



ISSN 1001-3695

CODEN JYYIC7

计算机应用研究

Application Research of Computers

第37卷第8期 2020年8月
Vol.37 No.8 Aug. 2020



2020

四川省计算机研究院主办
中国成都 Chengdu, China

- ❖ 英国《科学文摘》(INSPEC) 来源期刊
- ❖ 俄罗斯《文摘杂志》(AJ) 来源期刊
- ❖ 美国《乌利希期刊指南(网络版)》(Ulrichsweb) 收录期刊
- ❖ 2017—2019 年中国国际影响力优秀学术期刊(自然科学与工程技术)
- ❖ 第二届国家期刊奖百种重点科技期刊
- ❖ 中国科技核心期刊 ❖ 全国中文核心期刊
- ❖ 中国科技论文统计源期刊
- ❖ 中国学术期刊综合评价数据库来源期刊
- ❖ RCCSE 核心学术期刊 ❖ 中国期刊方阵双效期刊

- ❖ 《日本科学技术振兴机构数据库》(JST) 来源期刊
- ❖ 美国《艾博思科学数据库》(EBSCO) 全文来源期刊
- ❖ 美国《剑桥科学文摘(自然科学)》(CSA (NS)) 核心期刊
- ❖ 波兰《哥白尼索引》(IC) 来源期刊
- ❖ 中国科学引文数据库(CSCD) 来源期刊
- ❖ 《中文科技期刊数据库》来源期刊
- ❖ 《中国期刊网》《中国学术期刊(光盘版)》来源期刊
- ❖ 中国精品科技期刊顶尖学术论文(F5000)项目来源期刊
- ❖ 《电子科技文献数据库》来源期刊
- ❖ 《中国工程技术电子信息网》来源期刊

计算机应用研究

Jisuanji Yingyong Yanjiu

第 37 卷 第 8 期 2020 年 8 月

目 次

综述评论

基于深度神经网络的少样本学习综述	李新叶, 龙慎鹏, 朱 婧(2241)
视觉 SLAM 的研究现状与展望	吴 凡, 宗艳桃, 汤霞清(2248)

算法研究探讨

基于 Spark 的并行社区发现算法	刘东江, 黎建辉(2255)
移动云计算环境下多工作流任务调度的联合优化方法	宋祖尧, 戴月明(2261)
针对隐式反馈推荐系统的表征学习方法	梅岚翔, 郁 雪(2266)
基于 WBLDA 的学术文献摘要主题聚类	潘晓英, 伍 哲, 陈 柳, 杨 芳(2273)
基于干扰度的长大货物联运路径规划方法	张英贵, 罗 燕, 雷定猷, 赵天蔚(2279)
基于双线性迭代量化的哈希图像检索方法	崔文成, 徐盼盼, 邵 虹(2284)
基于偏置度量分解与隐反馈的协同过滤推荐算法	陈一然, 郑 骏(2288)
基于深度记忆网络的特定目标情感分类	左 梅, 荆晓远(2292)
ICAMF-CC: 改进的情境感知矩阵分解算法	罗国前, 刘志勇, 张明颜, 张家鑫, 刘亚鹏(2297)
基于公共邻居的 MHK 一致性协议及其稳定性分析	谢光强, 蔡松杰, 李 杨, 黄 驰(2301)
互助学习环境下可抗恶意评价的同伴互评算法	赵鸣铭, 王 聪, 李 敏(2305)
推荐系统中的新颖性问题研究	徐元萍, 陈 翔(2310)
组合控制协议增强多智能体系统一致性	谢光强, 黄 驰, 李 杨, 蔡松杰(2315)
多目标优化在特征选择子集评价中的应用	万 红, 李蒙蒙, 王昊锋, 岳彩通, 王 力, 尚志刚(2320)
改进狼群算法用于多约束稀疏矩阵综合	王 停, 夏克文, 唐黎军, 周 伟(2324)
基于深度神经决策森林的体域网数据融合方法	张 辉, 王 杨, 李 昌, 张 鑫, 赵传信(2329)
MapReduce 框架下基于正负关联规则的视频人物关系挖掘	朱 晋, 怀丽波, 崔荣一, 王 齐(2333)
毕达哥拉斯犹豫模糊集成算子及其决策应用	何 霞, 刘卫锋, 杜迎雪(2338)
优质个体最优动态空间变异的粒子群优化算法	孙 辉, 邓志诚, 赵 嘉, 王 晖(2344)
融合莱维飞行与黄金正弦的蚁狮优化算法	于建芳, 刘 升, 王俊杰, 鲁晓艺(2349)
基于 IDM 与 RBFNN 的组合型车辆低速跟驰模型	罗 颖, 秦文虎(2354)
基于局部结构保留的级联子空间深度聚类	熊李艳, 朱 宁(2358)
一种支撑协同制造的动态群组命令传输算法	颜晓莲, 章 刚, 邱晓红(2362)
本体演化的波及效应计算优化研究	陈 晶, 刘 钊, 顾进广, 刘 宇(2366)
基于类内最大均值差异的无监督领域自适应算法	蔡瑞初, 李嘉豪, 郝志峰(2371)
三重集约束下的自适应 SSLBoost 分类方法	原 鑫, 王振友(2376)
基于加权局部线性 KNN 的文本分类算法	齐 斌, 邹红霞, 王 宇(2381)

