

中国学术期刊（网络版）收录期刊
中国核心期刊（遴选）数据库收录期刊
中国科技论文统计源收录期刊
RCCSE 中国学术期刊收录期刊

ISSN 2095-2163

智能计算机与应用

INTELLIGENT COMPUTER AND APPLICATIONS



智能计算机与应用

第十二卷 第三期

二〇二二年三月

0 1 0 0 1 0 0 1
0 1 0 0 1 1 1 0
0 1 0 1 0 1 0 0
0 1 0 0 0 1 0 1
0 1 0 0 1 1 0 0
0 1 0 0 1 1 0 0
0 1 0 0 1 0 0 1
0 1 0 0 0 1 1 1
0 1 0 0 0 1 0 1
0 1 0 0 1 1 1 0
0 1 0 1 0 1 0 0
0 0 1 0 0 0 0 0
0 1 0 0 0 0 1 1
0 1 0 0 1 1 1 1
0 1 0 0 1 1 0 1
0 1 0 1 0 0 0 0
0 1 0 1 0 1 0 1
0 1 0 1 0 1 0 0
0 1 0 0 0 1 0 1
0 1 0 1 0 0 1 0
0 0 1 0 0 0 0 0
0 1 0 0 0 0 0 1
0 1 0 0 1 1 1 0
0 1 0 0 0 1 0 0
0 0 1 0 0 0 0 0
0 1 0 0 0 0 0 1
0 1 0 1 0 0 0 0
0 1 0 1 0 0 0 0
0 1 0 0 1 1 0 0
0 1 0 0 0 0 1 1
0 1 0 0 0 0 0 1
0 1 0 1 0 1 0 0
0 1 0 0 1 0 0 1
0 1 0 0 1 1 1 1
0 1 0 0 1 1 1 0
0 1 0 1 0 0 1 1

ISSN 2095-2163



9 772095 216222

万方数据



2022.3

第12卷 第3期 Vol.12 No.3

智能计算机与应用

第 12 卷 第 3 期

2022 年 3 月 1 日出版

目 次

· 学术研究与应用 ·

地理社交网络中群体推荐算法的综述	俞 菲, 姜守旭 (1)
动态图染色问题研究	邱雅娴, 郝元宵, 周军锋, 杜 明 (5)
基于 BP 神经网络的 MMC 电容电压控制研究	李思南, 李泽涵 (12)
一种岩石薄片离焦模糊图像自动筛选方法	戴万富, 滕奇志, 何海波, 刘豫璋, 张豫堃 (16)
基于改进的 YOLOv4-tiny 钢卷端面缺陷检测	吴 奎, 向 峰, 周 顺, 张雪荣, 李红军, 张 驰 (22)
基于跨纬度交互注意力机制的行人重识别方法	杨世欣, 胡晓光, 杜卓群, 周峻林, 谢佳或 (28)
面向图像的绝缘子自爆缺陷检测算法综述	赵庆林, 陈湘萍 (33)
基于深度学习的疫情情感分析	张 苑, 祝小兰, 杨东晓 (40)
基于贝叶斯网络的地铁驾驶员行车作业人因风险分析方法	张智贤, 李 健, 刘志钢, 朱 琳 (46)
基于改进 3D-Hénon 混沌映射的音频加密算法研究	妥永强, 巫朝霞 (53)
全电驱分布式无人车路径跟踪控制仿真研究	刘梦琪, 游雨龙, 周枫林 (61)
风险偏好影响下的创新产品扩散研究	潘明露, 代牧遥 (71)

· 系统开发与应用 ·

基于前后端分离算法的 ACM 智能管家系统	高云泽, 王莉莉, 董文睿, 冯紫君, 胡祖容, 赵中楠 (80)
改进 SSD 算法对鸟类目标检测研究	唐鑫鑫, 陆安江, 彭熙瞬, 高海韬 (87)
基于 CNN 的乳腺癌病理图像分类研究	易才健, 陈 俊, 王师玮 (92)
基于马尔可夫链与 EASI 模型的核材料实物保护效能评估	钱文海, 张 勃, 周晶晶, 薛朝辉 (97)
基于相位信息的三维视觉测量技术研究	丁玉洁, 周志峰 (103)
地铁车辆制动电阻风机自动控制策略研究	朱韦祯, 杨 俭, 袁天辰, 宋瑞刚 (107)
基于多属性分类器融合的火焰检测算法	万方数据 杨凯文, 李双群 (113)

