

中国科技核心期刊

计算机系统应用

COMPUTER SYSTEMS APPLICATIONS &

计算机系统信息隐藏反取证技术

Data Hiding and Anti-Forensic on Modern Computer System

智能配电网自我认知过程

Self-Cognitive Process Studies of Smart Distribution Grid

基于OpenFlow的未来互联网试验网

Test Network of Future Internet Based on OpenFlow

基于工程管理的南海地质数据库

South China Sea Geological Information Database System for Project Management

物联网和服务架构的食品安全信息平台模型

Information Platform Model for Food Security Based on Internet of Things
and Service Architecture

2013. 5

主管单位：中国科学院
主办单位：中国科学院软件研究所

ISSN 1003-3254



目 录

专论·综述

(01) 计算机系统信息隐藏反取证技术

李佟鸿, 王宁, 刘志军

(05) 智能配电网自我认知过程

宋雨, 马林

(09) 基于层次化分析的全网业务健康度评价

杨艳屏

(14) 二维码在企业的应用

刘夏, 陈明锐

(18) 藏文字笔画编码排序的设想

刘城, 黄鹤鸣, 李继文

系统建设

(21) 基于 **OpenFlow** 的未来互联网试验网

韦世红, 卢威

(25) **WIA-PA** 网络密钥管理体系

刘建明, 徐莉莉, 王金才, 张运杰

(29) 互联网科技专家搜索系统

莫倩, 张传想

(34) 一种网上客运票务系统

彭昊, 王玲

(38) 基于 **GPS** 和 **GPRS** 的嵌入式车载防盗系统

程志华, 孙建飞, 朱卫贤, 赵倩

(42) 基于工程管理的南海地质数据库

张培献, 李飒, 李忠刚

(45) 中华文化英文文章管理系统

何开春, 杜晖, 秦燃, 谭智慧

(49) 物联网和服务架构的食品安全信息平台模型

蒋文贤, 许晓璐, 赖超, 林翠萍, 曾鹏远

(54) 基于无线传感器网络的多处网络机房温湿度双向监控系统

钟九洲

(58) 烟草商业物流一体化管控平台的研究与探索

叶志勇

(62) 基于拆分存储模式的题库系统

肖刚

(66) 信息存储系统的嵌入式解决方案

樊彬, 柴波

软件技术·算法

(70) 一种软件开发框架的设计优化

袁立国, 陈中育, 李方鹏, 郭婷

(75) 基于区域跟踪的交互式图案分割算法

侯小刚, 李艳红, 赵海英

- (81) 基于粒子群算法的煤气化过程 LS_SVM 预测模型
谢文君, 曹根牛, 李怀毅
- (85) 地下管线探测回波中目标双曲线的快速拟合方法
夏锋, 黄廷磊, 刘邵华
- (90) 基于 OpenCV 的视频运动目标检测与跟踪
袁宝红, 张德祥, 张玲君
- (94) 中医按摩机器人双臂推拿过程的避碰控制
曹端江, 刘存根, 鲁守银, 吕骁, 陈泽
- (98) 用于矿井运输的控制协议
李明华, 李鸿彬, 于波, 贾军营
- (103) 基于 LANDMARC 定位算法复杂度的分区算法改进
杨辉, 蔡坚勇, 高杰星, 陈由甲, 郑华
- (107) 蚁群优化支持向量机的物流需求预测
孙志刚
- (111) SIP 和 RTSP 协议转换模块的设计与实现
白军伟, 孙建伟, 杨海波, 贾军营
- (116) 一种改进的动态 k-均值聚类算法
胡伟
- (122) 基于 Aprior & FP-growth 算法的研究
晏杰, 亓文娟
- (126) 全景图中投影模型与算法
田军, 孟祥娟, 王萍
- (133) 基于 MFC CSocket 类的通用网络通信 DLL 设计
李晓京, 文治洪, 胡文东, 张利利, 项红雨, 马进
- (139) 基于遗传算法的数值优化约束问题的研究
刘正龙, 杨艳梅

研究开发

- (143) 定向扩散路由无线传感器网络行为仿真
郑明才, 李勇帆, 赵小超, 周辉
- (147) 异步 Web 服务在学分制收费中的应用
潘旭武
- (151) 一种中医药行业搜索引擎的推荐词产生方式
蔡勇, 刘美玲, 李玫, 胡豪
- (155) 基于非关系数据库的分布式负载均衡技术
李永魁, 谢文阁
- (158) 价格与广告的组合博弈模型及系统仿真
张晶, 宋福根, 孙捷
- (163) 基于信息粒化的 SVM 时序回归预测
彭勇, 陈俞强
- (168) 基于 OGRE 的双目立体显示研究与实现
王良燕, 张佑生, 高敏
- (172) 便携式汽车发动机检测装置的设计
吕振, 卢于, 齐洪涛, 张瑶
- (176) 电路虚拟维修关键技术研究

