



ISSN 1000-3428
CN 31-1289/TP
CODEN JISGEV

计算机工程

Computer Engineering

www.ecice06.com

第47卷 - 第5期 - 2021年5月15日

Vol.47 - No.5 - 15 May 2021

2021 5

■ 北大中文核心期刊 ■ 中科院CSCD核心期刊 ■ 中国科技核心期刊 ■ RCCSE中国核心学术期刊 ■ 工业和信息化部精品期刊

第47卷-第5期-2021年5月15日

www.ecice06.com



华东计算技术研究所
上海市计算机学会 主办

计算机工程(月刊)

Jisuanji Gongcheng

第47卷 第5期 2021年5月15日

目 次

• 热点与综述 •

- 基于深度学习的新型冠状病毒肺炎诊断研究综述……唐江平,周晓飞,贺 鑫,褚晓文,李世锋,常庆蕊,张继勇(1)
基于局部生成对抗网络的水上低照度图像增强……………刘 文,杨梅芳,聂江天,章 阳,杨和林,熊泽辉(16)
基于数据库二进制日志的竞赛式仲裁优化方案……………吴正江,姚 琦,冯四风,顾 青(24)
面向拟态防御系统的高阶异构度大数判决算法 ………………魏 帅,张辉华,苏 野,薛鹏飞,闻 亮(30)
区块链电子病历中基于密钥聚合的密文检索方案 ………………牛淑芬,韩 松,于 斐,王彩芬,杜小妮(36)

• 人工智能与模式识别 •

- 多约束复杂环境下 UAV 航迹规划策略自学习方法 ………………邱 月,郑柏通,蔡 超(44)
基于角色的网络表征学习方法 ………………徐 敝,王晓萍,熊 贲(52)
基于双层 CNN-BiGRU-CRF 的事件因果关系抽取 ………………郑巧夺,吴贞东,邹俊颖(58)
虚拟空间中在线同源用户行为相似性研究 ………………马满福,张凯旋,李 勇,王常青,张 强(65)
基于 BERT 模型与知识蒸馏的意图分类方法 ………………廖胜兰,吉建民,俞 畅,陈小平(73)
结合半波高斯量化与交替更新的神经网络压缩方法 ………………张红梅,严海兵,张向利(80)
基于密度敏感距离的改进模糊 C 均值聚类算法 ………………王治和,王淑艳,杜 辉(88)

• 网络空间安全 •

- 融合社交网络威胁的攻击图生成方法……………杨艳丽,宋礼鹏(104)
Midori64 分组密码算法的积分攻击 ………………王 超,陈怀凤(117)
面向数据发布的隐私保护模型及参数优选方法……………徐雅斌,郭 昊(124)
基于隐私保护的可证明安全委托计算协议 ………………李秋贤,周全兴,王振龙,丁红发,潘齐欣(131)
基于预测误差编码的加密域可逆数据隐藏算法 ………………马广瑶,黄德璐,王建军(138)
基于随机模型检验的社交网络隐私保护研究……………刘 阳,高世国(144)

• 移动互联与通信技术 •

- 车载自组织网络中基于竞争的时分多址 MAC 协议 张本宏, 吴浩浩, 俞 磊 (154)
基于三个定向天线 RSS 的二维到达角估计 冷 文 (160)
基于 DQN 的超密集网络能效资源管理 郑冰原, 孙彦赞, 吴雅婷, 王 涛, 方 勇 (169)
一致性场景下的边缘网络低时延存储算法 李昊天, 盛益强 (176)
多用户载波索引差分混沌移位键控通信系统及性能分析 夏 磊, 杨 华, 宋玉蓉 (181)

• 图形图像处理 •

- 基于自适应权重的改进 Census 立体匹配算法 黄 彬, 胡立坤, 张 宇 (189)
基于对象关系网状转换器的图像描述模型 李雅红, 周海英, 徐少伟 (197)
基于生成感知差异的无参考图像质量评价模型 刘 海, 杨 环, 潘振宽, 黄宝香, 侯国家 (205)
基于多尺度特征融合的人脸图像修复方法 白宗文, 弋婷婷, 周美丽, 魏 崩 (213)
基于可嵌入式网络结构的图像超分辨率重建方法
..... 强保华, 庞远超, 杨明浩, 曾 坤, 郑 虹, 谢 武, 莫 烨 (221)
基于单线程的无锚点目标检测模型 李 浩, 张晓强 (229)
基于稀疏结构噪声检测的指静脉图像去噪算法 何必锋, 沈 雷, 何 晶, 蒋寒琼 (236)
语义匹配网络的小样本学习 汪荣贵, 汤明空, 杨 娟, 薛丽霞, 胡 敏 (244)
基于卷积神经网络的直线描述方法研究 霍占强, 刘玉洁, 付苗苗, 乔应旭 (251)
基于注意力机制的增强特征描述子 陈 佳, 胡浩博, 何儒汉, 胡新荣 (260)