基于位置分配模型的派出所空间布局优化	张 勃, 张馨泽, 陈浩星, 赵晟焯 (118)
基于 YOLOv4-Efficient 的目标检测和识别	史健婷, 李 旭, 刘文斌, 安祥泽 (123)
深度果蝇神经网络及其实时能见度预测	肖应慧, 张著洪 (128)
· 专题设计与应用 ·	
融合机器视觉与惯性传感器的智能康复评估技术	孙洪明, 郑建立, 尹梓名 (133)
基于 ExtraTree 的软件缺陷预测方法研究	王馨煜, 崔艺凝, 段盈盈 (139)
基于 stm32 的二便护理机器人设计	陈新宇, 胡冰山, 苏颖兵, 陆 盛, 喻洪流, 陈兆曦 (142)
基于用户情绪状态的网络舆情传播模型研究	白 梅, 陆啸尘 (147)
基于地面激光点云的树木胸径快速量测方法	刘静云 (152)
基于 YOLOv5 网络模型的火焰检测	涂沛驰, 傅钰雯, 熊宇璇, 杨健晟 (158)
基于 STM32 多维腰椎牵引装置控制系统设计与实现	杜妍辰, 周 琦, 喻洪流 (162)
基于 NAO 机器人的校园导游机器人的设计与实现	许孟雪, 曹雅丹, 邵慕义, 曹滋悦, 黄志静 (166)
· 科技创见与应用 ·	
基于 mRMR-BP 算法的辛烷值损失预测模型研究	姬子恒, 朱建伟, 陈海江 (169)
Logistic-Sine 映射与比特重组的图像加密算法	唐传华, 巫朝霞 (173)
改进的三帧差分运动目标识别算法	丁文龙, 尹 朵, 邱 崧 (180)
基于 UCT 算法改进的 Hex 棋博弈系统研究	徐志凡, 王静文, 李 媛 (183)
基于 GSO-Kmeans 的沥青路面裂缝分割算法研究	林 涛, 李显培, 盛文达, 任宜青, 张 玮, 孙 梦 (186)
有偏随机游走改进吸收中心性识别关键节点	宁 阳, 宁 晴, 武志峰 (189)
基于隐式数据和 Apriori 的协同过滤推荐算法	王君威, 余 粟 (200)
基于天擎·湖南的一体化平台云化改造关键技术	朱 亮, 夏正龙, 钟艳雯, 吕冠儒, 欧阳计跃 (204)
基于对称逐步超松弛的低复杂度信道估计算法	王 彬, 谢 杰, 陈 麟 (208)
基于模糊信息的多媒体图像隐写信息盲检测方法	陈先在 (211)

Intelligent Computer and Applications

Vol.12 No.3 2022-3-1

CONTENTS

· Academic research and application ·

- The survey of group recommendation on Geo-Social Networks
..... YU Fei, JIANG Shouxu (1)
- Research on dynamic graph coloring problem
..... QIU Yaxian, HAO Yuanxiao, ZHOU Junfeng, DU Ming (5)
- Research on MMC capacitor voltage control based on BP neural network
..... LI Sinan, LI Zetao (12)
- An automatic screening method for defocused fuzzy image of rock slice
..... DAI Wanfu, TENG Qizhi, HE Haibo, LIU Yuzhang, ZHANG Yukun (16)
- Defect detection of steel coil based on improved Yolov4-Tiny
..... WU Kui, XIANG Feng, ZHOU Shun, ZHANG Xuerong, LI Hongjun, ZHANG Chi (22)
- Research on person re-identification based on triplet attention mechanism
..... YANG Shixin, HU Xiaoguang, DU Zhuoqun, ZHOU Junlin, XIE Jiayu (28)
- Review on nsulator self-explosion defect detection algorithms for images
..... ZHAO Qinglin, CHEN Xiangping (33)
- Sentiment analysis of epidemic situation based on deep learning
..... ZHANG Yuan, ZHU Xiaolan, YANG Dongxiao (40)
- Human factors risk analysis method of subway drivers' driving work based on Bayesian network
..... ZHANG Zhixian, LI Jian, LIU Zhigang, ZHU Lin (46)
- Research on audio encryption algorithm based on improved 3D-Hénon chaos map
..... TUO Yongqiang, WU Zhaoxia (53)
- Path following control simulation method of distributed electrical driving unmanned vehicle
..... LIU Mengqi, YOU Yulong, ZHOU Fenglin (61)
- Innovative product diffusion considering risk preferences
..... PAN Minglu, DAI Muyao (71)