基于剪枝算法解决多处理机调度问题的算法研究	李 博,张 晓,颜靖艺(2386)
云计算环境下利用改进遗传算法结合二次编码的大规模资源调度方法	谷南南,姚佩阳,焦志强(2390)
融合复制机制和 input-feeding 方法的中文自动摘要模型	农丁安,欧阳纯萍,阳小华(2395)
统计推荐模型中的异构数据源资源配置	成英超,郝志峰,蔡瑞初(2400)
基于分解策略处理多分类不平衡问题的方法	徐作宁,雒兴刚,张忠良(2404)

系统应用开发

基于模糊攻防树和熵权法的工控系统脆弱性量化评估方法	巩天宇,尚文利,侯 静,陈春雨,曾 鹏(2409)
基于非线性干扰观测器的下肢外骨骼上楼梯滑模控制	于振中,姚锦涛(2413)
交通监控场景下的相机标定与车辆速度测量	武非凡,宋焕生,戴 喆,王 伟(2417)
软件众包开发者的能力价值率模型研究	刘安战,郭基凤(2422)
自适应稀疏重构的双频失真真结构	高明明,吴 月,房少军,南敬昌(2428)
改进 SA-SP 算法的路面不平度信号压缩感知采集研究	程 准,鲁植雄(2433)

信息安全技术

基于用户网格和两级缓存的 LBS 位置隐私保护方案	李树全,李 锐,朱大勇,熊 超,刘 磊(2437)
一种高效隐私的区块链认知物联网框架	杨菊英,江 兵,罗 佳(2442)
基于粒子群聚类偏移的地理位置不可区分	薛佳楣,李美珊,玄子玉(2446)
面向网络攻击的能力评估分类体系研究	高 见,王 安(2449)
GIFT 密码算法的二阶门限实现及其安全性评估	蒋宏然,韦永壮,史佳利,刘争红(2455)
基于位置语义的增量近邻隐私保护研究	张润莲,赵新红,武小年(2460)
一种新的高效的无证书广播多重签名方案	牛淑芬,李文婷,王彩芬(2464)
一种基于超混沌系统的双图关联加密算法	鲜永菊,谢世杰(2468)
改进的高效动态可搜索加密方案	孙晓玲,杨秋格,沈焱萍,陈福明(2472)

