

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

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



ISSN 2095-2163



9 772095 216192



2019.1

第9卷 第1期 Vol.9 No.1

智能计算机与应用

第9卷 第1期

2019年1月1日出版

目 次

· 学术研究与应用 ·

基于 de Bruijn 图的基因组索引结构设计	国宏哲, 王亚东 (1)
基于 LPP 的时间序列半监督分类	单中南, 翁小清, 武天鸿 (6)
水质监测无人船路径规划方法研究	吕扬民, 陆康丽, 王梓 (14)
基于多尺度熵的 DNA 序列相似性分析	张静, 周小安, 赵宇 (19)
基于超像素重建的多尺度 B 样条医学图像配准	刘晨, 张龙波, 王雷, 卢海涛 (24)
一种基于差分隐私保护的社交网络发布图模型	石秀金, 李寒悦 (28)
无线传感器网络上考虑能量因子的 LEACH 算法	魏鑫, 周世杰, 彭牧, 冯诚 (31)
改进卷积神经网络算法在机械零件实时识别与定位中的应用	王乐, 周庆华, 王磊, 蒋华胜, 林思宇 (36)
公安应急预案与辅助决策平台设计与实现	蔡胜胜, 卜凡亮 (42)
一种基于异构网络算法的药物-蛋白关联性研究方法	徐婷, 龚家瑜, 宋晖 (47)
一种光电经纬仪室内动态误差检测方法分析	王玉坤, 贾娜 (50)
直流微电网母线电压控制策略	王威, 周小安 (53)
基于微博社交平台的舆情分析	盛成成, 朱勇, 刘涛 (57)
网络综合监控及智能运维平台的构建与研究	索宸耀, 陈博, 张斌, 王旭东 (60)
基于 Cortex-A53 的嵌入式图像采集系统设计	许晓, 毕远伟 (65)
基于百度地图 API 的城市地下管网信息系统设计与实现	袁通, 陈强, 周玲 (69)
电动汽车充电桩检测评价系统的设计与分析	王魁生, 张晗 (73)
基于卷积神经网络的早期婴儿胆道闭锁筛查	万志勇, 周小安 (77)
基于全局中心聚类算法的学生成绩评价研究	段桂芹 (80)
微弱信号背景下鱼雷对敌目标的有效检测算法研究 万方数据	张成刚, 鞠晓东 (84)

基于信息熵动态拟合的路径通行时间预测方法	刘宇博, 李保珠 (88)
龙泉市植被覆盖度与地表温度时空演变及相关性分析	乐柯君 (92)
离散型鸡群优化算法在 0-1 背包中的应用	周 洋, 潘大志 (98)
基于多 Agent 的众包任务分配算法的研究	周 侨, 方 明 (104)
· 系统开发与应用 ·	
基于基因本体的相似度计算方法	荣河江, 王亚东 (108)
基于深度学习的煤矿领域实体关系抽取研究	杜 嘉, 刘思含, 李文浩, 徐啸迪, 刘旭红 (114)
基于 POWERLINK 的油田网络拓扑结构建模与仿真	孟开元, 郑 宇, 曹庆年 (119)
基于手势轨迹的工业机器人轨迹规划	吕亚辉, 严雨灵 (122)
多模式可载儿童智能行李箱装置优化设计	叶伟慧, 舒秀兰, 林桂盛, 聂华锋 (127)
方块苗文词性标注集的设计	周 潭, 莫礼平, 曾 虎, 雷 智, 李文字, 吴 莹 (131)
基于 ARIMA 和卡尔曼滤波的在线 Web 服务 QoS 预测方法	刘泽远, 杨孝宗, 舒燕君 (135)
通用 SPOC 平台的探索与实现	任 凯, 高 正, 唐 锐 (139)
山西电网数据治理系统设计与分析	王魁生, 柯昌稳 (143)
一种舌象辩证的信息处理方法研究	唐俊安, 徐学军, 卢 玲, 马 燕, 唐 伟 (146)
计算机视觉中相似度学习方法的研究进展	王法强, 张宏志, 王 鹏, 邓 红, 张大鹏 (149)
基于人工智能与机器学习技术在智慧城市的应用	郑永亮, 李晓坤, 王琳琳, 陈虹旭, 杨 磊 (153)
基于多尺度特征的乳腺肿块检测方法研究	陈 珊, 卜 巍, 邬向前 (159)
一种新型油田远距低功耗死点开关的设计	曹庆年, 杨宏兴, 孟开元, 王 瑶 (165)
融合手工特征与双向 LSTM 结构的中文分词方法研究	徐 伟, 车万翔, 刘 挺 (169)
电子商务环境下多元个性化服务推荐研究	崔睿宇, 杨怀洲 (173)
即时通讯流量检测与分析	胡 阳, 余翔湛, 李 凯 (178)
外辐射带波粒相互作用的观测分析与数值模拟	金宇玥, 宁 芬 (183)
多核支撑向量回归方法研究	陈 博, 郑凯东, 王家华 (188)
中文复述问句生成技术研究	曹 雨, 张 宇, 刘 挺 (192)
Web 服务 QoS 预测与主动推荐方法综述 万方数据	闫红丹, 杨怀洲 (199)

