

ISSN 1672-6944

CN 32-1675/TN



全民阅读 核心期刊

中国核心期刊（遴选）期刊

江苏省一级期刊

中国学术期刊网络出版总库（中国知网）全文收录

万方数据-数字化期刊群全文收录

中文科技期刊数据库（维普网）全文收录

无线互联科技

WIRELESS INTERNET TECHNOLOGY

主管：江苏省科学技术厅

主办：江苏省科学技术情报研究所

2019年2月 第04期 第16卷

No.04 Vol.16

ISSN 1672-6944



万方数据

2019 04

无线互联科技

WUXIAN HULIAN KEJI

2004年创刊

2019年第4期

(总第152期)

第16卷

半月刊

2019年2月25日

主 管: 江苏省科学技术厅

主 办: 江苏省科学技术情报研究所

编辑出版: 《无线互联科技》杂志社

社 长: 李 敏

副社长: 李克贵

主 编: 严文强

副主编: 汤 溟

执行主编: 刘 鉴

编辑部主任: 姚 鑫

主任编辑: 顾培培

编 委: (按姓氏笔画为序)

王志功 王文鼎

陈如山 钱学荣

徐平平 黄风义

目 次

通信观察

- | | |
|------------------------|-------------|
| 1 基于GIS的广播电视覆盖网管理技术研究 | 兰 伟 |
| 3 海上卫星通信中的最优发射功率计算研究 | 杨晋宁 彭义东 |
| 5 计算机保密通信系统在信息传递中的应用探析 | 胡广洲 |
| 7 计算机通信与网络远程控制技术应用研究 | 陈 琳 |
| 9 TD-LTE无线通信系统在铁路上的应用 | 潘 雷 |
| 11 5G通信技术背景下物联网应用发展窥探 | 左培良 王建平 唐天德 |

无线天地

- | | |
|----------------------------|---------------------|
| 13 嵌入式系统与物联网融合发展趋势研究 | 徐英昭 |
| 15 基于视频的车载屏幕互联与识别算法研究 | 潘雨哲 黎 静 |
| 17 面向民族地区农牧业的物联网应用平台开发研究 | 马 伟 王 磊 朱睿明 |
| 19 基于NB-IoT的低功耗智能光交箱门控系统研究 | 何英杰 杨书华 孙 涵 李启伟 孙振源 |
| 21 基于物联网技术的智能消防头盔研制 | 唐 鑫 金佳旺 曹文辉 程家贵 杜宇人 |

网络地带

- | | |
|--|-----------------|
| 23 基于防火墙技术的网络问题研究 | 韦程馨 |
| 25 大数据背景下个人信息的泄露与防范对策 | 肖忠良 张玲峰 戴香玉 李默轩 |
| 27 Python语言的Web开发应用分析 | 蔡 敏 |
| 29 基于门控循环单元神经网络的PM _{2.5} 浓度预测 | 王 玮 王文发 张 哲 |
| 33 计算机网络信息安全及防护策略研究 | 吕 翔 |
| 35 “工程造价管理与控制”网络教学资源平台的建设与探析 | 葛贝德 于微微 张建华 |
| 37 高职院校网络教育发展战略与构思 | 王宏伟 王 洋 |
| 39 基于STM8烟草烟雾检测警示系统分析 | 刘 旭 |

软件透视

- | | |
|------------------------------------|-----------------|
| 41 基于二维码技术的校园导示系统设计与开发 | 沈鸿飞 杨 晶 |
| 43 光伏发电系统中追日模块的单片机控制研究 | 张晓伟 许艳华 |
| 46 基于深度学习的渣土车顶部覆盖率识别系统 | 刘晓东 费文龙 陈 亮 |
| 48 Linux系统下通过CAN总线更新程序 | 杨 超 胡 旭 |
| 50 高校数据集成平台中SDO的应用分析 | 卜南翔 徐 述 王吉祥 曾海洋 |
| 52 纯电动站驾式堆高车辅助安全系统设计 | 杨朝举 胡东方 |
| 54 基于TensorFlow平台的卷积神经网络对OMR识别问题研究 | 鞠云霞 王希常 陈祥喜 郑 伟 |
| 58 基于Matlab的发泡窑温度控制系统仿真 | 魏雨钧 贺远华 |

