



中国计算机学会会刊

ISSN 1001-9081

CN 51-1307/TP

CODEN JYIIDU

计算机应用

JOURNAL OF COMPUTER APPLICATIONS

- 中文核心期刊
- 两届国家期刊奖提名奖
- 全国优秀科技期刊一等奖



第40卷
Vol. 40

增刊1
Suppl. 1

2020年7月
July 2020



微信公众号

四川省计算机学会
中国科学院成都分院 主办

2020

国家期刊奖获奖期刊
中国期刊方阵“双奖”期刊

英国《科学文摘》(SA) 收录期刊
俄罗斯《文摘杂志》(AJ) 收录期刊
美国《剑桥科学文摘》(CSA) 收录期刊
德国《数学文摘》(Zentralblatt MATH) 收录期刊
波兰《哥白尼索引》(IC) 收录期刊
《日本科学技术振兴机构数据库》(JST) 收录期刊

中文核心期刊
中国科技核心期刊
RCCSE 中国核心学术期刊
中国科学引文数据库(CSCD) 刊源期刊
中国科技论文与引文数据库(CSTPCD) 统计源期刊
中国学术期刊综合评价数据库(CAJCED) 统计源期刊
中国核心期刊遴选数据库收录期刊
中文科技期刊数据库(VIP) 收录期刊
CEPS 中文电子期刊服务全文收录期刊

计 算 机 应 用

(Jisuanji Yingyong)

第 40 卷 增刊 1 2020 年 7 月

目 次

人工智能

基于改进 YOLOv3 的同步目标定位与多种属性识别	吴 疆,孙怡峰,汤光明,王 坤(1)
基于 MobileNet 与 YOLOv3 的轻量化卷积神经网络设计	邵伟平,王 兴,曹昭睿,白 帆(8)
求解多目标柔性作业车间调度问题的两层遗传算法	张立果,黎向锋,左敦稳,张丽萍,唐 浩(14)
基于层次分析法、加比率评估法和多目标选择规划的海上联合搜救方案评估方法	江小平,杨志伟,郭 琦,和 钰,熊伟涛(23)
自动引导车最优动态调度问题建模与仿真	陆 天,王嘉珩,夏裕东,李厚彪(28)
基于反馈仿射振荡器和反馈搜索智能优化的改进蚁群算法与最短路优化	薛 波,李厚彪(32)
基于蜻蜓算法求解柔性流水车间排产优化问题	孙树琪,陈书宏(37)
基于遗传算法的消防站选址规划模型	郭静文,赵朋朋,倪佳成(41)
基于注意力特征自适应校正的图像描述模型	韦人予,蒙祖强(45)
基于自注意力机制的双向门控循环单元和卷积神经网络的芒果产量预测	林靖皓,秦亮曦,苏永秀,秦 川(51)
人体结构化特征与核相关滤波器算法融合的目标跟踪方法	马敬奇,钟震宇,雷 欢,吴亮生(56)
基于 PSO 的改进 AdaBoost 人脸检测算法	张 均,叶庆卫(61)
基于 MobieNetV2 轻量级人脸识别算法	蔡啟军,彭 程,石向文(65)
基于深度学习的步态识别方法	胡靖雯,李晓坤,陈虹旭,徐秦成,黄逸群,林 艺(69)
基于级联卷积神经网络的手势特征提取方法	陈金龙,瞿元昊,杨明浩,强保华,唐仁俊,朱庆杰(74)

数据科学与技术

价格适应性的药品关联规则学习及推荐	刘卓名,陈 干,陈碧毅,黄 玲,王昌栋(80)
基于 Consume2Vec 模型的校园一卡通大数据分析	韩泽峰,杨 涛,侯琳琳,田 强,刘良金,吴 偶(85)
基于折转点和趋势段的时间序列趋势特征提取	刘意杨,李俊朋,白洪飞,王智凝(92)
结合注意力机制的 Bi-LSTM-CRF 中文电子病历命名实体识别	张华丽,康晓东,李 博,王亚鸽,刘汉卿,白 放(98)
公路桥梁定期检测领域命名实体识别语料库构建	莫天金,李 韧,杨建喜,李 童,蒋仕新,李 东(103)
增强领域特征的电力审计文本分类方法	陈 平,匡 尧,胡景懿,王向阳,蔡 静(109)
基于情感分析的学生评教文本观点抽取与聚类	陈玉婵,刘 威(113)

