ISSN1000-3428
CN31-1289/TP
CODEN JISGEV

计算机工程
Computer Engineering

www.ecice06.com | 第38卷 – 第15 期 – 2012年8月5日 Vol.38 - No.15 - 5 August 2012 | 2012 15

■ 全国计算机类中文核心期刊 ■ 工业和信息化部精品期刊 ■ 中国科技核心期刊

华东计算技术研究所 East China Institute of Computer Technology
上海市计算机学会 Shanghai Computer Society

万方数据

计 算 机 工 程 (半月刊)

Jisuanji Gongcheng

第 38 卷　　第 15 期　　2012 年 8 月 5 日

目　次

·专栏·

GEO 通信系统 LLC 协议设计及性能分析……徐　涛，刘立祥(1)

基于稀疏表达的遮挡目标跟踪算法……高　琳，范　勇，陈念年，等(5)

延时受限流量系统中的预编码技术研究……许崇斌，林　钢，林孝康(9)

基于互信息博弈的侧信道攻击风险评估模型……姚剑波，张　涛(12)

基于简易混合选择编码的对称密钥自变动加密……罗　俊，张国平(16)

基于预传输的虚拟机双机热备可用性研究……郑志蕴，任振芳，李　钝，等(20)

超图划分问题的元胞自动机模型及算法研究……冷　明，孙凌宇，边计年，等(23)

·软件技术与数据库·

基于简单访问接口的 GML 数据解析方法……焦东来，张书亮，朱彩英(28)

一种改进的超越函数通用算法……郭绍忠，许瑾晨，陈建勋(31)

X10 并行程序中静态数据竞争检测……王　旭，陈雨亭(35)

RGPS 过程层元模型正确性验证……袁开银，郭　瑞，陆翔升，等(39)

基于 Map Reduce 的序列模式挖掘算法……刘　栋，尉永清，薛文娟(43)

空间数据库平面曲线的点最近邻查询……高　峻，郝忠孝(46)

一种基于社会化标注的网页检索方法……王　健，李志斌，林鸿飞(50)

基于范畴论的构件行为组合研究……赵　硕，陈中育，肖春水(53)

基于语料库的藏语高频词抽取研究……才让卓玛，才智杰(56)

无支持度约束的靶向式关联规则挖掘……李凯里，王立宏(59)

基于领域本体的文本分类方法……韦婷婷，聂登国，王　驹，等(62)

·网络与通信·

多信道无线 Mesh 网络公平带宽分配算法……苏凡军，房慧聪，徐　建，等(66)

基于分簇的无线传感器网络 MAC 节能算法……掌　明，王经卓，董自健(70)

分布式 MIMO 系统容量最优的预编码设计……张艳语，朱义君，张水莲(74)

多重 QoS 的区分业务到无线链路的优化映射……蒋砺思，曾菊玲(77)

基于盲稀疏度匹配追踪的协同频谱检测……陈晓芳，朱翠涛(81)

基于无线通信的开放式实验测试系统设计……徐富新，申文武，刘雁群，等(84)

以太网无源光网络自愈环状保护结构……王燕滨，赵晓东，赵新伟(87)

基于权值自适应优化的协作频谱认知算法……杨　健，梁毅龙，王永华，等(90)

一种基于噪声子空间的半盲信道辨识算法……郭士旭，蒋建中，刘世刚(93)

卫星网络中基于丢包区分的 TCP 跨层改进……刘海燕，周华宇，魏德宾(97)

·安全技术·

微博病毒传播模型研究……杨春霞，胡丹婷，胡　森(100)

基于 P2P 平台的 DDoS 攻击防御方法……孟凡立，张　勇，王　华(104)

改进的抗自适应泄漏公钥加密方案……陈　浩，朱艳琴，罗喜召(108)

基于块存储结构的彩虹表时空折中方法……罗江石，祝跃飞，顾纯祥(111)

移动节点间安全关联管理方案设计……孙　凌，田　源，邢洪智(114)

带消息恢复功能的代理盲签名方案分析与改进……何俊杰，孙　芳，祁传达(119)

基于 RBFCM 和 ECM 的分层取证分析……张墨华，陈　亮(123)