设计分析

- | | |
|--------------------------------|-----------------|
| 60 基于BMI160的多自由度体感遥控机械臂设计 | 李嘉鹏 马 超 孙 浩 马守贤 |
| 62 具有恒流保护功能的便携式开关电源 | 赵洋洋 李 川 包 妍 孟祥斌 |
| 64 K-means聚类分析下的“拍照赚钱”任务定价方案设计 | 李昊哲 |
| 66 基于非稳态热传导的高温专用服装设计 | 吴 蕊 孙东山 翟怡星 |

68 纯电动汽车整车控制器的设计	汪 静
71 一种新型静止无功发生器的设计与实现	汤茂然
76 基于STM32移动智能小车室内避障模块设计	蔡静怡 王才峰
78 船舶型线光顺过程中的数学视角分析	王亚宁 徐刚强
80 定时交通系统特征分析	邹 涛 梁 彪 杨越思
84 一种基于STM32的智能学习型台灯设计	杨显斌

数字教育

86 基于移动平台下的“计算机应用基础”精品课建设与开发	赵新春 李凤祥
88 项目教学法在“数字信号处理”课程教学中的应用	潘小红
91 基于“雨课堂”的高职“气动技术”课程移动微学习研究	吴茹石
94 大数据环境下“计算机应用基础”课程改革与实践	常 乐
96 基于虚拟仿真的“通信原理”实验体系构建	孙如英 韩荣苍
99 职业学校计算机实验室创新管理模式探究	黎金萍
101 高校工业机器人的应用教学实践分析	陈沐泽
103 高职院校建筑类专业信息化应用现状与实践研究	马利耕
105 建筑云课在“建筑构造”课程信息化教学中的应用	孟 琳 叶 征
107 数学建模能力的培养和提高探讨	李婉卿 王 凯 王俊旺
109 信息化在“安装工程计价”课程中的应用	杜园元 吴 岩 马效民

实验研究

111 基于Harris的纸质心电图波形提取方法	杨佳倩 孙连山 杨晓立
114 小间距LED显示屏主要参数解读与选型指南	吴欣强
117 影响TE5000干刻机刻蚀速率原因分析	朱恒杰 刘 秀
119 基于分析模型的人才需求分析与预测	黎佳佳 苏明雪
122 不同开采时序下倾斜矿体覆岩稳定性数值分析	冀宇鑫 沈万虎 宋高峰
124 基于近红外结构光与可见光的三维人脸识别算法	史秋阳 李 浩 石凤蕊 杨凯凡
126 重复开采下倾斜矿体覆岩非对称移动规律研究	张阿鹏 梅笑寒 宋高峰
128 基于最小二乘法的线性与非线性拟合	莫小琴
130 角度域多用户检测算法研究	彭慧虹

技术应用

133 智能机械手应用现状及关键技术研究	雷 歌 殷凤来
135 动力SCADA系统集成数据交互技术探究	胡忠福 汪华聪
137 计算机科学与技术的现代化运用分析	朱韞哲
139 基于智能问答技术的供电营业厅客户服务机器人创新应用研究	梁林森
141 基于3D技术的工厂动力设备实时监控画面开发应用	汪华聪 胡忠福
143 从递归算法看数学在计算机程序设计方面的应用与研究	李青柏
145 西藏民族服饰数字化保护问题探讨	叶梦雪 杨晓波 曹瑞雪
147 大数据时代背景下的数据库技术特点及应用对策	李海峰
149 FANUC数控机床自动编程在实践中的应用	王利峰
151 中职电子技术教学中虚拟仿真技术的应用	罗慧玲
153 一种具有太阳能面板的多功能共享充电宝机柜	王慧慧
155 冒泡排序及其改进算法的教学设计与实现	曹春梅 宋 洁
158 高职“3D打印技术”课程分段式教学整体设计浅议	张丽芳 陈婵娟 陈艳辉
160 互联网思维下去中心化大学生心理健康数据平台——基于区块链技术分析	李佳林 王柯毓 张明亮
162 中职电子技术理实一体化教学模式研究	王文珍
164 基于虚拟现实技术的电影发展前景分析	宋君羿
167 “保险云”的概念及建设探究	杨立东

