

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



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 1 0 0 1
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 216208

万方数据



2020.11

第10卷 第11期 Vol.10 No.11

智能计算机与应用

第 10 卷 第 11 期

2020 年 11 月 1 日出版

目 次

· 学术研究与应用 ·

基于轻量化网络的图像超分辨率研究综述	王 宇, 宁 媛 (1)
课堂场景下学习者情感识别研究	苏 超, 王国中 (8)
一种 PCL 与改进积分法人体体型的测量	张洪伟, 李捍东 (16)
二类不均衡数据分类问题常用策略研究	杨小军, 刘 志, 王力猛, 刘 文 (21)
基于多特征融合的摔倒检测方法	梁远腾, 李捍东 (27)
针对缺失不平衡数据的自适应马氏距离双权重过采样方法研究	周迪豪, 宋 燕 (31)
基于多阶段向量量化算法的研究	刘丹青, 李明勇 (38)
基于 GWO-SVR 的冠心病住院费用预测	张 慧, 贺 松, 张 硕, 黄 旭, 席欢欢 (42)
基于 IPv6 的网络与信息资产发现关键技术研究	辛 毅, 吴 刚, 孙洪磊 (47)
基于逐步回归的 PVT-M 建筑不舒适度小时数预测模型分析	钟胜利, 林尧林, 黄兴华 (50)
永磁同步电机匝间短路故障电流分析	周光亮, 吴钦木 (56)
基于改进 Unet 的斑马线分割	黄生鹏, 柳海南, 周克帅, 刘建宇 (61)
六自由度机械臂轨迹规划研究与仿真	曾 波, 吴钦木, 郑 飞 (65)
基于邻居聚类的近似最近邻搜索	赵 增, 李明勇, 胡航飞 (70)
.....万方数据.....	

基于竞争侵略策略的粒子群算法	安 宁, 张 军, 季伟东 (73)
SPWM 算法在污水提升泵中的应用	冯仁宽, 何志琴, 杨 莹 (79)
基于 BiGRU 与方面注意力模块的情感分类方法	宋焕民, 张云华 (83)
· 系统开发与应用 ·	
基于 STM32 超宽带定位的设计	崔兆文, 王 武 (88)
基于大数据的用户负荷特性分析系统的研究与应用	张丽华, 张伟民, 刘 春, 贾美娟, 杨 瑞, 邹雨轩 (92)
基于系统聚类和 SVM 模型的乳腺癌诊断研究	余 莹, 樊重俊, 朱人杰, 熊红林 (97)
基于 Adam 优化神经网络的电梯群控算法	雷 剑 (101)
基于 RESTFUL 架构的油田区块产量运行系统设计	胡宏涛, 李 皎 (106)
基于 UWB 的分布式室内停车动态监测系统设计	潘敬宇, 龚元明 (109)
基于 SVM 和 KNR 的体型分类算法	先诗亮, 刘本永 (113)
单点交叉口行人机动车协同优化方法	徐明杰, 焦振坤, 卞 慧, 韩 印, 刘学刚 (117)
基于模型树的沪深 300 指数预测	林天华, 祁旭阳, 张倩倩, 赵 霞 (121)
基于金字塔模型和注意力机制的 YOLO V3 目标检测算法	高建钰, 冯娇娇, 王子牛, 韩毓璐, 孙 健 (126)
VANET 城市场景下基于车流特征的路由算法	张 智, 张 剑, 聂 铃, 李陆君 (131)
基于 UWB 技术的定位算法设计	黄佳鑫, 王民慧 (137)
家庭智能视频监控系统设计	陈 璐 (141)
· 专题设计与应用 ·	
基于 TensorFlow 手写体数字识别系统的研究	