网络空间安全

Hadoop 安全及攻击检测方法	吴晓琴,黄文培(118)
------------------------	----------------

先进计算

基于散列函数加速的并行遗传算法	陆 鹏,肖晓强,王济瑾,宁伟勋(124)
基于加权核范数的低秩矩阵近似及其应用	冯 伟,谢冬秀(128)
基于可拓层次分析法求解最佳生成树	王娜娜,刘 巍,高 红(132)
云环境下面向数据密集型应用的容错性资源配置方法	李宏梅,杨天国,张 磊,莫瑞超,许小龙,徐占洋(136)

网络与通信

有向加权网络中的改进度中心性	赵构恒,贾 鹏,周安民(141)
----------------------	--------------------

计算机软件技术

基于数据分发服务的通用仿真框架技术	雷媛元,焦 璐,王 锐,张 杰,赵福建,汪 芸(146)
分布式控制系统逻辑自动组态平台设备清单生成模块的构建	梁光胜,王世佳(152)
基于图像识别的移动端应用控件检测方法	张文烨(157)
工业仿真系统动态导入OBJ模型的研究与实现	廖浩宏,韦宇炜,刘 强(161)

虚拟现实与多媒体计算

基于整体和非局部低秩分解的视频脉冲噪声去除方法	高振远,韩 志,唐延东(165)
边缘环境下的自适应视频分析	戴 炆,陈 彧,祝永晋,张 胜(171)
基于灰度共生矩阵相似图的图像质量评价方法	孙荣荣(177)
畸变图像自适应校正及质量增强算法研究与实现	陈忠辉,唐晓颖,林志权,魏宏安(180)
基于多特征融合的汽车先进辅助驾驶系统前方车辆检测方法	陈学文,陈华清,裴月莹(185)
基于分数阶傅里叶变换和频谱增强的路面裂缝图像识别方法	王永会,陈 荣(189)
基于深度学习的机动车违规行为监测方法	梁光胜,谢 东(195)
基于图像特征的电子印章数字水印算法设计	申光鹏,王 挺(199)
基于改进深度残差网络的番茄病害图像识别	方晨晨,石繁槐(203)
基于改进faster RCNN的木材运输车辆检测	徐义臻,贺 鹏,任 东,王 慧,董 婷,邵 攀(209)
基于Octave卷积的超声心动图左心室分割方法	唐 柳,王晓东,陈哲彬,文 含,姚 宇(215)
结合非局部相似性的foveated选票缺陷检测	蒲 杰,官 磊(220)
基于Matlab GUI的医学图像处理仿真系统设计	闫洪波,王梦薇,徐 洋,赵蓬勃,刘 需(226)

应用前沿、交叉与综合

基于区块链的共享汽车智能合约算法设计	刘永相,李彦斌,林 亮,江 冰,刘期烈,谢冬菊(231)
基于国产操作系统的EtherCAT的控制系统开发	李国辉,韩利峰,李丹清,余嘉莉,陈永忠(238)
基于计算流体力学模型的机房温度及空调节能仿真	赵永柱,张忠浩,陈 果,马千里,叶佳威(243)
基于长短期记忆网络的空调机组故障诊断与风险评估	彭 阳,余芳强,许璟琳(248)
基于SDM- H_{∞} 的船舶汽发机组多指标非线性鲁棒控制	朱永欣,张晓锋,黄 靖(253)
基于超路径的轴辐式物流网络构建	王娜娜,刘 巍,高 红(259)
基于XGBoost算法的地下综合管廊安全状况评估方法	胡联粤,岑 健,许文凯,赵 捷,余宗伟(264)
基于改进K均值聚类及其距离修正的睡眠分期方法	于 莹,王 蓓,马家睿,王行愚(269)
基于深度学习的水位线检测算法	廖 赞,段 清,刘俊晖,周 豪(274)
基于双LCCL拓扑的无人机无线充电参数设计	钟文琦,刘 达,管 斌,付 宇(279)
基于语音控制的四自由度轨迹规划书写机器人系统	张玉琢,郑世珏,潘 磊(284)
基于语音识别的演讲教学系统	戴 瑾,巫 丰(289)