张敏, 时和平, 吕学义

(181) 基于惯性感应的手机交互模型研究及应用分析

王军, 桂雪会

(184) 航天员辅助操作系统中人工标识的选取

李海龙, 刘玉庆, 朱秀庆

(188) 用户评论中产品特征的抽取及聚类

韩雪婷, 李炜, 沈奇威

(193) 基于候选特征笔画和多类阈值的手写汉字切分

马建平, 汪庆锋, 陈渤, 陈强

(198) 基于 **RTP** 与模板卷积法的视频无线传输技术

汪宋良, 卓微

(203) 基于 **HPGL** 文件的图元优化排序

蔡明

(207) 基于模糊隶属度的人脸图像年龄估计

张天刚, 康苏明, 张景安

(211) 基于云重心理论的舰艇部队作战油料保障能力评估

陆思锡, 周庆忠, 熊彪

Special Issue

(01) Data Hiding and Anti-Forensic on Modern Computer System

LI Tong-Hong, WANG Ning, LIU Zhi-Jun

(05) Self-Cognitive Process Studies of Smart Distribution Grid

SONG Yu, MA Lin

(09) Health Degree Evaluation for the Entire Business Operation & Support System Based on the Analysis Hierarchy Process

YANG Yan-Ping

(14) The Application of Two-Dimensional Code to Enterprise

LIU Xia, CHEN Ming-Rui

(18) Tibetan Strokes of Computer Codes Sorting

LIU Cheng, HUANG He-Ming, LI Ji-Wen

System Construction

(21) Test Network of Future Internet Based on OpenFlow

WEI Shi-Hong, LU Wei

(25) Key Management System for WIA-PA Network

LIU Jian-Ming, XU Li-Li, WANG Jin-Cai, ZHANG Yun-Jie

(29) Internet Technology Expert Search System

MO Qian, ZHANG Chuan-Xiang

(34) Online Passenger Ticketing System

PENG Hao, WANG Ling

(38) Embedded Anti-Theft System for Vehicles Based on GPS and GPRS

CHENG Zhi-Hua, SUN Jian-Fei, ZHU Wei-Xian, ZHAO Qian

(42) South China Sea Geological Information Database System for Project Management

ZHANG Pei-Xian, LI Sa, LI Zhong-Gong

(45) Chinese Culture English Article Management System

HE Kai-Chun, DU Hui, QIN Ran, TAN Zhi-Hui

(49) Information Platform Model for Food Security Based on Internet of Things and Service Architecture

JIANG Wen-Xian, XU Xiao-Lu, LAI Chao, LIN Cui-Ping, ZENG Peng-Yuan

(54) Wireless Sensor Network Based on the Number of Network Computer Room Temperature and Humidity Bidirectional Monitoring System

ZHONG Jiu-Zhou

(58) Research and Exploration of the Tobacco Business Logistics Integration Control Platform

YE Zhi-Yong

(62) Test Bank System Based on the Split Storage Mode

XIAO Gang

(66) Information Storage Solutions for Embedded Systems

FAN Bin, CHAI Bo

Software Technique • Algorithm

(70) A Kind of Design and Majorization of Software Development Framework

YUAN Li-Guo, CHEN Zhong-Yu, LI Fang-Peng, GUO Ting
(75) An Interactive Segmentation Algorithm Based on a Regional Tracking
HOU Xiao-Gang, LI Yan-Hong, ZHAO Hai-Ying
(81) Coal Gasification LS_SVM Forecasting Model Based on Particle Swarm Algorithm
XIE Wen-Jun, CAO Gen-Niu, LI Huai-Yi
(85) A Rapid Method of Fitting out Targets Hyperbola of Underground Pipeline Prospecting Image
XIA Feng, HUANG Ting-Lei, LIU Shao-Hua
(90) Detecting and Tracking of Moving Target in Video Sequence Based on OpenCV
YUAN Bao-Hong, ZHANG De-Xiang, ZHANG Ling-Jun
(94) Control of Collision Avoidance in Progress of Dual-Arm Manipulation by Chinese Massage
Robot
CAO Duan-Jiang, LIU Cun-Gen, LU Shou-Yin, LV Xiao, CHEN Ze
(98) Control Protocol for Mine Transport
LI Ming-Hua, LI Hong-Bin, YU Bo, JIA Jun-Ying
(103) Improvement of Partition Algorithm Based on Complexity of LANDMARC Location Algorithm
YANG Hui, CAI Jian-Yong, GAO Jie-Xing, CHEN You-Jia, ZHENG Hua
(107) Logistics Demand Forecasting Based on Least Support Vector Machine Optimized by Ant
Colony Optimization Algorithm
SUN Zhi-Gang
(111) Design and Implementation of the SIP and RTSP Protocol Conversion Module
BAI Jun-Wei, SUN Jian-Wei, YANG Hai-Bo, JIA Jun-Ying
(116) Research and Realization of a Web Information Extraction and Knowledge Presentation
System
HU Wei
(122) Research Based on Aprior & FP-growth Algorithm
YAN Jie, QI Wen-Juan
(126) The Projection Models and Algorithms of Panorama
TIAN Jun, MENG Xiang-Juan, WANG Ping
(133) Development of Universal Network Communication DLL Using MFC CSocket Class
LI Xiao-Jing, WEN Zhi-Hong, HU Wen-Dong, ZHANG Li-Li, XU Hong-Yu, MA Jin
(139) Study of Numerical Optimization Constraint Problems Based on Genetic Algorithm
LIU Zheng-Long, YANG Yan-Mei