.....	李建新 (144)
基于 FPGA 与 Modbus 的烟丝测速数据传输实现	
.....	刘俊宇, 赵立宏 (148)
利用权重优化类图的主题	
.....	张森森 (151)
基于深度学习方法的手写文本行提取综述	
.....	杨益暄, 田益民, 崔圆斌, 齐千慧, 韩利利 (154)
面向指挥导航的室内机器人系统研究	
.....	吴轶凡, 王国庆, 苑文峰, 陈 凯, 王明圣, 牛雨乔, 姚 鸿 (158)
基于灰色理论对上海市人口老龄化的预测	
.....	薛麒译, 盛 洁 (161)
基于实行垃圾分类后的垃圾处理与清运方案研究	
.....	党亚峥, 钟素婷, 任倩梅 (165)
考虑情感强度的加权社会网络偏好信息识别研究	
.....	来能烨 (169)
· 科技创见与应用 ·	
信息系统运维管理平台的设计与实现	
.....	李 峰 (174)
基于有向天线和 RSSI 的蓝牙无线定位基站设计	
.....	杨小青 (177)
基于多目标搜索的无人机协同轨迹智能规划	
.....	寇丽君 (180)
基于 YOLOV4 的智能垃圾分类回收机器人	
.....	王伟杰, 姚建涛, 张敏燕, 王 敏 (182)
基于人脸识别的轨道交通模拟驾驶考核方案研究	
.....	宋志强, 夏鹤峰 (187)
浅谈区块链线上公证业务平台的构建	
.....	常建新, 池兴禄 (190)
基于微服务架构的网络分布式数据库管理方法	
.....	胡淑新 (194)

Intelligent Computer and Applications

Vol.10 No.11 2020-11-1

CONTENTS

• Academic research and application •

An overview of image super-resolution research based on lightweight networks	WANG Yu, NING Yuan (1)
Research on learner's emotion recognition in classroom scene	SU Chao, WANG Guozhong (8)
The invention relates to the measurement of human body shape by PCL and improved integral method	ZHANG Hongwei, LI Handong (16)
A comparative study of common strategies for binary classification of Imbalanced data	YANG Xiaojun, LIU Zhi, WANG Limeng, LIU Wen (21)
Fall detection method based on multi-feature fusion	LIANG Yuanteng, LI Handong (27)
An adaptive double-weighted oversampling technique based on Mahalanobis distance for imbalanced classes with missing values	ZHOU Dihao, SONG Yan (31)
Research based on multi-stage vector quantization algorithm	LIU Danqing, LI Mingyong (38)
Prediction of hospitalization costs for coronary heart disease based on GWO-SVR	ZHANG Hui, HE Song, ZHANG Shuo, HUANG Xu, XI Huanhuan (42)
Study of key technologies of network and information asset discovery in IPv6 Network	XIN Yi, WU Gang, SUN Honglei (47)
Analysis of PVT-M Building Discomfort Degree Hour Prediction Model Based on Stepwise Regression	ZHONG Shengli, LIN Yaolin, HUANG Xinghua (50)
Vector control of PMSM Based on PI regulator	ZHOU Guangliang, WU Qinmu (56)
Zebra Crossing Segmentation Based on Improved Unet	HUANG Shengpeng, LIU Hainan, ZHOU Keshuai, LIU Jianyu (61)
Research and Simulation of 6-DOF manipulator trajectory planning	ZENG Bo, WU Qinmu, ZHENG Fei (65)
Approximate nearest neighbor search based on neighbor clustering	ZHAO Zeng, LI Mingyong, HU Hangfei (70)
Particle Swarm Optimization based on competitive aggression Strategy	