基于移动信息化的安全接入平台建设……利业锐，刘　恒(128)

万方数据

WSN 数据融合中的隐私保护技术研究……许　建，杨　庚，陈正宇，等(134)
·人工智能及识别技术·
一种基于近邻元分析的文本分类算法……刘丛山，李祥宝，杨煜普(139)
基于视觉监控的操作手势轨迹分布模式研究……刘振华，傅　山(142)
改进的 Gabor 小波变换特征提取方法……尹　芳，陈德运，吴　锐(145)
双链量子遗传算法的收敛性分析……张小锋，郑　冉，睢贵芳，等(148)
大旋角无人机影像全自动拼接方法研究……胡庆武，艾明耀，殷万玲，等(152)
语义 Web 模糊规则的互换与实现……王　星，马宗民，陈　吉(156)
基于运动方向的视角无关行为识别方法……梅　雪，张继法，许松松，等(159)
基于多神经网络的母线负荷混沌优化组合预测……郭精人，罗滇生，何洪英，等(162)
高压输电线路巡检机器人的专家控制系统……苏　伟，王吉岱，孙爱芹，等(166)
人脸识别在退休金身份认证中的应用……梁　明，黄　楠(169)
基于加权证据理论的模糊信息融合目标识别……刘　兵，李　辉，邢　钢(172)
基于改进特征跟踪的客流量统计……金　鑫，梁雪春，宫宁生(175)
基于 TMS320DM643 的运动目标检测算法……胡小霞，杨余旺，莫　然(179)
实时浮游生物图像目标智能识别系统设计……洪炎峰，陈耀武(183)
基于 HowNet 和 PMI 的词语情感极性计算……王振宇，吴泽衡，胡方涛(187)
交通场景中的实时多目标跟踪方法……刘绍杰，张　超，胡福乔，等(190)
HOG 在人脸识别中的性能研究……向　征，谭恒良，马争鸣(194)
一种基于单目视觉的微型无人机姿态算法……庄　曈，曾庆化，刘建业，等(197)
·图形图像处理·
空间域与频域结合的 FCM 红外热像分割方法……谢　静，徐长航，陈国明，等(201)
基于主题模型的高分辨率遥感影像变化检测……程　晶，霍　宏，方　涛(204)
基于样图的层式体纹理合成算法……邹　昆，沃　焱，张见威(208)
基于颜色连通区域多特征融合的图像检索……向　阳，种衍文，王一诺，等(211)
一种改进的最小最大割算法……邹小林(215)
基于二叉树的改进 SPIHT 算法……黄可坤(218)
基于脉冲耦合神经网络的图像插值算法……刘春梅，邹传云，曹　文，等(222)
基于各向异性扩散的 GRAPPA 重建算法……许　林，胡绍湘(225)
一种改进的联合图像分解及边缘提取模型……张力娜，李小林(228)
基于局部结构特征的红外与可见光图像匹配……谢　辉，刘　洲，李建勋(230)
·工程应用技术与实现·
不确定 Duffing 混沌系统的同步控制……常广晖，朱石坚，楼京俊(234)
高可信容错计算机系统设计与应用研究……杨明华，陶灵姣，杨　斌，等(237)
树突状细胞算法在检测任务超时异常中的应用……魏建刚，张曦煌(240)
有限封闭环境中基于 PCA 的水声测距方法……徐耀松，李一博，付铜玲，等(244)
一种基坑地面沉降新型预测方法……高新闻，管兴坚(247)
基于类定向测试的多制式视频后处理芯片验证……陈　星，史再峰，姚素英，等(251)
一种基于最小二乘法的船舶碰撞计算方法……阮群生，李豫颖，龚子强(254)
一种新型二乘二取二安全计算机系统……陈祥献，郭　庆，黄　海(258)
基于脚本语言建模的汽车 ECU 测试系统设计……翟　琰，魏振春，韩江洪，等(260)
·开发研究与设计技术·
基于平面模板的摄像机标定方法……花开胜，王　林(264)
基于局部冲突分配策略的证据合成法则的改进……陶　洋，任步廷(268)
面向服务的 Agent 交互体系设计……杨晓辉，冯志勇(271)
基于混合粒子群算法的虚拟数据中心能耗优化……敬思远，佘　堃(276)
信息融合在模拟电路故障诊断系统中的应用……李浩铭，何怡刚，方葛丰(279)
适用于多核处理器的扩展寄存器文件设计……肖瑞瑾，权　衡，张家杰，等(283)
一种基于程序理解的 N-S 图生成算法……林道淼，古　辉(286)
基于状态仲裁的锁位防碰撞算法……张捍东，何明敏(290)

