



ISSN 1000-3428

CN 31-1289/TP

CODEN JISGEV

计算机工程 (月刊)

计算机工程

Computer Engineering

www.ecice06.com

第48卷 第5期 2022年5月15日

Vol.48 No.5 15 May 2022

2022 5

■ 北大中文核心期刊 ■ 中科院CSCD来源期刊 ■ 中国科技核心期刊 ■ RCCSE中国核心学术期刊 ■ Scopus数据库收录期刊

第48卷 第5期 2022年5月15日

www.ecice06.com



华东计算技术研究所 主 办
上海市计算机学会

计 算 机 工 程 (月 刊)

Jisuanji Gongcheng

第 48 卷 第 5 期 2022 年 5 月 15 日

目 次

• 热点与综述 •

多机器人协同 SLAM 技术研究进展	刘 鑫,王 忠,秦明星 (1)
基于 GRU-LSTM 组合模型的云计算资源负载预测研究	贺小伟,徐靖杰,王 宾,吴 昊,张博文 (11)
一种结合深度学习的运动重检测视觉 SLAM 算法	房立金,王科棋 (18)
面向 5G MEC 基于行为的用户异常检测方案	张伟成,卫红权,刘树新,王庚润 (27)
移动边缘计算中安全信息流建模与分析	谢 娜,谭文安,曹 彦,赵 璐 (35)
雾计算环境下入侵检测模型研究	李晋国,焦旭斌 (43)

• 人工智能与模式识别 •

结合拓扑势与信任度调整的重叠社区发现算法	李晓红,王闪闪,周学铭,宿 云 (53)
基于改进 BiGRU-CNN 的中文文本分类方法	陈可嘉,刘 惠 (59)
融合弱层惩罚的卷积神经网络模型剪枝方法	房志远,石守东,郑佳馨,胡加钊 (67)
一种基于多步竞争网络的多智能体协作方法	厉子凡,王 浩,方宝富 (74)
基于复杂结构信息的图神经网络序列推荐算法	胡承佐,王庆梅,李迪超,王 铮 (82)
AMR 文本生成的数据扩充方法	付叶菁,李军辉 (91)
面向停电分类预测的因子分解机模型	冉 懿,王润年,潘红伟,俞海猛,袁培森 (98)
基于节点引力与鱼记忆的社区检测算法	孙福祿,王宇嘉,刘子怡 (104)
基于全局时空特性的城市路网交通速度预测模型	冯思芸,施振佳,曹 阳 (112)

• 网络空间安全 •

基于匿名通信的在线匿名秘密举报方案	杨 阳,李晓宇 (118)
基于区块链的科技服务质量信任评价方案	张垚豪,冯文龙,黄梦醒,刘 伟 (127)
基于本地差分隐私的空间数据自适应划分算法	金媛媛,倪志伟,朱旭辉,陈恒恒,陈 千 (136)

融合联邦学习与区块链的医疗数据共享方案..... 温亚兰,陈美娟 (145)

图数据连续发布中的隐私保护方法 朱黎明,丁晓波,龚国强 (154)

• 移动互联与通信技术 •

基于启发式Q学习的FANET可信路由算法..... 赵蓓英,姬伟峰,翁 江,吴 玄,李映岐 (162)

面向多租户网络资源分配的博弈优化策略..... 郑振康,周金和 (170)

基于CvM算法的Nakagami衰落信道统计特性检验 王 涛,何怡刚,宁暑光,孙 豪,朱战伟 (178)

基于SDN的高性能QoS保障低轨道卫星星间路由算法 王奎宇,宋晓勤,缪娟娟,张昕婷,雷 磊 (185)

SDN中基于蚁群优化的网络测量节点选择算法 叶和元,韩 俐,孙士民 (191)

基于带宽预测与自适应压缩的容器迁移方法 罗 成,崔 勇,林予松 (200)

基于胶囊网络的动态路由研究与改进..... 陈 珊,孙仁诚,邵峰晶,隋 毅 (208)

一种频率域相关性分布式扩散最小均方算法..... 陈 凰,陈 睿,邝祝芳,黄华军 (215)

• 图形图像处理 •

基于深度学习的监督型典型相关分析..... 张 恒,陈晓红,蓝宇翔,李舜酩 (222)