网络与通信技术

一种时延约束下可靠性保证的服务功能链部署方法	孙士清,彭建华,游 伟(2477)
网络状态感知的 MapReduce 作业洗牌数据传输调度研究	刘文隆,郭 丹,樊玉琦(2482)
无线传感器网络中基于闭环包围的边界节点检测	张玖雅,卫琳娜(2487)
面向多种攻击的无线传感器网络攻防博弈模型	刘 妮,周海平,王 波(2491)
基于 MABC 的中继系统资源分配策略	王珍妮,董增寿,李丽君,王 豪(2496)
CNR 中基于多用户 Q 学习的联合信道选择和功率控制	蒋涛涛,朱 江(2500)
具有双边随机时延和丢包的网路控制系统有限时间控制	干珊珊,嵇小辅,王 锴(2504)
一种高效快速的无人机自组网网关切换算法	姚玉坤,宋威威,李其超,张云霞(2508)
太赫兹无线个域网高时隙利用率跨 PAN 数据传输协议	任 智,康 健,徐兆坤,陈民华(2513)

图形图像技术

基于双曲余弦矩阵鉴别分析的小样本问题研究	冉瑞生,张守贵,任银山,房 斌(2517)
基于分割树的移动机器人立体匹配研究	陈 常,朱 华(2522)
基于平面约束的 RGB-D SLAM 系统	黄宁生,陈 靖,缪远东(2526)
基于多损失融合与谱归一化的图像超分辨率方法	许宁宁,郑 凯(2531)
适用于迭代型去模糊算法粗精检测相结合的自适应终止机制	李崇禧,徐少平,林珍玉,张 玮,刘婷云(2536)
基于金字塔式双通道卷积神经网络的深度图像超分辨率重建	于淑侠,胡良梅,张 骏,张旭东(2541)
基于深度学习的轻量级人体动作识别模型	何冰倩,魏 维,张 斌(2547)
基于图像蒙板的无监督图像风格迁移	孔棱脊,滕少华(2552)
基于残差网络的小型车辆目标检测算法	匡向阳,韩伊娜(2556)

信息集萃

下期要目	(2555)
------------	--------

期刊基本参数:CN51-1196/TP * 1984 * m * A4 * 320 * zh * P * ¥50.00 * 3840 * 67 * 2020-08 * n

本期责任编辑 黄 莉,何 俐

Application Research of Computers

Vol. 37 No. 8 Aug. 2020

Contents

Survey

Survey of few-shot learning based on deep neural network	Li Xinye, Long Shenpeng, Zhu Jing(2241)
Research status and prospect of vision SLAM	Wu Fan, Zong Yantao, Tang Xiaqing(2248)

