

Table of Contents

Research on Intelligent Electrical Energy Saving and Real-time Scheduling Control	1
<i>Nan Li</i>	
Research on Detection and Reinforcement Technology of Steel Structure Bridges	5
<i>Weiwei Li, Tiancheng Wang</i>	
Research on Prediction Method of Foundation Settlement	9
<i>Tiancheng Wang, Jianying Wang</i>	
Application Analysis of Energy Saving Design Concept Based on Mechanical Manufacturing and Automation	13
<i>Lingwei Wang</i>	
Research on Personal Privacy Protection Technology in the Age of Big Data	18
<i>Yanlin Yin, Rui Han</i>	
Application Research of Hierarchical Technology in Computer Software Development	22
<i>Jin Xing</i>	
Hidden Dangers and Solutions in the Installation of Electromechanical Equipment	27
<i>Li Yaqi</i>	
Energy Saving and Production Increase Technology and Application Prospect of Heavy Oil Reservoir based on Eddy Current Effect	32
<i>Duan Rui, Ren Hongli, Deng Qingyong, Chen Jing, Sun Tao, Yu Xindong</i>	
Research on Application of Internet of Things Technology on Intelligent Logistics Management	39
<i>Yanping Zhu</i>	
Research on Shaanxi Province Community Intelligent Aged Care Service System Design Based on Internet of Things	43
<i>Jing Zhao</i>	
Research on Hybrid Electric Vehicle Control System and Energy Management	48
<i>Yuling Peng</i>	

Big Data Security and Privacy Protection	52
<i>Wentao Zuo</i>	
Research on the Technical Exploration of 3D Graphics Engine Animation	56
<i>Jiaojiao Chang</i>	
Fault Diagnosis Method and Software Development Research	60
<i>Liya Cai</i>	
Application Research of Mathematical Morphology in Signal Processing	64
<i>Jumei Zhang</i>	
Long-time Scale Color Changes of Fat-spectrum Radio Quasars	69
<i>Zhou Li, Xu Guangyang, Wang Lisa, Chen Jiufu, Li Xiaopan</i>	
Research on Zigbee Wireless Communication Technology and Its Application	76
<i>Jiahe Peng</i>	
Research on Control of Spraying Robot Based on Machine Vision	80
<i>Li Meixuan</i>	
Analysis of Computer Network Information Security in the Age of Big Data	85
<i>Chen Xi</i>	
Design and Implementation of Moodle Teaching Platform based on Hybrid Teaching Mode	89
<i>Ma Yongqiang</i>	
Application of Virtual Reality Technology to Environmental Art Design	95
<i>Yaoben Gong</i>	
Application of the Internet of Vehicles in Logistics Management System	99
<i>Wen Han, Jianyang Ma, He Liu</i>	
Application of Fuzzy TOPSIS Group Decision Method in Location Selection of Emergency Rescue Facility	103
<i>Changze Zhang, Xiao Pei, Shengnan Yin</i>	
Exploration of the Principle of PLC and Its Application to Industry	112
<i>Wulin Lu</i>	

Research on Reliability Testing of Electrical Automation Control Equipment Based on Intelligent Optimal Control	116
<i>Liu Jun</i>	
Research on the Application of Internet+ in Cross-border E-commerce	121
<i>Duan Lifeng</i>	
Research on Key Technologies of Environmental Monitoring System for Jujube Forest in Northern Shaanxi Based on Cloud Computing	126
<i>Liu Hongxia</i>	
Research on Design and Implementation of Enterprise Financial Data Risk Association System Based on Data Mining	131
<i>Luo Cui</i>	
Analysis on the Application and Development of Virtual Reality Technology	139
<i>Ly Chao</i>	
Research and Application of Embedded Software Reliability	143
<i>Wang Cuiping, Lu Jiasheng</i>	
Research on Data Mining Algorithm Based on Hadoop Cloud Platform	147
<i>Wang Cuiping, Lu Jiasheng</i>	
Research on Key Technologies of Digital Signal Processing Based on Optical Communication	151
<i>Yuan Chuanlin, Xiao Jun</i>	
Research and Application of Agricultural Science and Technology Information Resources Sharing Technology Based on Cloud Computing	156
<i>Zhang Xiaojuan</i>	
Research on Rapid Reconstruction of Three-dimensional Model in Medical Image Processing Based on VTK Library	161
<i>Li Qiong, Gan Yongjin, Ning Weilian</i>	
Internet of Things Application Practice and Information and Communication Technology	166
<i>Chen Ning</i>	
Research on Performance and Application of Fiber Asphalt Concrete Based on Pavement Engineering	171
<i>Wenjia Song</i>	

Application of a Mobile Passive Optical Access System	175
<i>Zenghui Zhao</i>	
Seismic Time History Analysis of Steel Box Tied Arch Bridge Foundation Considering Pile-soil Interaction	179
<i>Huang Qixuan, Huang Fanglin, Hebin</i>	
Martial Arts Training 3D Human Body Motion Simulation and Video Analysis System	184
<i>Deng Yihua</i>	
Study on Development of Distribution Network Management Technology in Power System Automation	188
<i>Yue Xu</i>	
TCM Health-keeping Proverb English Translation Management Platform based on SQL Server Database	192
<i>Qiuxia Zeng, Jianpeng Fu</i>	
Application Analysis of Electrical Automation Technology in Electrical Engineering	197
<i>Dandan Wang</i>	
Design of Automatic Packing System for Workshop Based on PLC	202
<i>Li Song</i>	
Design of Automated Logistics System Based on PLC	207
<i>Li Song</i>	
Design of Machine Structure and Control System Based on Embedded Linux Console Terminal Driver	212
<i>Di Xu, Ming Chen, Xuanping Mou</i>	
Simulation of Advanced Ground Motion Guidance and Control System	217
<i>Ting Ding</i>	
Computer Network Security Processing Based on Big Data Environment	221
<i>Fan Gaozhi</i>	
A Study on Diode Clamped Multilevel Inverter Modulation Simulation based on Third Harmonic Injection	226
<i>Xing Cai</i>	