基于隐式描述符的三维模型对应关系计算 HAYTHEM Alhag,杨 军 (229)

融合注意力机制与上下文密度图的人群计数网络 吴奇元,王晓东,章联军,高海玲,赵伸豪 (235)

面向轻量级卷积网络的激活函数与压缩模型 徐增敏,陈 凯,郭威伟,赵汝文,蒋占四 (242)

一种抗背景干扰的多尺度人群计数算法..... 郭爱心,夏殷锋,王大为,芦 宾 (251)

基于多尺度分割的图像识别残差网络研究 袁单飞,陈慈发,董方敏 (258)

结合超混沌系统和Logistic映射的视频图像加密算法 韦丞婧,李国东 (263)

基于纹理免疫的JPEG预压缩图像降尺度因子检测 党良慧,张玉金,路东生 (272)

• 开发研究与工程应用 •

改进SSD算法的道路小目标检测研究 邹慧海,侯 进 (281)

基于循环生成对抗网络的含遮挡人脸识别..... 徐润昊,程吉祥,李志丹,付小龙 (289)

面向短时地铁客流量预测的混合深度学习模型..... 彭桐歆,韩 勇,王 程,张志浩 (297)

基于轻量级图卷积的人体骨架动作识别方法..... 孙琪翔,何 宁,张聪聪,刘圣杰 (306)

基于局部注意的快速视频目标检测方法..... 史钰祜,张起贵 (314)

Computer Engineering (Monthly)

Vol.48

No.5

15 May 2022

Contents

• Research Hotspots and Reviews •

Research Progress of Multi-Robot Collaborative SLAM Technology	LIU Xin, WANG Zhong, QIN Mingxing (1)
Research on Cloud Computing Resource Load Forecasting Based on GRU-LSTM Combination Model	
..... HE Xiaowei, XU Jingjie, WANG Bin, WU Hao, ZHANG Bowen (11)	
A Visual SLAM Algorithm for Motion Redetection Combined with Deep Learning	FANG Lijin, WANG Keqi (18)
Behavior-based User Anomaly Detection Scheme for 5G MEC ...	ZHANG Weicheng, WEI Hongquan, LIU Shuxin, WANG Gengrun (27)
Modeling and Analysis of Security Information Flow in Mobile Edge Computing.....	XIE Na, TAN Wenan, CAO Yan, ZHAO Lu (35)
Research on Intrusion Detection Model in Fog Computing Environment.....	LI Jinguo, JIAO Xubin (43)

• Artificial Intelligence and Pattern Recognition •

Overlapping Community Discovery Algorithm Combining Topology Potential and Trust Adjustment	
..... LI Xiaohong, WANG Shanshan, ZHOU Xueming, SU Yun (53)	
Chinese Text Classification Method Based on Improved BiGRU-CNN	CHEN Kejia, LIU Hui (59)
Pruning Method of Convolutional Neural Network Model with Weak Layer Penalty	
..... FANG Zhiyuan, SHI Shoudong, ZHENG Jiaqing, HU Jiadian (67)	
A Method for Multi-Agent Cooperation Based on Multi-Step Dueling Network	LI Zifan, WANG Hao, FANG Baofu (74)
Sequence Recommendation Algorithm of Graph Neural Networks Based on Complex Structure Information	
..... HU Chengzuo, WANG Qingmei, LI Dichao, WANG Zheng (82)	
Data Augmentation Method for AMR-to-Text Generation.....	FU Yejiang, LI Junhui (91)
Factorization Machine Model for Power Outage Classification Prediction	
..... RAN Yi, WANG Runnian, PAN Hongwei, YU Haimeng, YUAN Peisen (98)	
Community Detection Algorithm Based on Node Gravity and Fish Memory	SUN Fulu, WANG Yujia, LIU Ziyi (104)
Urban Road Network Traffic Speed Prediction Model Based on Global Spatio-Temporal Characteristics	
..... FENG Siyun, SHI Zhenquan, CAO Yang (112)	