• 开发研究与工程应用 •

- 基于深度学习的脸部年龄预测算法 张亮亮, 张明艳, 程凡永, 周 鹏 (267)
基于统计聚类方法的儿童下肢肌电信号周期识别 闫成起, 赵利华, 陈梦婕, 周 军 (273)
面向法律文本的三元组抽取模型 陈彦光, 王 雷, 孙媛媛, 王治政, 张书晨 (277)
基于多尺度残差神经网络的葡萄叶片病害识别 何 欣, 李书琴, 刘 斌 (285)
基于网络流量预测的 DASH 系统优化 耿俊杰, 李晓明, 颜金尧 (292)
基于 STN 与异构卷积滤波器的肝硬化识别 张 欢, 赵希梅 (301)
基于 PostGIS 的线要素空间聚合方法 梅 新, 王文荟, 钟少波, 宋敦江, 梅白帆 (308)
基于云端可视化交互的强化学习平台 姚铁锤, 王 珏, 王彦榈, 迟学斌, 王晓光 (316)

Computer Engineering (Monthly)

Vol.47 No.5 15 May 2021

Contents

• Hot Topics and Reviews •

Survey of Studies of COVID-19 Diagnosis Based on Deep Learning	TANG Jiangping, ZHOU Xiaofei, HE Xin, CHU Xiaowen, LI Shifeng, CHANG Qingrui, ZHANG Jiyong (1)
Low-Light Maritime Image Enhancement Based on Local Generative Adversarial Network	LIU Wen, YANG Meifang, NIE Jiangtian, ZHANG Yang, YANG Helin, XIONG Zehui (16)
Optimization Scheme of Competitive Arbitration Based on Binary Database Log	WU Zhengjiang, YAO Qi, FENG Sifeng, GU Qing (24)
Majority Voting Algorithm Based on High-Order Heterogeneity for Mimic Defense System	WEI Shuai, ZHANG Huihua, SU Ye, XUE Pengfei, WEN Liang (30)
Ciphertext Retrieval Scheme Based on Key Aggregation for Electronic Medical Record on Blockchain	NIU Shufen, HAN Song, YU Fei, WANG Caifen, DU Xiaoni (36)

• Artificial Intelligence and Pattern Recognition •

Self-Learning Method of UAV Track Planning Strategy in Complex Environment with Multiple Constraints	QIU Yue, ZHENG Baitong, CAI Chao (44)
Role-Based Network Representation Learning Method	XU You, WANG Xiaoping, XIONG Yun (52)
Event Causality Extraction Based on Two-Layer CNN-BiGRU-CRF	ZHENG Qiaoduo, WU Zhendong, ZOU Junying (58)
Research on Behavioral Similarity among Online Homologous Users in Virtual Space	MA Manfu, ZHANG Kaixuan, LI Yong, WANG Changqing, ZHANG Qiang (65)
Intention Classification Method Based on BERT Model and Knowledge Distillation	LIAO Shenglan, JI Jianmin, YU Chang, CHEN Xiaoping (73)
Neural Network Compression Method Combining Half-Wave Gaussian Quantization and Alternate Update	ZHANG Hongmei, YAN Haibing, ZHANG Xiangli (80)
Improved Fuzzy C-means Clustering Algorithm Based on Density-Sensitive Distance	WANG Zhihe, WANG Shuyan, DU Hui (88)
Attribute Value Extraction Method Based on Machine Reading Comprehension Model and Crowdsourcing Verification	FENG Suo, LIU Jingping, JIANG Haiyun, XIAO Yanghua (97)