Algorithm Research & Explore

Parallelized community detection algorithm based on Spark	Liu Dongjiang, Li Jianhui(2255)
Joint optimization method for multi-workflow task scheduling in mobile cloud computing environment	Song Zuyao, Dai Yueming(2261)
Representation for implicit feedback recommender	Mei Lanxiang, Yu Xue(2266)
Topic clustering of academic literature abstracts based on WBLDA	Pan Xiaoying, Wu Zhe, Chen Liu, <i>et al.</i> (2273)
Path planning method of multimodal transportation for long and bulky cargo based on interference degree Zhang Yinggui, Luo Yan, Lei Dingyou, <i>et al.</i> (2279)
Hashing image retrieval based on bilinear iterative quantization	Cui Wencheng, Xu Panpan, Shao Hong(2284)
Collaborative filtering recommendation algorithm based on biased metric factorization and implicit feedback	Chen Yiran, Zheng Jun(2288)
Target level sentiment classification based on deep memory network	Zuo Mei, Jing Xiaoyuan(2292)
ICAMF-CC: improved context aware matrix factorization algorithm	Luo Guoqian, Liu Zhiyong, Zhang Mingyan, <i>et al.</i> (2297)
Consensus protocol of Hegselmann-Krause opinion dynamics based on common neighbors and its stability analysis Xie Guangqiang, Cai Songjie, Li Yang, <i>et al.</i> (2301)
Peer grading algorithm against malicious evaluation for collaborative learning	Zhao Mingming, Wang Cong, Li Min(2305)
Research on novelty problems in recommendation systems	Xu Yuanping, Chen Xiang(2310)
Hybrid control for enhancing consensus of multiagent systems	Xie Guangqiang, Huang Chi, Li Yang, <i>et al.</i> (2315)
Application of multi-objective optimization in feature selection subset evaluation	Wan Hong, Li Mengmeng, Wang Haofeng, <i>et al.</i> (2320)
Improved wolf pack algorithm for multi-constrained sparse array Synthesis	Wang Ting, Xia Kewen, Tang Lijun, <i>et al.</i> (2324)
Body area network data fusion method based on deep neural decision forests	Zhang Hui, Wang Yang, Li Chang, <i>et al.</i> (2329)
Mining of video character relationship based on positive and negative association rules under MapReduce frame Zhu Jin, Huai Libo, Cui Rongyi, <i>et al.</i> (2333)
Pythagorean hesitant fuzzy aggregation operators and their applications in decision making	He Xia, Liu Weifeng, Du Yingxue(2338)
Particle swarm optimization for dynamic spatial variability of superior quality individuals	Sun Hui, Deng Zhicheng, Zhao Jia, <i>et al.</i> (2344)
Ant lion optimization algorithm integrating with Lévy flight and golden sine	Yu Jianfang, Liu Sheng, Wang Junjie, <i>et al.</i> (2349)
Combination low-speed car-following model based on IDM and RBFNN	Luo Ying, Qin Wenhui(2354)
Cascade subspace clustering based on local structure preservation	Xiong Liyan, Zhu Ning(2358)
Dynamic group command transfer algorithm for collaborative manufacturing	Yan Xiaolian, Zhang Gang, Qiu Xiaohong(2362)
Improved method for ripple effect calculation in ontology evolution	Chen Jing, Liu Zhao, Gu Jinguang, <i>et al.</i> (2366)
Unsupervised domain adaptive algorithm with intra-class maximum mean discrepancy	Cai Ruichu, Li Jiahao, Hao Zhifeng(2371)
Adaptive SSLBoost classification algorithm based on triple set constraints	Yuan Xin, Wang Zhenyou(2376)
Text categorization algorithm based on weighted locally linear KNN	Qi Bin, Zou Hongxia, Wang Yu(2381)
Algorithm research of solving multiprocessor scheduling problem based on pruning algorithm	Li Bo, Zhang Xiao, Yan Jingyi(2386)
Large-scale resource scheduling method using improved genetic algorithm combined with secondary coding in cloud computing environment Gu Nannan, Yao Peiyang, Jiao Zhiqiang(2390)

Chinese automatic summarization model of combining copying mechanism and input-feeding approach	Nong Ding'an, Ouyang Chunping, Yang Xiaohua (2395)
Resource allocation in statistical recommendation model	Cheng Yingchao, Hao Zhifeng, Cai Ruichu (2400)
Method based on decomposition strategy for handling multi-class imbalance problems	Xu Zuoning, Luo Xinggong, Zhang Zhongliang (2404)

System Development & Application

Quantitative vulnerability assessment method for industrial control system based on fuzzy attack-defense tree and entropy weight method	Gong Tianyu, Shang Wenli, Hou Jing, <i>et al.</i> (2409)
Sliding mode control of lower extremity exoskeleton based on nonlinear disturbance observer	Yu Zhenzhong, Yao Jintao (2413)
Camera calibration and vehicle speed measurement in traffic monitoring scene	Wu Feifan, Song Huansheng, Dai Zhe, <i>et al.</i> (2417)
Research on value ratio model of software crowdsourcing developers' capability	Liu Anzhan, Guo Jifeng (2422)
Dual-frequency predistortion structure with adaptive sparse reconstruction	Gao Mingming, Wu Yue, Fang Shaojun, <i>et al.</i> (2428)
Research on compression sensing acquisition of road roughness based on improved SA-SP algorithm	Cheng Zhun, Lu Zhixiong (2433)

