

# **2022 4th International Academic Exchange Conference on Science and Technology Innovation (IAECST 2022)**

**Guangzhou, China  
9-11 December 2022**

**Pages 1-803**



**IEEE Catalog Number: CFP22BJ6-POD  
ISBN: 979-8-3503-2001-5**

**Copyright © 2022 by the Institute of Electrical and Electronics Engineers, Inc.  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP22BJ6-POD
ISBN (Print-On-Demand):	979-8-3503-2001-5
ISBN (Online):	979-8-3503-2000-8

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## Table of Contents

<b>Evaluation Method of Renewable Energy Sources Development Considering Uncertainty and Complementarity</b>	1
Weiwei Chen, Yibo Wang	
<b>Analysis of extreme operating gust influence on aerodynamic performance of wind turbine</b>	9
Wenping Zhou, Dongyou Zhang, Maoli Yang	
<b>Research on Modeling and Simulation of grid energy storage System</b>	14
Cheng Yang, Yi Zhang, Jing Li, Jin Sun, Linan Qu, Zhifeng Wei	
<b>Heat and mass transfer simulation of high temperature syngas cooled by water film and spray in quench chamber</b>	21
Jingwen Xing, Quan Zhou, Xiaofei Li, Zhenxiang Li, Junhui Liang, Jianping Ding, Congbin Jiang, Wenbin Zhang	
<b>Research and application of power transformer technical standard retrieval algorithm based on knowledge graph</b>	30
Boyi Zhang, Xinghua Liu, Suyun Ji, Xuejie Yang, Tongping Xie, Yang Yu, Fei Li	
<b>Research on Front-end Electrical Component Recognition Algorithm based on Improved Yolov5s</b>	35
Xiaoyan Yu, Tianli Liu, Fei Zhang, Liang Liu, Yue Liu, Yuwei Yuan, Renming Yang, Kemeng Jiang, Tao Wang, Longlong Zhang	
<b>Research and Application of Edge Computing Technology for Power Smart Internet of Things</b>	41
Yong Wang, Shulei Liu, Zhimin Shao, Zhenghao Li	
<b>Demand Forecast of Electric Power Materials Based on Multi-dimensional Integration of Influencing Factors</b>	46
Xin Fang, Minghui Lin	
<b>Bird's Nest Detection Algorithm for Transmission Line Towers Based on Deep Learning</b>	50
Shichao Ji, Yangming Xiao, Jian Zhang, Xinghe Qu, Song Wu, Songlin Huang, Yuhang Li	
<b>A two-stage insulator cap recognition for automatic insulator defect inspection</b>	54
Jinjia Lin, Shijian Liu	
<b>Study on Heat Flow Analysis of Climate Simulation Aging Chamber Based on CFD Theory</b>	58
Yuan Wang, Zhisong Zhang, Shuang Li, Liang Zhang, Zihan Zhao	
<b>Research on Maximum Power Point Tracking Application of Photovoltaic Power Generation System Based on Gray Wolf Optimization Algorithm</b>	64
Wei Zhang, Minghui Jia, Siwei Li, Shuai Yuan, Shulin Guo	
<b>Distribution network risk prediction based on status assessment and semi-invariant method</b>	68
Juqin Xuan, Jieyun Zheng, Ying Shi, Hansen Gong, Jinghan Wu, Hao Hu, Zhijian Hu	
<b>Research on Power Load Prediction and Application Based on Load Derivation</b>	73
Xiaohua Zhang, Yiyong Lin, Minling Wang, Degang Yang, Xincheng Zhou	

<b>Research on distribution of power supply chain based on risk propagation model</b>	77
Xiaosong Xie, Hang Ji, Xiaoming Xu, Bing He	
<b>Data Dynamic Updating Method of Power Internet of Things Based on Collaborative Cache</b>	81
Haiji Wang, Wenyan Xie, Xueying Lu, Jiankun Hu	
<b>Design of ultra-broadband metamaterial absorber based on impedance matching theory</b>	86
Yang Wang, Changjun Hu, Shenbing Wu	
<b>A Normal Vector Guided Partition Method for Atmospheric Phase Compensation in GB-SAR</b>	92
Pengfei Ou, Tao Lai, Yunxin Tan, Qihong Dan	
<b>Research on Gaussian mixture model to predict Lithium battery life</b>	97
Haiwen Feng, Junlin Wang	
<b>Anomaly Detection of Power Big Data Based on Improved Support Vector Machine</b>	102
Jinhe Yu, Wei Liu, Yue Li, Bo Zhang, Wenjian Yao	
<b>Collaborative Governance Method of Power Application Data Based on Blockchain Technology</b>	106
Tiancai Zuo, Erjin Song, Zexin Du	
<b>Short Term Forecasting Method of Charging Load Based on Multilevel Discrete Wavelet Transform and LSTM Model</b>	111
Bin Qin, Juan Cai, Chong Du, Yinyi Lv, Chuangxin Guo	
<b>Cloud Center Devices Associated Temporal Evolved Feature extraction and clustering for Energy Internet</b>	116
Liang Dong, Yan Zhuang, Yue Guo, Xiang Li, Chao Huang, Xian Luo, Xiao Zhang	
<b>Research on NEV Battery Fixation State Detection Based on CNN</b>	123
Yahui Zhang	
<b>Research on Risk Prediction of Rainstorm and Flood Disaster Based on GA-BP Neural Network</b>	129
Hong Han, Ruige He	
<b>Optimization method of construction project schedule based on improved PSO</b>	133
Xinyu Guo	
<b>A STUDY ON DATA LOADING INTEGRITY CHECK ALGORITHM OF CIVIL AIRCRAFT</b>	137
Hui Yu	
<b>Quantitative prediction of median particle size of conventional logged sandstone based on machine learning algorithm</b>	142
Zheqing Zhang	
<b>Research on the discrepancy distinguishment of the electric power standard clauses based on NLP</b>	146
Qian Zheng, Yibo Yong, Jiajun Lin, Fei Xu, Hui Fu, Zhen Sun	