Research and Development

(143) Behavior Simulation for Wireless Sensor Networks Based on Directed Diffusion
ZHENG Ming-Cai, LI Yong-Fan, ZHAO Xiao-Chao, ZHOU Hui
(147) Implementation of Charging for Credit System Based on Asynchronous Web Service
PAN Xu-Wu
(151) A Method to Generate Query Recommendations for Search Engine of the Traditional Chinese
Medicine Industry
CAI Yong, LIU Mei-Ling, LI Mei, HU Hao
(155) Distributed Load Balances Technology Based on the Nosql Database
LI Yong-Kui, XIE Wen-Ge
(158) System Simulation of Price & Advertising Combined Game
ZHANG Jing, SONG Fu-Gen, SUN Jie

- (163) Time Series Regression and Prediction Based on Information Granulation and SVM
PENG Yong, CHEN Yu-Qiang
- (168) Research and Implementation of Binocular Stereoscopic Display Based on OGRE
WANG Liang-Yan, ZHANG You-Sheng, GAO Min
- (172) Design of Portable Automobile Engine Testing Device
LV Zhen, LU Yu, QI Hong-Tao, ZHANG Yao
- (176) The Key Technology of Circuit Virtual Maintenance
ZHANG Min, SHI He-Ping, LV Xue-Yi
- (181) Research and Application Analysis on Human-Mobilephone Interaction Prototype Based on Inertial Sensors
WANG Jun, GUI Xue-Hui
- (184) Selection of Artificial Mark System in Astronaut Operation Assistant System
LI Hai-Long, LIU Yu-Qing, ZHU Xiu-Qing
- (188) Extracting and Clustering Product Features from User Reviews
HAN Xue-Ting, LI Wei, SHEN Qi-Wei
- (193) Segmentation of Handwritten Chinese Characters Based on the Candidate Characteristics Strokes and Multi-Class Threshold
MA Jian-Ping, WANG Qing-Feng, CHEN Bo, CHEN Qiang
- (198) Technology of Video Wireless Transmission Based on RTP and Template Convolution
WANG Song-Liang, ZHUO Wei
- (203) Optimization Sequencing of Graphic Elements Based on HPGL File
CAI Ming
- (207) Age Estimation of Face Image Based on Fuzzy Membership Degrees
ZHANG Tian-Gang, KANG Su-Ming, ZHANG Jing-An
- (211) Evaluation of POL Support Ability of Naval Vessel Unit Campaigning Based on Cloud BaryCenter Theory
LU Si-Xi, ZHOU Qing-Zhong, XIONG Biao

《计算机系统应用》编委会

主任 黄涛

副主任 陈国青 杨学平 杨乔林 李东 吴志美 戴国忠

主编 苏振泽

编委 (排名按姓氏笔划)

王杨 毛昕 兰雨晴 刘明迪 刘邦君 孙晓鹏 杨长春 周庆忠 姚伟民

战晓苏 徐进 鲁士文 黎文伟 潘明惠

顾问 (排名按姓氏笔划)

冯玉琳 刘德贵 闫保平 任连仲 陈正清 陈静 卿斯汉 黎达

计算机系统应用

Jisuanji Xitong Yingyong

(月刊, 1992年创刊)

第22卷 第5期 2013年5月

Computer Systems and Applications

(Monthly)

(Started in 1992)

Vol.22 No.5 May. 2013

编辑 《计算机系统应用》编辑部
(北京 8718 信箱 邮编 100190)
电话: 010-62661041
E-mail: csa@iscas.ac.cn
<http://www.c-s-a.org.cn>

主编 苏振泽
主办单位 中国科学院软件研究所
主管单位 中国科学院
出版 《计算机系统应用》编辑部
广告证号 京海工商广字第 0166 号
印刷 北京长宁印刷有限公司
总发行处 北京报刊发行局
订购处 全国各地邮局
国外总发行 中国国际图书贸易总公司

Edited by Editorial Board of Computer Systems and Applications
(P.O.Box 8718, Beijing 100190, P.R.China)
E-mail: csa@iscas.ac.cn
<http://www.c-s-a.org.cn>

Editor-in-Chief: SU Zhen-Ze

Sponsored by Institute of Software, The Chinese Academy of Sciences (ISCAS)

Published by Editorial Dept. of CSA

Printed by Beijing Changning Printing House

Generally Distributed by Beijing Bureau for Distribution of Newspapers and Journals

Domestically Distributed by All Local Post Offices in China

Overseas Distributed by China International Book Trading Corporation (P.O.Box 399, Beijing 100044, China)

CN 11-2854/TP

国内邮发代号: 82-558

ISSN 1003-3254

国外发行代号: 6218M

©2013 ISCAS (版权所有)

定价: 28.00 元

公开发行人