Technology of Information Security

Two-level cache location privacy protection scheme based on user grid	Li Shuquan, Li Rui, Zhu Dayong, <i>et al.</i> (2437)
Efficient privacy blockchain cognitive IoT framework	Yang Juying, Jiang Bing, Luo Jia (2442)
PSO clustering shift based geographic location indistinguishable scheme	Xue Jiamei, Li Meishan, Xuan Ziyu (2446)
Research on classification system of capability evaluation of facial network attack	Gao Jian, Wang An (2449)
Second-order threshold implementation of GIFT cryptographic algorithm and security evaluation	Jiang Hongran, Wei Yongzhuang, Shi Jiali, <i>et al.</i> (2455)
Research on incremental nearest neighbor query privacy protection based on location semantics	Zhang Runlian, Zhao Xinhong, Wu Xiaonian (2460)
New efficient certificateless broadcast multi-signature scheme	Niu Shufen, Li Wenting, Wang Caifen (2464)
Double-image correlation encryption algorithm based on hyper-chaotic system	Xian Yongju, Xie Shijie (2468)
Improved efficient dynamic searchable encryption	Sun Xiaoling, Yang Qiuge, Shen Yanping, <i>et al.</i> (2472)

Technology of Network & Communication

Reliability guaranteed service function chain deployment method with latency constraint	Sun Shiqing, Peng Jianhua, You Wei (2477)
Network-aware shuffle scheduling for MapReduce jobs	Liu Wenlong, Guo Dan, Fan Yuqi (2482)
Closed-loop-based boundary node detection in wireless sensor network	Zhang Jiuya, Wei Linna (2487)
Attack-defense game models for multi-attack oriented wireless sensor network	Liu Ni, Zhou Haiping, Wang Bo (2491)
Resource allocation strategy of relay system based on MABC	Wang Zhenni, Dong Zengshou, Li Lijun, <i>et al.</i> (2496)
Joint channel selection and power control based on multi-user Q-learning in CRN	Jiang Taotao, Zhu Jiang (2500)
Finite time control of networked control systems with bilateral random delay and packet loss	Gan Shanshan, Ji Xiaofu, Wang Kai (2504)
Efficient and fast UAV Ad hoc network gateway switching algorithm	Yao Yukun, Song Weiwei, Li Qichao, <i>et al.</i> (2508)
High time slot utilization cross PAN data transmission protocol for terahertz wireless personal area network	Ren Zhi, Kang Jian, Xu Zhaokun, <i>et al.</i> (2513)

Technology of Graphic & Image

Research of small-sample-size based on hyperbolic cosine matrix discriminant analysis	Ran Ruisheng, Zhang Shougui, Ren Yinshan, <i>et al.</i> (2517)
Research on stereo matching of mobile robot based on segment tree	Chen Chang, Zhu Hua (2522)
RGB-D SLAM system based on plane constraint	Huang Ningsheng, Chen Jing, Miao Yuandong (2526)
Multi-loss ensemble and spectral normalization for image super-resolution	Xu Ningning, Zheng Kai (2531)
Adaptive coarse and fine combined termination mechanism for iterative deblurring algorithm	Li Chongxi, Xu Shaoping, Lin Zhenyu, <i>et al.</i> (2536)
Depth image super-resolution reconstruction with two-channel pyramid convolutional neural network	Yu Shuxia, Hu Liangmei, Zhang Jun, <i>et al.</i> (2541)
Lightweight human action recognition model based on deep learning	He Bingqian, Wei Wei, Zhang Bin (2547)
Unsupervised image style transfer based on image mask	Kong Lengrui, Teng Shaohua (2552)
Small vehicle target detection algorithm based on residual network	She Xiangyang, Han Yina (2556)

Responsible Editor Huang Li, He Li