Injection Molding Optimization of Plastic Parts Based on Three-dimensional Reconstruction and Finite Element Analysis	231
<i>Yuan Zhang, Hongzhi Tian</i>	
Analysis of Nonlinear Coupled Vibration Bifurcation Characteristic of Strip Mill under Dynamic Rolling Process	236
<i>Rongrong Peng, Changfen Gong</i>	
The Static Analysis of the Gyro-Stabilized Platform	240
<i>Yang Xiuli, Song Limin, Jin Dawei, Guo Wenjing</i>	
Research on Basic Quality Classification of Rock Mass Based on Fuzzy Theory	244
<i>Yunguo Zhang, Jingbin Wang and Guangjing He</i>	
Research on Risk Assessment of Waterway Dangerous Goods Transportation Based on Artificial Neural Network Algorithm	251
<i>Wenge Cheng</i>	
Research on Earthwork Allocation Problem Based on Linear Programming Mathematical Algorithm	257
<i>Xinyu Yang, Weisan Wu</i>	
Research on Elevator Optimization Scheduling Based on Statistical Analysis	264
<i>Weisan Wu, Xinyu Yang, Di Wu</i>	
Optimization of Enzyme-assisted Ultrasonic Extraction of Total Ginsenosides from Ginseng Roots	270
<i>Guangna Liu, Yulin Zuo, Jing Zhang</i>	
Discussion and Attempt on Construction Technology of Asphalt Road Pavement in Expressway	275
<i>Wang Li</i>	
Analysis and Research on Construction Technology of Road Cement Stabilized Macadam	279
<i>Shi Xiaoxing</i>	
Construction Process Management of Prefabricated Building Based on BIM and RFID Technology	284
<i>Lv Ping</i>	
Analysis on the Cognitive Practice of Construction Technology and Quality Management of Garden Road	289
<i>Zhang Chunyang, Liu Zheng</i>	

Present Situation and Development Trend of Exploitable Renewable Energy in Hainan Province	294
<i>Cai Huimin, Chen Shenghui</i>	
Underwater Visibility Distribution in the Yellow Sea Based on Modis/Aqua Data	299
<i>Renkui Guo</i>	
Research on the Design of Barrier-free Intelligent Furniture for the Elderly	306
<i>Deyu Luo</i>	
Application Research of Deep Learning in Natural Language Processing	311
<i>Junmin Zhu, Yiang Gao</i>	
Preparation and Photocatalytic Properties of Graphene/TiO₂ Nanocomposites	315
<i>Qing Zhu</i>	
Fault location model of distribution network based on dynamic matrix	321
<i>Cen Tian</i>	
Image Classification Algorithm Based on Depth Neural Network and Multi-Level Feature Learning	325
<i>Qian Sun, Li Xin, Faliang Chang, Zengshun Zhao</i>	
K-means parallel multi-relational clustering algorithm for spatial data	330
<i>Huang Suyu, Wang Song</i>	
MapReduce Parallel Implementation of Improved K-means Clustering Algorithm on Spark Platform	335
<i>Huang Suyu, Tan Lingli</i>	
Prediction of Sinter Quality Based on Population Genetic Algorithms and Fuzzy Reasoning	339
<i>Liu Guangyue, Hu Qinghe, Zhang Shuang</i>	
Motion Control Algorithms for Hydraulically Driven Biped Mobile Robot	343
<i>Xiao Wei, Gao Qian</i>	
Research on Balance of Unmanned Aerial Vehicle with Intelligent Algorithms for Optimizing Four-Rotor Differential Control	347
<i>Zhang Zhibiao, Lv Qiang, Wei Heng</i>	

Design of Intelligent Vehicle Based on NXP	352
<i>Zhang Zhijie, Ma Tan</i>	
Construction and Application Research of Colleges and Universities Cloud Service Platform	358
<i>Lian Jin, Gao Ming</i>	
Virtual Connection Routing based on Node Mobility in Vanet	364
<i>Yu Hao</i>	
Analysis of Regional Economic Differences Based on DEA	369
<i>Xiao Zhuolin, Zhong Jing</i>	
Analysis of TFT-LCD Point Defect Detection System Based on Machine Vision	373
<i>Zhang Wenqian, Zhang Jinhong</i>	
Software Fault Prediction Analysis under BPSO Dimension Reduction Conditions	378
<i>Liu Hongqing</i>	
Design and Research of Time Synchronization Communication Protocol Based on CAN	382
<i>Liu Hongqing</i>	
Research on Cloud Computing Data Storage Security Based on Hash Authentication Tree	388
<i>Liu Hongqing</i>	
Fingerprint Identification Based on Wavelet Texture Features of Matlab	393
<i>Liu Hongqing</i>	
Research on Application of Network System Software Based on Large Data Analysis	398
<i>Liu Hongqing</i>	