• Cyberspace Security •

Attack Graph Generation Method Integrating Social Network Threats	YANG Yanli, SONG Lipeng (104)
Integral Attacks on Midori64	WANG Chao, CHEN Huafeng (117)
Privacy Protection Model and Parameter Optimization Method for Data Dissemination	XU Yabin, GUO Hao (124)
Provable Secure Delegation Computing Protocol Based on Privacy Protection	LI Qiuxian, ZHOU Quanxing, WANG Zhenlong, DING Hongfa, PAN Qixin (131)
Reversible Data Hiding Algorithm in Encrypted Domain Based on Prediction Error Coding	MA Guangyao, HUANG Delu, WANG Jianjun (138)
Research on Privacy Protection in Social Network Based on Stochastic Model Checking	LIU Yang, GAO Shiguo (144)

• Mobile Internet and Communication Technology •

Contention-based Time Division Multiple Access MAC Protocol in Vehicular Ad Hoc Networks	ZHANG Benhong, WU Haohao, YU Lei (154)
2D AoA Estimation Based on RSS of Three Directional Antennas	LENG Wen (160)
DQN-based Energy Efficiency Resource Management for Ultra-dense Network.....	ZHENG Bingyuan, SUN Yanzan, WU Yating, WANG Tao, FANG Yong (169)
Low-Latency Storage Algorithm for Edge Networks in Consistency Scenarios	LI Haotian, SHENG Yiqiang (176)
Multi-User Carrier Index Differential Chaos Shift Keying Communication System and Performance Analysis.....	XIA Lei, YANG Hua, SONG Yurong (181)

• Graphics and Image Processing •

Improved Census Stereo Matching Algorithm Based on Adaptive Weight	HUANG Bin, HU Likun, ZHANG Yu (189)
Image Description Model Based on Object Relation Mesh Transformer.....	LI Yahong, ZHOU Haiying, XU Shaowei (197)
No-Reference Image Quality Assessment Model Based on Generated Perceptual Difference	LIU Hai, YANG Huan, PAN Zhenkuan, HUANG Baoxiang, HOU Guojia (205)
Face Image Inpainting Method Based on Multi-Scale Feature Fusion	BAI Zongwen, YI Tingting, ZHOU Meili, WEI Wei (213)
Image Super-Resolution Reconstruction Method Based on Embeddable Network Structure	QIANG Baohua, PANG Yuanchao, YANG Minghao, ZENG Kun, ZHENG Hong, XIE Wu, MO Ye (221)
Anchor-Free Target Detection Model Based on Single Thread	LI Hao, ZHANG Xiaoqiang (229)
Denoising Algorithm for Finger Vein Images Based on Sparse Structure Noise Detection	HE Bifeng, SHEN Lei, HE Jing, JIANG Hanqiong (236)
Semantic Matching Network for Few-Shot Learning	WANG Ronggui, TANG Mingkong, YANG Juan, XUE Lixia, HU Min (244)
Research on Line Description Method Based on Convolutional Neural Network	HUO Zhanqiang, LIU Yujie, FU Miaomiao, QIAO Yingxu (251)
Enhanced Feature Descriptor Based on Attention Mechanism	CHEN Jia, HU Haobo, HE Ruhan, HU Xinrong (260)

• Development Research and Engineering Application •

Facial Age Prediction Algorithm Based on Deep Learning	ZHANG Liangliang, ZHANG Mingyan, CHENG Fanyong, ZHOU Peng (267)
Period Identification for Electromyography Signals of Children's Lower Limb Based on Statistical Clustering Method	YAN Chengqi, ZHAO Lihua, CHEN Mengjie, ZHOU Jun (273)
Triple Extraction Model for Legal Texts	CHEN Yanguang, WANG Lei, SUN Yuanyuan, WANG Zhizheng, ZHANG Shuchen (277)
Identification of Grape Leaf Diseases Based on Multi-scale Residual Neural Network	HE Xin, LI Shuqin, LIU Bin (285)
Optimization of DASH System Based on Network Traffic Prediction.....	GENG Junjie, LI Xiaoming, YAN Jinyao (292)
Identification of Liver Cirrhosis Based on STN and Heterogeneous Convolution Filter	ZHANG Huan, ZHAO Ximei (301)
Polyline Spatial Aggregation Method Based on PostGIS	MEI Xin, WANG Wenhui, ZHONG Shaobo, SONG Dunjiang, MEI Baifan (308)
Reinforcement Learning Platform Based on Cloud Visual Interaction	YAO Tiechui, WANG Jue, WANG Yangang, CHI Xuebin, WANG Xiaoguang (316)