超低分辨率视频中的字符识别技术研究	王 瑞, 李海峰, 马 琳 (203)
基于物联网的温室智能监测系统设计	朱浩博, 刘子馨, 董玉华 (208)
· 科技创见与应用 ·	
植入 (l, d) 模体发现若干算法的实现与比较	胡宏涛, 龚逸文 (211)
基于 Zigbee 的渔业养殖无线通信控制系统	叶伟慧, 张 琳, 范秋影, 欧银华, 黄文轩 (214)
基于惯性导航的地下管线轨迹测量系统	王文东, 陈 强, 赵华山 (219)
智慧校园 APP 设计与实现	沈 旭, 胡炜健, 孟 巍 (224)
无线访客监测系统设计	田维香, 刘忠富, 张 琴, 王明明, 李厚杰 (229)
浅谈云智能信息化管理平台的构建	冯 明, 陈 倩 (233)
Android APP 功能插件化机制的研究与实现	熊建芳 (235)
国有体制下废旧物资处置信息化流程规范的探索	喻 疆, 解利冬, 李晨妍 (239)
集团企业结算中心信息化系统的产品设计	梁志文 (245)
舰载对空导弹的自动装载控制系统优化设计	任彦朋 (248)
· 工程实践与应用 ·	
基于.NET Framework 类库实现简单电子邮件发送系统	陈文兰 (252)
大数据时代计算机网络信息安全问题探讨	唐 玮 (254)
基于 B/S 架构安全检查管理平台建设方案	饶宏博, 石 磊 (257)
基于人工智能的政务办公系统预置批示与分工方法	黎嘉明 (259)
基于 EasyDL 的超新星自动搜寻系统设计	孙睿康 (262)
Delphi 开发西门子 S7-1200/1500 PLC 以太网心跳通信组件	张 毅 (264)
基于 Web 的书店管理系统的设计开发	王 昊, 薛益鸽 (267)
555 集成电路在自动化电路中的设计	吕照亮 (270)
基于内存计算的基因疾病搜索系统	杨 勤, 臧天仪 (272)
基于 pytest 和 JMeter 的自动化测试系统设计和实现	李一风 (277)
基于 FlightGear 的航磁数据仿真平台	窦振家, 孙宇慧, 胡 凯, 韩 琦 (280)
万方数据	

