protocol for Mobile Ad hoc Networks .....	DONG Ping et al. (48)
Time Synchronization Algorithm in Medium and High Rate WSN Based on Local Routing .....	WANG Yue-chao et al. (52)
Novel Three-dimensional Localization Algorithm in Wireless Sensor Networks .....	LI Hui et al. (55)
Analytic Hierarchy Process (AHP) -based Vulnerability Quantitative Assessment Method for Information Systems .....	..... LI Xin et al. (58)
Lightweight On-demand QoS Source Routing for LEO Satellite Network .....	ZHU Jun et al. (64)
Dynamic Computing Network: Architecture of Pervasive Computing for the Internet of Things .....	LU Jun et al. (69)
Research on General Wireless Authentication Protocol Based on PKI .....	CHEN Shuang-shuang et al. (74)
Equivalent Keys in NTRU Public Key Cryptosystem .....	XIONG Zhi-jian et al. (78)
Immunodominance-based Clonal Network Clustering Algorithm for Intrusion Detection .....	BAI Lin(82)
Research on Critical Nodes Detection Algorithm Based on Node Stability Prediction in Ad hoc Network .....	SHA Yi et al. (87)
Network Traffic Prediction Based on Phase Space Reconstruction and Least Square Support Vector Machine .....	..... CHEN Wei-min et al. (92)
Feature Selection Algorithm Based on IMGA and MKSVM to Intrusion Detection .....	JING Xiao-pei et al. (96)
Research on Process of File Diffusion and Influence Factors of Propagation in P2P Networks .....	CHEN Bao-gang et al. (100)
Self-adaptive Epidemic Routing Algorithm .....	SUN Jian-zhi et al. (104)
Research on QoS-reliability Fusion Based Selection Mechanism for Web Service .....	WU Qian et al. (108)

### Software Engineering

Research on Modeling and Test Case Generation for UAV Flight Control Software System .....	WU Li-ming et al. (112)
Design and Implementation of an MVC-based Framework for Developing Portlet .....	XU Chang et al. (119)
Study on Syntax and Semantics Properties of Model Evolution in Model Driven Development .....	SUN Wei-jun et al. (123)
SMC/ADL: An Architecture Description Language for Hierarchical Component-based System .....	YUE Yang et al. (127)
Research on Communication Protocol Fault-oriented Reliability Testing of Distributed Software .....	..... FANG You-yuan et al. (132)

Recovering Traceability Links among Multi-level Software Evolution Information .....	WANG Jin-shui et al. (135)
--	----------------------------

### Database & Data Mining

Information Retrieval Model Based on Relative Feedback .....	KIM Kwang-hyok et al. (140)
万方数据	

Solving Multi-instance Learning Problem with Evaluating the Importance of Concept in Instances .....	GAN Rui et al. (144)
Tracing the Evolution Lineage of Complex Event .....	XIONG Zhao-zhao et al. (148)
Framework of Vita Event Extraction and Retrieval .....	LI Jing et al. (154)
Uncertain Data Preconditioning Method in Frequent Itemset Mining .....	LI Hai-feng et al. (161)
Research of "Set Attribute Code" and Related Algorithms .....	WANG Shu-xi (165)

## Artificial Intelligence

Web-based Term Translation Extraction and Verification Method .....	ZHANG Jing et al. (170)
SVM Active Learning via Dynamic Version Space Division .....	ZHANG Xiao-yu (175)
Interval-valued Decision-theoretic Rough Sets .....	LIU Dun et al. (178)
Research on Parallel Genetic Algorithms Based on MapReduce .....	LI Dong et al. (182)
Dynamic Assessment Method of Online Auditing Performance: A Combined Use between AHP and GM(1,1) .....	CHEN Wei et al. (185)
Research on Auto-identifying of Adjoining Relation Markers Based on Rule .....	HU Jin-zhu et al. (190)
Cover Problem of Linear Separable Structures to Binary Neurons .....	YANG Juan et al. (195)
Using Cross-event Inference to Fill Missing Event Argument .....	HOU Li-bin et al. (200)
PPI Networks Clustering Model and Algorithm Combining with the Principle of Artificial Fish School .....	WU Shuang et al. (205)
Efficient Dynamic Updating Algorithm of the Computation of Core in Decision Table .....	QIAN Wen-bin et al. (210)
New Regularization Method of Co-training .....	WANG Jiao et al. (215)
Multi-measures Similarity Measures between Vague Sets .....	WEI Bo et al. (219)
Legendre Kernel Function for Support Vector Classification .....	ZHANG Rui et al. (222)
Function P-sets and Attribute Control of Information Laws .....	LIN Rong et al. (225)
Comparison on Covering-based Rough Set Models .....	WANG Li-juan et al. (229)
Randomized Reverse Greedy Algorithm for $k$ -median Problem .....	WANG Shou-qiang (232)
Solving Dynamic 0-1 Knapsack Problems Based on Dynamic Programming Algorithm .....	HE Yi-chao et al. (237)
Formalizing Geo-ontology Alignment and Integration Based on Category Theory .....	HU Ling et al. (242)
Backward P-reasoning and the Characteristics of Internal P-attribute Class .....	ZHAO Shu-li et al. (245)
Improved Text Feature Selection Method Based on Text Feature Weight .....	LEI Jun-cheng et al. (250)

## Graphics & Image

Relative Entropy Threshold Segmentation Method Based on the Minimum Variance Filtering .....	ZHANG Hong et al. (253)
Real Time Image Mosaic Based on GPU .....	GUO Yi-han et al. (257)
Method for Spine Segmentation and Feature Extraction of Pyrrophyta Microscopic Image .....	QIAO Xiao-yan et al. (262)
Restoration Method for Video Sequences Based on Distinguishing Damaged Objects .....	LIU Chun-ying et al. (267)
Multi-object Visual Tracking Based on Reversible Jump Markov Chain Monte Carlo .....	ZHOU Wei et al. (270)
Research on Boolean Operation in Semantic Feature Modeling System .....	JIN Ying-hao et al. (276)
Vector Quantization Method for Image Compression Based on GA and LBG Clustering Algorithm .....	CHEN Qian (280)
Color Image Retrieval Algorithm Based on the Maximum Similarity Submatrix .....	HE Guo-bin et al. (282)
Application of Trajectory Estimation Algorithm in the Automatic Capture of Key Figures .....	TAN Xian-bo (287)
Remote Sensing Image Watermarking Based on PCA and Data Fusion .....	GU Cheng-xi et al. (290)
Layered Near-lossless Compression Scheme of Hyper-spectral Image in Airborne Remote Sensing System .....	ZHANG Wei et al. (293)

## Architecture

Xen Virtual Machine Scheduling Enhancement by Improving Cache Efficiency .....	XU Ping-yong et al. (297)
Firm-code Disassembly Technology Based on IVT Reconstruction .....	CUI Chen et al. (302)
Robust $H_\infty$ -guaranteed Cost Fault-tolerant Control for Uncertain NCS Based on Dynamic Output Feedback .....	LI Wei et al. (305)
Research of Software Development Method for the Parallel Modeling of System-on-chip .....	QUAN Sheng-cheng et al. (313) 万方数据