· Systematic development and application ·

- ACM intelligent supporting system based on front and back end separation algorithm
..... GAO Yunze, WANG Lili, DONG Wenrui, FENG Zijun, HU Zurong, ZHAO Zhongnan (80)
- Improved SSD algorithm for bird target detection
..... TANG Xinxin, LU Anjiang, PENG Xishun, GAO Haitao (87)
- Classification of breast cancer histopathological images based on CNN
..... YI Caijian, CHEN Jun, WANG Shiwei (92)
- Evaluation of physical protection effectiveness of nuclear materials based on Markov chain and EASI model
..... QIAN Wenhai, ZHANG Bo, ZHOU Jingjing, XUE Zhaohui (97)
- Research on 3d vision measurement technology based on phase information
..... DING Yujie, ZHOU Zhifeng (103)
- Research on automatic control of braking resistance fan for metro vehicle
..... ZHU Weizhen, YANG Jian, YUAN Tianchen, SONG Ruigang (107)
- Fire Detection Algorithm based on Fusion of Multi-attribute Classifiers
..... 万方数据..... YANG Kaiwen, LI Shuangqun (113)

Optimization of spatial layout of police station based on location allocation model	ZHANG Bo, ZHANG Xinze, CHEN Haoxing, ZHAO Shengzhuo (118)
Target detection and recognition based on YOLOv4-Efficient	SHI Jianting, LI Xu, LIU Wenbin, AN Xiangze (123)
Deep fly neural network and its real-time visibility prediction	XIAO Yinghui, ZHANG Zhuhong (128)
· Specialized design and application ·	
Intelligent rehabilitation assessment technology integrating machine vision and inertial measurement sensors	SUN Hongming, ZHENG Jianli, YIN Ziming (133)
Research on software defect prediction based on ExtraTree	WANG Xinyu, CUI Yining, DUAN Yingying (139)
Design and research of nursing robot based on STM32	CHEN Xinyu, HU Bingshan, SU Yingbing, LU Sheng, YU Hongliu, CHEN Zhaoxi (142)
Research on network public opinion propagation model based on users' emotional state	BAI Mei, LU Xiaochen (147)
Fast measurement method for tree diameter at breast height based on terrestrial laser scanning point cloud	LIU Jingyun (152)
Flame detection based on YOLOv5 network model	TU Peichi, FU Yuwen, XIONG Yuxuan, YANG Jiansheng (158)
Design and realization of control system of multi-lumbar traction device based on STM32	DU Yanchen, ZHOU Qi, YU Hongliu (162)
Design and implementation of campus tour guide robot based on NAO robot	XU Mengxue, CAO Yadan, SHAO Muyi, CAO Ziyue, HUANG Zhijing (166)
· Scientific achievement and application ·	
Octane number loss prediction model based on mRMR-BP algorithm	JI Ziheng, ZHU Jianwei, CHEN Haijiang (169)
Based on Logistic-Sine chaotic mapping and bit reorganization image encryption method	TANG Chuanhua, WU Zhaoxia (173)
Improved three-frame difference moving target recognition algorithm	DING Wenlong, YIN Duo, QIU Song (180)
Hex system based on improved UCT	XU Zhifan, WANG Jingwen, LI Yuan (183)
Research on crack segmentation algorithm of asphalt pavement based on GSO-Kmeans	LIN Tao, LI Xianpei, SHENG Wenda, REN Yiqing, ZHANG Wei, SUN Meng (186)
Improved absorption centrality based on biased random walk to identify key nodes	NING Yang, NING Qing, WU Zhifeng (189)
Collaborative filtering recommendation algorithm based on implicit data and Apriori algorithm	WANG Junwei, YU Su (200)
Key technology of cloud transformation of the integrated platform based on CMADaaS · Hunan	ZHU Liang, XIA Zhenglong, ZHONG Yanwen, LV Guanru, OUYANG Jiyue (204)
Low complexity channel estimation algorithm based on symmetric successive over relaxation	WANG Bin, XIE Jie, CHEN Lin (208)
Blind detection method of steganographic information in multimedia images based on fuzzy information	CHEN Xianzai (211)