Intelligent Computer and Applications

Vol.9 No.1 2019-1-1

CONTENTS

• Academic research and application •

Design of de Bruijn graph-based genome indexing structure	GUO Hongzhe, WANG Yadong (1)
Time series semi-supervised classification based on Locality Preserving Projections	SHAN Zhongnan, WENG Xiaoqing, WU Tianhong (6)
Research on path planning method of water quality monitoring USV	LV Yangmin, LU Kangli, WANG Zi (14)
The similarity analysis of DNA sequences based on multiscale entropy	ZHANG Jing, ZHOU Xiao'an, ZHAO Yu (19)
Multi-scale B-spline medical image registration based on pixel reconstruction	LIU Chen, ZHANG Longbo, WANG Lei, LU Haitao (24)
A social network publishing model based on differential privacy protection	SHI Xiujuan, LI Hanyue (28)
An improved LEACH algorithm based on energy factors on Wireless Sensor Networks	WEI Xin, ZHOU Shijie, PENG Mu, FENG Cheng (31)
Improved convolutional neural network algorithm for real-time recognition and location of mechanical parts	WANG Le, ZHOU Qinghua, WANG Lei, JIANG Huasheng, LIN Siyu (36)
Design and implementation of public security emergency plan and auxiliary decision platform	CAI Shengsheng, BU Fanliang (42)
A drug-protein relevance research method based on isomeristic network algorithm	XU Ting, GONG Jiayu, SONG Hui (47)
Analysis of a photoelectric theodolite indoor dynamic error detection method	WANG Yukun, JIA Na (50)
The DC microgrid bus voltage control strategy	WANG Wei, ZHOU Xiao'an (53)
Public opinion analysis based on Weibo social network	SHENG Chengcheng, ZHU Yong, LIU Tao (57)
Construction and research of network integrated monitoring and intelligent operation and maintenance platform	SUO Chenyao, CHEN Bo, ZHANG Bin, WANG Xudong (60)
Design of embedded image-capturing system based on Cortex-A53	XU Xiao, BI Yuanwei (65)
Design and implementation of urban underground pipe network information system based on Baidu maps API	YUAN Tong, CHEN Qiang, ZHOU Ling (69)
Design and analysis of electric vehicle charging pile detection and evaluation system	WANG Kuisheng, ZHANG Han (73)
Screening of early biliary atresia in infants based on convolutional neural network	WAN Zhiyong, ZHOU Xiao'an (77)
Student performance evaluation based on global center clustering algorithm	DUAN Guiqin (80)
Research on effective detection algorithm of torpedo to enemy target in the background of weak signal 万方数据	ZHANG Chenggang, JU Xiaodong (84)

Travel time estimation and prediction for urban road based on dynamic fitting of information entropy	.....	LIU Yubo, LI Baozhu (88)
Spatial-temporal evolution and correlation analysis of vegetation coverage and land surface temperature in Longquan City	.....	LE Kejun (92)
The application of the discrete chicken swarm optimization(DCSO) in 0-1 knapsack problem	.....	ZHOU Yang, PAN Dazhi (98)
Research on crowdsourcing task allocation algorithm based on multi-Agent	.....	ZHOU Qiao, FANG Ming (104)