万方数据

Computer Engineering (Semimonthly)

Vol.38 No.15 5 August 2012

Contents

Design and Performance Analysis of GEO Telecommunication System LLC Protocol……XU Tao, LIU Li-xiang(1)

Object Tracking Algorithm Under Occlusion Based on Sparse Representation……GAO Lin, FAN Yong, CHEN Nian-nian, et al(5)

Research on Precoding Techniques in Systems with Delay Constrained Traffic……XU Chong-bin, LIN Gang, LIN Xiao-kang(9)

Side Channel Attack Risk Evaluation Model Based on Mutual Information Game……YAO Jian-bo, ZHANG Tao(12)

Symmetrical Key Automatic Changing Cryptography Based on Simple Hybrid Selection Coding……LUO Jun, ZHANG Guo-ping(16)

Research on Availability of Virtual Machine Hot Standby Based on Pre-transfer……ZHENG Zhi-yun, REN Zhen-fang, LI Dun, et al(20)

Research on Cellular Automata Model of Hypergraph Partitioning Problem and Its Algorithm……LENG Ming, SUN Ling-yu, BIAN Ji-nian, et al(23)

GML Data Parsing Method Based on Simple Access Interface……JIAO Dong-lai, ZHANG Shu-liang, ZHU Cai-ying(28)

Improved Transcendental Function General Algorithm……GUO Shao-zhong, XU Jin-chen, CHEN Jian-xun(31)

Static Data Race Detection for X10 Parallel Programs……WANG Xu, CHEN Yu-ting(35)

Correctness Verification of RGPS Process Level Meta-model……YUAN Kai-yin, GUO Rui, LU Xiang-sheng, et al(39)

Sequential Pattern Mining Algorithm Based on Map Reduce……LIU Dong, WEI Yong-qing, XUE Wen-juan(43)

Point Nearest Neighbor Query of Spatial Database Plane Curve……GAO Jun, HAO Zhong-xiao(46)

Web Retrieval Method Based on Social Tagging……WANG Jian, LI Zhi-bin, LIN Hong-fei(50)

Research on Component Behavior Combination Based on Category Theory……ZHAO Shuo, CHEN Zhong-yu, XIAO Chun-shui(53)

Study on Corpus-based Tibetan High-frequency Words Extraction……CAI Rang-zhuo-ma, CAI Zhi-jie(56)

Targeting Association Rule Mining Without Support Constraint……LI Kai-li, WANG Li-hong(59)

Texts Classification Method Based on Domain Ontology……WEI Ting-ting, NIE Deng-guo, WANG Ju, et al(62)

Fair Bandwidth Allocation Algorithm for Multi-channel Wireless Mesh Network……SU Fan-jun, FANG Hui-cong, XU Jian, et al(66)

MAC Energy-efficient Algorithm in Wireless Sensor Network Based on Clustering……ZHANG Ming, WANG Jing-zhuo, DONG Zi-jian(70)

Design of Capacity-optimal Precoding for Distributed MIMO System……ZHANG Yan-yu, ZHU Yi-jun, ZHANG Shui-lian(74)

Optimization Mapping from Differential Service to Wireless Link with Multiple QoS……JIANG Li-si, ZENG Ju-ling(77)

Collaborative Spectrum Detection Based on Blind Sparsity Matching Pursuit……CHEN Xiao-fang, ZHU Cui-tao(81)

Design of Opening Experimental Test System Based on Wireless Communication……XU Fu-xin, SHEN Wen-wu, LIU Yan-qun, et al(84)