.....	<i>AN Ning, ZHANG Jun, JI Weidong</i>	(73)
Research on SPWM algorithm of irregular sampling method in sewage lifting pump	.....	<i>FENG Renkuan, HE Zhiqin, YANG Ying</i> (79)
Sentiment classification method based on BiGRU and aspect attention module	.....	<i>SONG Huanmin, ZHANG Yunhua</i> (83)
· System development and application ·		
Design based on STM32 ultra-wideband positioning	.....	<i>CUI Zhaowen, WANG Wu</i> (88)
User load characteristic analysis system based on big data Design and implementation	.....	<i>ZHANG Lihua, ZHANG Weimin, LIU Chun, JIA Meijuan, YANG Rui, ZOU Yuxuan</i> (92)
Breast Cancer Diagnosis Based on Combined H-SVM Model	.....	<i>YU Ying, FAN Chongjun, Zhu Renjie, XIONG Honglin</i> (97)
Elevator group control algorithm based on Adam optimized neural network	.....	<i>LEI Jian</i> (101)
Design of Oilfield Block Production Operation System Based on RESTFUL Architecture	.....	<i>HU Hongtao, LI Jiao</i> (106)
Design of Distributed Indoor Parking Dynamic Monitoring System Based on UWB	.....	<i>PAN Jingyu, GONG Yuanming</i> (109)
Body Shapes Classification Algorithm Based on SVM and KNR	.....	<i>XIAN Shiliang, LIU Benyong</i> (113)
The collaborative optimization method of pedestrian and motor vehicle at single point intersection	.....	<i>XU Mingjie, JIAO Zhenshen, BIAN Hui, HAN Yin, LIU Xuegang</i> (117)
CSI 300 index forecast based on model tree	.....	<i>LIN Tianhua, QI Xuyang, ZHANG Qianqian, ZHAO Xia</i> (121)
YOLO V3 target detection based on pyramid model and attention mechanism	.....	<i>GAO Jianling, FENG Jiaojiao, WANG Ziniu, HAN Yulu, SUN Jian</i> (126)
Routing algorithm based on traffic flow characteristics in VANET city scene	.....	<i>ZHANG Zhi, ZHANG Jian, NIE Ling, LI Lujun</i> (131)
Design of Location Algorithm Based on UWB Technology	.....	<i>HUANG Jiaxin, WANG Minhui</i> (137)
Design of Intelligent Video Surveillance System for Caring for Family in Inter-generation	.....	<i>CHEN Lu</i> (141)

· Specialized design and application ·

Research on handwritten digit recognition system based on Tensorflow

.....	<i>LI Jianxin</i> (144)
Realization of tobacco cutting speed measurement data transmission based on FPGA and Modbus Protocol	
.....	<i>LIU Junyu, ZHAO Lihong</i> (148)
Using weight to optimize the subject of class graph	
.....	<i>ZHANG Sensen</i> (151)
A Review of Handwritten Text Line Extraction Based on Deep Learning Methods	
.....	<i>YANG Yixuan, TIAN Yimin, CUI Yuanbin, QI Qianhui, HAN Lili</i> (154)
Research on indoor robot system for command and navigation	
... ..	<i>WU Yifan, WANG Guoqing, YUAN Wenfeng, CHEN Kai, WANG Mingsheng, NIU Yuqiao, YAO Hong</i> (158)
Prediction of Shanghai's Population Aging Based on Grey Theory	
.....	<i>XUE Qiyi, SHENG Jie</i> (161)
Research of Shanghai Municipal Solid Waste Disposal and Removal Scheme Based on Waste Classification	
.....	<i>DANG Yazheng, ZHONG Suting, REN Qianmei</i> (165)
Weighted social network preference information recognition considering emotional intensity	
.....	<i>LAI Nengye</i> (169)
· Scientific achievement and application ·	
Design and Implementation of Operation and maintenance Management Platform for Information System	
.....	<i>LI Feng</i> (174)
Design of BLE Wireless Locating Beacon Based on Directional Antenna and RSSI Value	
.....	<i>YANG Xiaoqing</i> (177)
Cooperative trajectory intelligent planning of UAV Based on multi-objective search	
.....	<i>KOU Lijun</i> (180)
Intelligent garbage sorting and recycling robot based on YOLOV4	
.....	<i>WANG Weijie, YAO Jiantao, ZHANG Minyan, WANG Min</i> (182)
Research on Simulated Driving Assessment Scheme of Rail Transit Based on Face Recognition	
.....	<i>SONG Zhiqiang, XIA Hefeng</i> (187)
The construction of online notarization service platform of blockchain	
.....	<i>CHANG Jianxin, CHI Xinglu</i> (190)
Network distributed database management method based on microservice architecture	
.....	<i>HU Shuxin</i> (194)