Journal of Computer Applications

Vol. 40 Suppl. 1 July 2020

Contents

Artificial intelligence

Simultaneous object localization and multiple attributes recognition based on improved YOLOv3	WU Jiang, SUN Yifeng, TANG Guangming, WANG Kun(1)
Design of lightweight convolutional neural network based on MobileNet and YOLOv3	SHAO Weiping, WANG Xing, CAO Zhaorui, BAI Fan(8)
Two-phase genetic algorithm for multi-objective flexible job-shop scheduling problem	ZHANG Liguo, LI Xiangfeng, ZUO Dunwen, ZHANG Liping, TANG Hao(14)
Joint maritime search and rescue plan evaluation based on analytic hierarchy process, additive ratio assessment and multi-choice goal programming	JIANG Xiaoping, YANG Zhiwei, GUO Yu, HE Yu, XIONG Weitao(23)
Modeling and simulation of RGV optimal dynamic scheduling problem	LU Tian, WANG Jiaheng, XIA Yudong, LI Houbiao(28)
Improved ant colony optimization and shortest path optimization based on reactive affine shaker and reactive search optimization	XUE Bo, LI Houbiao(32)
Flexible flow-shop scheduling problem based on dragonfly algorithm	SUN Shuqi, CHEN Shuhong(37)
Fire station location planning model based on genetic algorithm	GUO Jingwen, ZHAO Pengpeng, NI Jiacheng(41)
Image caption model based on attention feature adaptive recalibration	WEI Renyu, MENG Zuqiang(45)
Prediction of mango yield based on self-attention CNN and bidirectional GRU	LIN Jinghao, QIN Liangxi, SU Yongxiu, QIN Chuan(51)
Target tracking method based on fusion of human structural features and kernelized correlation filter algorithm	MA Jingqi, ZHONG Zhenyu, LEI Huan, WU Liangsheng(56)
Improved AdaBoost face detection algorithm based on particle swarm optimization	ZHANG Jun, YE Qingwei(61)
Lightweight face recognition algorithm based on MobieNetV2	CAI Qijun, PENG Cheng, SHI Xiangwen(65)
Gait recognition method based on deep learning	HU Jingwen, LI Xiaokun, CHEN Hongxu, XU Qincheng, HUANG Yiqun, LIN Yi(69)
Feature extraction method of gesture image based on cascaded convolutional neural network	CHEN Jinlong, QU Yuanhao, YANG Minghao, QIANG Baohua, TANG Renjun, ZHU Qingjie(74)

Data science and technology

Price adaptive medicine association rule learning and medicine recommendation	LIU Zhuoming, CHEN Gan, CHEN Biyi, HUANG Ling, WANG Changdong(80)
Consume2Vec model-based analysis of campus card big data	HAN Zefeng, YANG Tao, HOU Linlin, TIAN Qiang, LIU Liangjin, WU Ou(85)
Trend feature extraction method for time series based on turning point and trend segment	LIU Yiyang, LI Junpeng, BAI Hongfei, WANG Zhining(92)
Medical name entity recognition based on Bi-LSTM-CRF and attention mechanism	ZHANG Huali, KANG Xiaodong, LI Bo, WANG Yage, LIU Hanqing, BAI Fang(98)
Construction of named entity corpus for highway bridge inspection domain	MO Tianjin, LI Ren, YANG Jianxi, LI Tong, JIANG Shixin, LI Dong(103)
Text categorization method with enhanced domain features in power audit field	CHEN Ping, KUANG Yao, HU Jingyi, WANG Xiangyang, CAI Jing(109)
Opinion extraction and clustering of students' teaching evaluation text based on sentiment analysis	CHEN Yuchan, LIU Wei(113)

Cyber security

Hadoop security and attack detection methods	WU Xiaoqin, HUANG Wenpei(118)
--	---------------------------------

Advanced computing

Parallel genetic algorithm acceleration method based on Hash function	LU Peng, XIAO Xiaoqiang, WANG Jijin, NING Weixun(124)
Low rank matrix approximation with weighted nuclear norm and its application	FENG Wei, XIE Dongxiu(128)
Solving best spanning tree based on extension analytic hierarchy process	WANG Nana, LIU Wei, GAO Hong(132)

Fault-tolerant resource provisioning for data-intensive applications in cloud environment	LI Hongmei, YANG Tianguo, ZHANG Lei, MO Ruichao, XU Xiaolong, XU Zhanyang(136)
---	--