• Cyberspace Security •

Online Anonymous Whistleblowing Scheme Based on Anonymous Communication	YANG Yang, LI Xiaoyu (118)
Trust Evaluation Scheme for Technology Quality of Service Based on Blockchain.....	
..... ZHANG Xuhao, FENG Wenlong, HUANG Mengxing, LIU Wei (127)	
Spatial Data Adaptive Partition Algorithm Based on Local Differential Privacy	
..... JIN Yuanyuan, NI Zhiwei, ZHU Xuhui, CHEN Hengheng, CHEN Qian (136)	
Medical Data Sharing Scheme Combined with Federal Learning and Blockchain	WEN Yalan, CHEN Meijuan (145)

Privacy Protection Method in Continuous Publishing of Graph Data ZHU Liming, DING Xiaobo, GONG Guoqiang (154)

• Mobile Internet and Communication Technology •

Trusted Routing Algorithm Based on Heuristic Q-Learning for FANET
..... ZHAO Beiyang, JI Weifeng, WENG Jiang, WU Xuan, LI Yingqi (162)

Game Optimization Strategy for Multi-tenant Network Resource Allocation ZHENG Zhenkang, ZHOU Jinhe (170)

Statistical Characteristics Test of Nakagami Fading Channel Based on CvM Algorithm
..... WANG Tao, HE Yigang, NING Shuguang, SUN Hao, ZHU Zhanwei (178)

SDN-Based High-Performance and QoS Guaranteed Inter-Satellite Routing Algorithm for Low-Earth Orbit Satellites
..... WANG Kuiyu, SONG Xiaoqin, MIAO Juanjuan, ZHANG Xinting, LEI Lei (185)

Network Measurement Node Selection Algorithm Based on Ant Colony Optimization in SDN YE Heyuan, HAN Li, SUN Shimin (191)

Container Migration Method Based on Bandwidth Prediction and Adaptive Compression LUO Cheng, CUI Yong, LIN Yusong (200)

Research and Improvement of Dynamic Routing Based on Capsule Network ... CHEN Shan, SUN Rencheng, SHAO Fengjing, SUI Yi (208)

A Frequency-domain Correlation Distributed Diffusion Least Mean Square Algorithm
..... CHEN Huang, CHEN Rui, KUANG Zhufang, HUANG Huajun (215)

• Graphics and Image Processing •

Supervised Canonical Correlation Analysis Based on Deep Learning ... ZHANG Heng, CHEN Xiaohong, LAN Yuxiang, LI Shunming (222)

Calculation of 3D Model Correspondence Based on Implicit Descriptor..... HAYTHEM Alhag, YANG Jun (229)

Crowd Counting Network with Attention Mechanism and Contextual Density Map
..... WU Qiyan, WANG Xiaodong, ZHANG Lianjun, GAO Hailing, ZHAO Shenhao (235)

Activation Function and Compression Model for Lightweight Convolutional Network
..... XU Zengmin, CHEN Kai, GUO Weiwei, ZHAO Ruwen, JIANG Zhansi (242)

A Multi-scale Crowd Counting Algorithm with Anti-Background Interference GUO Aixin, XIA Yinfeng, WANG Dawei, LU Bin (251)

Research on Residual Network of Image Recognition Based on Multiscale Split YUAN Danfei, CHEN Cifa, DONG Fangmin (258)

Encryption Algorithm of Video Images Combining Hyper-Chaotic System and Logistic Mapping WEI Chengjing, LI Guodong (263)

Downscaling Factor Detection of Pre-JPEG Compressed Images Based on Texture-Immune
..... DANG Lianghui, ZHANG Yujin, LU Dongsheng (272)

• Development Research and Engineering Application •

Research on Road Small Target Detection with Improved SSD Algorithm ZOU Huihai, HOU Jin (281)

Face Recognition with Occlusion Based on Cyclic Generative Adversarial Networks.....
..... XU Runhao, CHENG Jixiang, LI Zhidan, FU Xiaolong (289)

Hybrid Deep-learning Model for Short-term Metro Passenger Flow Prediction
..... PENG Tongxin, HAN Yong, WANG Cheng, ZHANG Zhihao (297)

Human Skeleton Action Recognition Method Based on Lightweight Graph Convolution
..... SUN Qixiang, HE Ning, ZHANG Congcong, LIU Shengjie (306)

Method for Fast Video Object Detection Based on Local Attention..... SHI Yuhu, ZHANG Qigui (314)