万方数据

中国标准连 ISSN 1672-6944
续出版物号: CN 32-1675/TN

邮发代号: 28-473

发行范围: 公开

发 行: 江苏省报刊发行局
南京市建邺区善修文化传播中心

账 号: 10354000000560379

开 户 行: 华夏银行南京城西支行

印 刷: 南京孚嘉印刷有限公司

定 价: 40.00元

《无线互联科技》杂志社

社 址: 江苏省南京市龙蟠路171号

电 话: (025)-85410367
(025)-85410361

邮 编: 210042

网 址: www.wxhlkj.net

邮 箱: hlkj@sti.js.cn
wxhlkj@163.com

咨 询 QQ: 171020757

户 名: 江苏省科学技术情报研究所

账 号: 4301012509001028301

开 户 行: 工商银行南京市板仓支行

WIRELESS INTERNET TECHNOLOGY

No.4 2019 (Total No.152)

CONTENTS

Study on the management technology of broadcast and television coverage network based on GIS	Lan Wei (1)
Study on calculation of optimal transmission power in offshore satellite communication	Yang Jinning, Peng Yidong (3)
Analysis on the application of computer secure communication system in information transmission	Hu Guangzhou (5)
Research on the application of computer communication and network remote control technology	Chen Lin (7)
Application of TD-LTE wireless communication system on railway.....	Pan Lei (9)
A probe into the development of Internet of Things applications under the background of 5G communication technology	Zuo Peiliang, Wang Jianping, Tang Tiande (11)
Research on development trend of integration of embedded system and Internet of Things	Xu Yingzhao (13)
Research on video-based vehicle screen interconnection and recognition algorithm	Pan Yuzhe, Li Jing (15)
Research on the development of Internet of Things application platform for agriculture and animal husbandry in ethnic areas	Ma Wei, Wang Lei, Zhu Ruiming (17)
Design of low power consumption intelligent door-controlling system of optical cross cabinet based on NB-IoT	He Yingjie, Yang Shuhua, Sun Han, Li Qiwei, Sun Zhenyuan (19)
Development of intelligent fire helmet based on Internet of Things technology	Tang Xin, Jin Jiawang, Cao Wenhui, Cheng Jiagui, Du Yuren (21)
Study on the network problems based on firewall technology	Wei Chengxin (23)
Preventive measures of personal information leakage under the background of big data	Xiao Zhongliang, Zhang Lingfeng, Dai Xiangyu, Li Moxuan (25)
Analysis on the Web development application of Python language	Cai Min (27)
Prediction of PM2.5 concentration based on gated recurrent unit neural network	Wang Wei, Wang Wenfa, Zhang Zhe (29)
Study on the computer network information security and protection strategy	Lu Xiang (33)
Construction and analysis of the network teaching resource platform of “Project Cost Management and Control”	Ge Beide, Yu Weiwei, Zhang Jianhua (35)
Development strategy and conception of network education in higher vocational colleges	Wang Hongwei, Wang Yang (37)
Analysis on the tobacco smoke detection and warning system based on STM8.....	Liu Xu (39)
Design and development of campus guidance system based on QR code technology	Shen Hongfei, Yang Jing (41)
Study on the microcontroller control of the day-chasing system in photovoltaic power system	Zhang Xiaowei, Xu Yanhua (43)
Drilling vehicle top coverage recognition system based on deep learning.....	Liu Xiaodong, Fei Wenlong, Chen Liang (46)
Update program via CAN bus under Linux system	Yang Chao, Hu Xu (48)
Analysis on the application of SDO in data Integration platform of colleges and universities	Bu Nanxiang, Xu Shu, Wang Jixiang, Zeng Haiyang (50)
Design of auxiliary safety system for all-electric station driving stacker truck	Yang Chaoju, Hu Dongfang (52)
Study on the OMR recognition based on convolutional neural network based on TensorFlow platform	Ju Yunxia, Wang Xichang, Chen Xiangxi, Zheng Wei (54)
Simulation of temperature control system of foaming kiln based on Matlab	Wei Yujun, He Yuanhua (58)
Design of many degree of freedom and somatosensory robot arm based on BMI160.....	Li Jiapeng, Ma Chao, Sun Hao, Ma Shouxian (60)
Portable switching power supply with constant current protection function	Zhao Yangyang, Li Chuan, Bao Yan, Meng Xiangbin (62)
Design of pricing scheme for “taking photos to make money” task under K-means cluster analysis	Li Haozhe (64)
Design of high temperature special clothing based on unsteady heat conduction	Wu Rui, Sun Dongshan, Zhai Yixing (66)
Design of vehicle controller for pure electric vehicles	Wang Jing (68)
Design and realization of a new static var generator	Tang Maoran (71)