Network and communications

Improved degree centrality for directed-weighted network	ZHAO Gouheng, JIA Peng, ZHOU Anmin(141)
--	---

Computer software technology

General simulation framework based on data distribution service	LEI Yuanyuan, JIAO Lu, WANG Rui, ZHANG Jie, ZHAO Fujian, WANG Yun(146)
Construction of device list generation module for distributed control system logic automatic configuration platform	LIANG Guangsheng, WANG Shijia(152)
APP component recognition method based on object detection	ZHANG Wenyue(157)
Research and implementation of dynamically importing OBJ model into industrial simulation system	LIAO Haohong, WEI Yuwei, LIU Qiang(161)

Virtual reality and multimedia computing

Video impulse noise removal method based on global and non-local low rank decomposition	GAO Zhenyuan, HAN Zhi, TANG Yandong(165)
Adaptive video analysis in edge computing	DAI Yang, CHEN Yu, ZHU Yongjin, ZHANG Sheng(171)
Image quality assessment method based on similarity maps of gray level co-occurrence matrix	SUN Rongrong(177)
Research and implementation of adaptive distortion image correction and quality enhancement algorithm	CHEN Zhonghui, TANG Xiaoying, LIN Zhiquan, WEI Hongan(180)
Front vehicle detection method in advanced driver assistance system based on multi-feature fusion	CHEN Xuwen, CHEN Huaqing, PEI Yueying(185)
Pavement crack image recognition method based on fractional Fourier transform and spectral enhancement	WANG Yonghui, CHEN Rong(189)
Vehicle violation monitoring method based on deep learning	LIANG Guangsheng, XIE Dong(195)
Design of digital watermarking algorithm for electronic seals based on image features	SHEN Guangpeng, WANG Ting(199)
Image recognition of tomato diseases based on improved deep residual network	FANG Chenchen, SHI Fanhuai(203)
Timeber transport vehicle detection based on improved faster RCNN	XU Yiliu, HE Peng, REN Dong, WANG Hui, DONG Ting, SHAO Pan(209)
Segmentation method of left ventricular echocardiography based on Octave convolution	TANG Liu, WANG Xiaodong, CHENG Zhebin, WEN Han, YAO Yu(215)
Foveated ballot defect detection combined with non-local similarity	PU Jie, GUAN Lei(220)
Design of medical image processing simulation system based on Matlab GUI	YAN Hongbo, WANG Mengwei, XU Yang, ZHAO Pengbo, LIU Pei(226)

Frontier & interdisciplinary applications

Design of smart contract algorithm for shared vehicle based on blockchain	LIU Yongxiang, LI Yanbin, LIN Liang, JIANG Bing, LIU Qilie, XIE Dongju(231)
Development of EtherCAT control system based on SylixOS	LI Guohui, HAN Lifeng, LI Danqing, YU Jiali, CHEN Yongzhong(238)
Simulation of computer room temperature and air conditioning energy saving based oncomputational fluid dynamics model	ZHAO Yongzhu, ZHANG Zhonghao, CHEN Guo, MA Qianli, YE Jiawei(243)
Fault diagnosis and risk evaluation for air-handling units based on long short-term memory network	PENG Yang, YU Fangqiang, XU Jinglin(248)
Multi-index nonlinear robust control for shipboard turbo-generator based on SDM-H _∞ method	ZHU Yongxin, ZHANG Xiaofeng, HUANG Jing(253)
Construction of hub-and-spoke logistics network based on hyperpath	WANG Nana, LIU Wei, GAO Hong(259)
Safety situation evaluation method based on XGBoost algorithm for underground comprehensive pipe gallery	HU Lianye, CEN Jian, XU Wenkai, ZHAO Jie, YU Zongwei(264)
Automatic sleep staging based on improved K-means clustering and distance correction	YU Ying, WANG Bei, MA Jiarui, WANG Xingyu(269)
Water line detection algorithm based on deep learning	LIAO Yun, DUAN Qing, LIU Junhui, ZHOU Hao(274)
Wireless charging operation mode and parameter design of UAV with double inductance-capacitance-capacitance-inductance topology	ZHONG Wenqi, LIU Da, GUAN Bin, FU Yu(279)
Writing robot system with four degree of freedom trajectory planning based on speech control	ZHANG Yuzuo, ZHENG Shijue, PAN Lei(284)
Speech teaching App based on speech recognition	DAI Jin, WU Feng(289)