Self-healing Ring Protection Architecture of EPON……WANG Yan-bin, ZHAO Xiao-dong, ZHAO Xin-wei(87)

Cooperative Spectrum-sensing Algorithm Based on Weight Adaptive Optimization……YANG Jian, LIANG Yi-long, WANG Yong-hua, et al(90)

Semi-blind Channel Identification Algorithm Based on Noise Subspace……GUO Shi-xu, JIANG Jian-zhong, LIU Shi-gang(93)

TCP Cross-layer Improvement Based on Packet Loss Discrimination in Satellite Network……LIU Hai-yan, ZHOU Hua-yu, WEI De-bin(97)

Research of MicroBlog Virus Propagation Model……YANG Chun-xia, HU Dan-ting, HU Sen(100)

Defense Method for DDoS Attack Based on P2P Platform……MENG Fan-li, ZHANG Wei, WANG Hua(104)

Improved Adaptive Leakage-resilient Public Key Encryption Scheme……CHEN Hao, ZHU Yan-qin, LUO Xi-zhao(108)

Rainbow Table Time-memory Trade-off Method Based on Block Storage Structure……LUO Jiang-shi, ZHU Yue-fei, GU Chun-xiang(111)

Design of Security Association Management Scheme Between Mobile Nodes……SUN Ling, TIAN Yuan, XING Hong-zhi(114)

Analysis and Improvement of Proxy Blind Signature Scheme with Message Recovery Function……HE Jun-jie, SUN Fang, QI Chuan-da(119)

Hierarchical Forensics Analysis Based on Rule-based Fuzzy Cognitive Map and Eigenvector Centrality Metric……ZHANG Mo-hua, CHEN Liang(123)

Construction of Security Access Platform Based on Mobile Informatization……LI Ye-da, LIU Heng(128)

Research of Privacy-preserving Technology in Wireless Sensor Network Data Aggregation……XU Jian, YANG Geng, CHEN Zheng-yu, et al(134)

Text Classification Algorithm Based on Neighborhood Component Analysis……LIU Cong-shan, LI Xiang-bao, YANG Yu-pu(139)

Research on Operation Gesture Trajectory Distribution Patterns Based on Visual Surveillance……LIU Zhen-hua, FU Shan(142)