Design of indoor obstacle avoidance module based on STM32 mobile smart car	Cai Jingyi, Wang Caiyi (76)
Analysis on the mathematical perspective in the process of ship line smoothing	Wang Yaning, Xu Gangqiang (78)
Analysis on the characteristics of timed traffic system	Zou Tao, Liang Biao, Yang Yuesi (80)
Design of an intelligent learning desk lamp based on STM32	Yang Xianbin (84)
Construction and development of the “Computer Application Foundation” quality course based on mobile platform	Zhao Xinchun, Li Fengxiang (86)
Application of project teaching method in “Digital Signal Processing” course	Pan Xiaohong (88)
Study on mobile micro-learning of “Pneumatic Technology” course in higher vocational colleges based on “rain classroom”	Wu Rushi (91)
Reform and practice on the “Computer Application Foundation” curriculum in the background of big data	Chang Le (94)
Structuring the experimental system of “Communication Principle” employing virtual simulations	Sun Ruying, Han Rongchang (96)
Research on innovative management mode of the vocational school’s computer laboratory.....	Li Jinping (99)
Analysis on the application teaching practice of industrial robots in colleges and universities.....	Chen Muze (101)
Study on the status quo and practice of information application in architecture specialty in higher vocational colleges	Ma Ligeng (103)
Application of architectural cloud course in informatization teaching of “Architectural Structure” course	Meng Lin, Ye Zheng (105)
Discussion on the training and improvement of mathematical modeling ability	Li Wanqing, Wang Kai, Wang Junwang (107)
Application of informatization in “Installation Engineering Pricing” course.....	Du Yuanyuan, Wu Yan, Ma Xiaomin (109)
Extraction method of paper ECG waveform based on Harris	Yang Jiaqian, Sun Lianshan, Yang Xiaoli (111)
Main parameters interpretation and product selection guide of small spacing LED display screen	Wu Xinqiang (114)
Analysis on the influencing factors of machine etching rate of TE5000 dry etching	Zhu Hengjie, Liu Xiu (117)
Analysis and prediction on the talent demand based on analysis model	Li Jiajia, Su Mingxue (119)
Numerical analysis of overburden stability of inclined ore body under different mining sequence ...	Ji Yuxin, Shen Wanhui, Song Gaofeng (122)
3D face recognition algorithm based on near-infrared structured light and visible light ...	Shi Qiuyang, Li Hao, Shi Fengrui, Yang Kaifan (124)
Study on the asymmetric movement law of overburden rock in inclined ore body under repeated mining	Zhang Apeng, Mei Xiaohan, Song Gaofeng (126)
Linear and nonlinear fitting based on least squares method	Mo Xiaoqin (128)
Research on belief propagation detection algorithms based on angle domain	Peng Huihong (130)
Research on the status quo and key technologies of intelligent manipulator.....	Lei Ge, Yin Fenglai (133)
Research on integrated data interaction technology of power SCADA system	Hu Zhongfu, Wang Huacong (135)
Analysis on the modernization of computer science and technology	Zhu Yunzhe (137)
Research on innovative application of power supply business hall customer service robot based on intelligent q&a technology	Liang Linsen (139)
Development and application of real-time monitoring screen of factory power equipment based on 3D technology	Wang Huacong, Hu Zhongfu (141)
Application and research of mathematics in computer programming from recursive algorithm.....	Li Qinghai (143)
Discussion on the digital protection of Tibetan national costumes	Ye Mengxue, Yang Xiaobo, Cao Ruixue (145)
Characteristics and application countermeasures of database technology in the era of big data	Li Haifeng (147)
Application of automatic programming of FANUC CNC machine tool in practice	Wang Lifeng (149)
Application of virtual simulation technology in teaching of secondary vocational electronic technology	Luo Huiling (151)
A multifunctional cabinet of shared chargers with solar panels	Wang Huihui (153)
Teaching design and implementation of bubble sorting and its improved algorithm	Cao Chunmei, Song Jie (155)
Brief discussion on the overall design of segmented teaching in the course of “3D Printing Technology” in higher vocational education	Zhang Lifang, Chen Chanjuan, Chen Yanhui (158)
Platform of Internet thinking decentralized mental health data of college students: based on blockchain technology analysis	Li Jialin, Wang Keyu, Zhang Mingliang (160)
Research on the integrated teaching mode of the integrated technology of secondary vocational school electronic technology	Wang Wenzhen (162)
Analysis on the prospect of film development based on VR technology	Song Junyi (164)
Study on the concept and construction of “insurance cloud”	Yang Lidong (167)