• System development and application •

Computation method for semantic similarity based on gene ontology	.....	RONG Heijiang, Wang Yadong (108)
Research on entity relationship extraction in coal mine based on deep learning	.....	DU Jia, LIU Sihan, LI Wenhao, XU Xiaodi, LIU Xuhong (114)
Modeling and simulation of oilfield network topology structure based on POWERLINK	.....	MENG Kaiyuan, ZHENG Yu, CAO Qingnian (119)
Trajectory planning of industrial robot based on gesture trajectory	.....	LÜ Yahui, YAN Yuling (122)
Optimal design of intelligent luggage device system for multi-mode loadable Children	.....	YE Weihui, SHU Xiulan, LIN Guisheng, NIE Huafeng (127)
Design of the part-of-speech tag set for the square Hmong characters	.....	ZHOU Tan, MO Liping, ZENG Hu, LEI Zhi, LI Wenyu, WU Ying (131)
The Web services QoS prediction method based on ARIMA and Kalman filtering	.....	LIU Zeyuan, YANG Xiaozong, SHU Yanjun (135)
Exploration and implementation of the universal SPOC platform	.....	REN Kai, GAO Zheng, TANG Rui (139)
Design and analysis of data governance system for Shanxi power grid	.....	WANG Kuisheng, KE Changwen (143)
A research on a dialectical information processing method of tongue image	.....	TANG Jun'an, XU Xuejun, LU Ling, MA Yan, TANG Wei (146)
Research progress on the similarity learning methods in computer vision	.....	WANG Faqiang, ZHANG Hongzhi, WANG Peng, DENG Hong, ZHANG Dapeng (149)
Application of artificial intelligence and machine learning technology in smart city	.....	ZHENG Yongliang, LI Xiaokun, WANG Linlin, CHEN Hongxu, YANG Lei (153)
A breast mass detection method based on multi-scale features	.....	CHEN Shan, BU Wei, WU Xiangqian (159)
A new long distance and low power consumption design of dead-spot switch for oilfields	.....	CAO Qingnian, YANG Hongxing, MENG Kaiyuan, WANG Yao (165)
Chinese word segmentation by integration of handcraft-feature and Bi-LSTM	.....	XU Wei, CHE Wanxiang, LIU Ting (169)
Research on personalized and diversified recommendations in E-business	.....	CUI Ruiyu, YANG Huaizhou (173)
The detection and analysis of instant messenger traffic flow	.....	HU Yang, YU Xiangzhan, LI Kai(178)
Observation analysis and numerical simulation of wave-particle interaction in the outer radiation belt	.....	JIN Yuyue, NING Fen (183)
Research on Multiple-Kernel Support Vector Regression Method	.....	CHEN Bo , ZHENG Kaidong, WANG Jiahua (188)
Research on Chinese question paraphrase generation techniques for question answering	.....	CAO Yu, ZHANG Yu, LIU Ting (192)
QoS prediction and active recommendation for Web services overview 万方数据	.....	YAN Hongdan, YANG Huaizhou (199)

Research of ultra-low resolution video character recognition technology	WANG Rui, LI Haifeng, MA Lin (203)
Intelligent greenhouse monitoring system design based on Internet of Things	ZHU Haobo, LIU Zixin, DONG Yuhua (208)

• Scientific Achievement and application •

Implementation and comparison of some algorithms for implantable (l, d) module discovery	HU hongtao, GONG Yiwen (211)
Wireless communication control system for fishery breeding based on Zigbee	YE Weihui, ZHANG Lin, FAN Qiuying, Ou Yinhua, HUANG Wenxuan (214)
Application of strapdown inertial navigation system in underground pipe network trajectory measurement	WANG Wendong, CHEN Qiang, ZHAO Huashan (219)
Design and implementation of smart campus application	SHEN Xu, HU Weijian, MENG Wei (224)
Design of wireless visitor monitoring system	TIAN Weixiang, LIU Zhongfu, ZHANG Qin, WANG Mingming, LI Houjie (229)
The construction of information management platform for cloud intelligence	FENG Ming, CHEN Qian (233)
Research and implementation of plug-in mechanism of Android APP function	XIONG Jianfang (235)
Exploration on the standardization of disposal information system of waste materials under the state-owned system	YU Jiang, XIE Lidong, LI Chenyan (239)
Product design of group enterprise settlement center information system	LIANG Zhiwen (245)
Optimal design of automatic loading control system for shipborne air-to-air missile	REN Yanpeng (248)

• Engineering practice and application •

Implementation of simple E-mail sending system based on .NET Framework class library	CHEN Wenlan (252)
Discussion on computer network information security in the era of big data	TANG Wei (254)
Construction plan of security inspection management platform based on B/S architecture	RAO Hongbo, SHI Lei (257)
Preset instructions and assignments in government office automation system based on artificial intelligence	LI Jiaming (259)
Design of automatic supernova recognition system based on EasyDL	SUN Ruikang (262)
Delphi develops Siemens S7-1200/1500 PLC Ethernet heart rate communication module	ZHANG Yi (264)
Design and development of bookstore management system based on Web	WANG Hao, XUE Yige (267)
Design of 555 IC in automatic circuit	LV Zhaoliang (270)
Genetic disease search system based on memory computing	YANG Qin, ZANG Tianyi (272)
Design and implementation of automated testing system based on pytest and JMeter	LI Yifeng (277)
An aeromagnetic data simulation platform based on FlightGear	DOU Zhenjia, SUN Yuhui, HU Kai, HAN Qi (280)