万方数据

Improved Gabor Wavelet Transformation Feature Extraction Method……YIN Fang, CHEN De-yun, WU Rui(145)
Convergence Analysis of Double Chains Quantum Genetic Algorithm……ZHANG Xiao-feng, ZHENG Ran, SUI Gui-fang, et al(148)
Research on Image Fully Automatic Mosaic Method with Large Rotation Angle from Unmanned Aerial Vehicle……
……HU Qing-wu, AI Ming-yao, YIN Wan-ling, et al(152)
Interchange and Implementation of Fuzzy Rule in Semantic Web……WANG Xing, MA Zong-min, CHEN Ji(156)
Viewpoint Independent Behavior Recognition Method Based on Motion Direction……MEI Xue, ZHANG Ji-fa, XU Song-song, et al(159)
Bus Load Chaos Optimization Combination Forecasting Based on Multi-neural Network……
……GUO Jing-ren, LUO Dian-sheng, HE Hong-ying, et al(162)
Expert Control System of Inspection Robot for High Voltage Transmission Line……SU Wei, WANG Ji-dai, SUN Ai-qin, et al(166)
Application of Face Recognition in Pension Identity Authentication……LIANG Ming, HUANG Nan(169)
Fuzzy Information Fusion Target Recognition Based on Weighted Evidence Theory……LIU Bing, LI Hui, XING Gang(172)
Passenger Flow Statistics Based on Improved Feature Tracking……JIN Xin, LIANG Xue-chun, GONG Ning-sheng(175)
Moving Target Detection Algorithm Based on TMS320DM643……HU Xiao-xia, YANG Yu-wang, MO Ran(179)
Design for Real-time Intelligent Recognition System of Plankton Image Target……HONG Yan-feng, CHEN Yao-wu(183)
Words Sentiment Polarity Calculation Based on HowNet and PMI……WANG Zhen-yu, WU Ze-heng, HU Fang-tao(187)
Real Time Multi-objects Tracking Method in Traffic Scene……LIU Shao-jie, ZHANG Chao, HU Fu-qiao, et al(190)
Performance Research of HOG in Face Recognition……XIANG Zheng, TAN Heng-liang, MA Zheng-ming(194)
Attitude Algorithm of Micro-unmanned Air Vehicle Based on Monocular Vision……ZHUANG Tong, ZENG Qing-hua, LIU Jian-ye, et al(197)
Infrared Thermal Image Segmentation Method Using FCM Integrated with Spatial and Frequency Domain……
……XIE Jing, XU Chang-hang, CHEN Guo-ming, et al(201)
High Resolution Remote Sensing Image Change Detection Based on Topic Model……CHENG Jing, HUO Hong, FANG Tao(204)
Layered Solid Texture Synthesis Algorithm Based on Sample……ZOU Kun, WO Yan, ZHANG Jian-wei(208)
Image Retrieval Based on Multi-feature Fusion of Color Connected Region……XIANG Yang, CHONG Yan-wen, WANG Yi-nuo, et al(211)
Improved Min-max Cut Algorithm……ZOU Xiao-lin(215)
Improved SPIHT Algorithm Based on Binary Tree……HUANG Ke-kun(218)
Image Interpolation Algorithm Based on Pulse Coupled Neural Network……LIU Chun-mei, ZOU Chuan-yun, CAO Wen, et al(222)
GRAPPA Reconstruction Algorithm Based on Anisotropic Diffusion……XU Lin, HU Shao-xiang(225)
Improved Model Combining Image Decomposition with Edge Extraction……ZHANG Li-na, LI Xiao-lin(228)
Infrared and Visible Image Matching Based on Local Structural Feature……XIE Hui, LIU Liu, LI Jian-xun(230)
Synchronization Control of Uncertain Duffing Chaosic System……CHANG Guang-hui, ZHU Shi-jian, LOU Jing-jun(234)
Research on Design and Application of High-trusted Fault-tolerant Computer System……YANG Ming-hua, TAO Ling-jiao, YANG Bin, et al(237)
Application of Dendritic Cell Algorithm in Detecting Timeout Exception of Task……WEI Jian-gang, ZHANG Xi-huang(240)
Underwater Ranging Method Based on PCA in Confined Closed Environment……XU Yao-song, LI Yi-bo, FU Tong-ling, et al(244)
New Prediction Method for Ground Subsidence of Foundation Pit……GAO Xin-wen, GUAN Xing-jian(247)
Verification for Multi-standard Video Post Processing Chip Based on Resembling Directed Test……
……CHEN Xing, SHI Zai-feng, YAO Su-ying, et al(251)
Ship's Collision Calculation Method Based on Least Squares Method……RUAN Qun-sheng, LI Yu-ying, GONG Zi-qiang(254)
New Dual-duplex Safety-critical Computer System……CHEN Xiang-xian, GUO Qing, HUANG Hai(258)
Design of Automobile ECU Test System Based on Script Language Modeling……ZHAI Yan, WEI Zhen-chun, HAN Jiang-hong, et al(260)
Camera Standardization Method Based on Planar Template……HUA Kai-sheng, WANG Lin(264)
Improvement of Evidence Compound Rule Based on Partial Conflict Allocation Strategies……TAO Yang, REN Bu-ting(268)
Design of Service-oriented Agent Interaction System……YANG Xiao-hui, FENG Zhi-yong(271)
Energy Consumption Optimization in Virtualized Data Center Based on Hybrid Particle Swarm Algorithm……
……JING Si-yuan, SHE Kun(276)
Application of Information Fusion in Analog Circuit Fault Diagnosis System……LI Hao-ming, HE Yi-gang, FANG Ge-feng(279)
Design of Extended Register File for Multi-core Processor……XIAO Rui-jin, QUAN Heng, ZHANG Jia-jie, et al(283)
N-S Figure Generation Algorithm Based on Program Understanding……LIN Dao-miao, GU Hui(286)
Lock-bit Anti-collision Algorithm Based on State Arbitration……ZHANG Han-dong, HE Ming-min(290)

万方数据