<b>Risk Early Warning Model of Electric Power Safety Accidents Based on Data Mining</b>	150
Xiaoyan Ma, RENATO DAN A. PABLO II	
<b>Parameter optimization simulation of high-pressure water jet reaming equipment</b>	154
Chongping Wang, Longlong Guo, Hua Nan	
<b>Simulation study of airflow-coal dust migration and diffusion law at entrance section of railway tunnel</b>	158
Jingbo Wu, Zhanyou Sa, Shouqing Lu, Jie Liu, Hao Wang, Hongke Yang	
<b>Development of Ship Navigation Performance System based on Wireless Sensor Nodes</b>	164
Sujun Yang, Xiang Ma, Lei Shi, Lingjun Kong	
<b>Research on simulation modeling and test verification of civil aircraft fuel tank structure</b>	168
Kangjing Weng	
<b>Design of Joint Trading Platform for Electricity-Carbon Market Based on Blockchain Technology</b>	173
Guang Tian, Yang Yang, Beifang Xu	
<b>Research and application of substation operation auxiliary command technology</b>	177
Haoyi Zhu, Shi Qiao, Yi Lu, Xiaolin Zhao	
<b>Application of small nano-laser electronic fence combined with ultrasonic bird repellent device to monitor bird damage on power transmission lines</b>	184
Ruirui Chen, Xiaolong Wang, Jian Wang, Chaoyang Duan, Xiaofeng Zhang	
<b>Distributed Optical Fiber Monitoring Technology for Monitoring the Ultra-high Temperature and Pressure in Exploitation by Fire Flooding</b>	188
Fuxing Zhang, Teng Li	
<b>A risk prediction method for electric power customers' demands by text mining technology</b>	192
Zhengang Fu, Jun Fu, Xiaoqian Sun, Lu Liu, Lijian Chang	
<b>Design of Daily Clearing and Monthly Settlement System for Electricity Market</b>	197
Min Wu, Yuanrui Hong, Xiaogang Li, Fubin Liu	
<b>Study of Short-term Load Forecasting Based on FCM and Multiple WOA-LSSVM Combination under Electricity Market Environment</b>	201
Yun Xiong, Wei Wang, Luping Luo, Haoyong Chen, Jiawei Gong, Xiaobin Wu	
<b>Study on intelligent well location optimization of fault-block reservoir based on target region constraints</b>	206
Chuanzhi Cui, Yongchao Yang, Yingfei Sui	
<b>Dynamic reconfiguration of distribution network with distributed power supply based on improved artificial fish-swarm algorithm</b>	210
Qixuan Lu, Xihuai Wang, Jianmei Xiao	
<b>Power frequency modulation market clearing method based on marginal benefit assessment of generating capacity</b>	216
Nan Lou, Biwu Fang, Lin Yang, Yong Zhang, Zhantao Fan, Tuo Jiang	

<b>Numerical Simulation of Engine Nacelle Icing with a Propeller</b>	221
Ning Guan, Xianhu Hou, Qiankun Zhu, Feng Chen	
<b>Meta Multi-task Learning-Based Virtual Scheduling Method for Power</b>	226
Xiaosong Jing, Chunyi Wan, Qi Diao, Dongdi Yin, Da Li, Le Jiao	
<b>Laboratory study on profile control visualization of fractured vuggy reservoirs</b>	230
Zhenjun Zhang, Ning Qi, Yilong Liu, Junchong Gan, Yuyang Shen	
<b>A Backbone Grid Planning Method against Disasters in Transmission Grid</b>	238
Yuchen Tang, Yi Lin, Yishan Shi, Ruipeng Guo, Wei Wu	
<b>Convolutional Neural Network Based Power Information Network Security Situational Awareness Model</b>	243
Zhaohui Hu, Shanfeng Chen, Haiguang Chen	
<b>Design and Research of capacity compensation Mechanism for Yunnan thermal Power units</b>	248
Xuan Yang, Huaxiang Cai, Yuhu Xing	
<b>Research on Intelligent Construction of Modular Substation</b>	253
Jinfeng Zhang, Jun Liu, Hong Mu, Xingfu Jin, Zheng Yang, Ying Lin	
<b>Single-phase-to-earth Fault Line Selection Method for Medium-voltage Distribution Network Based on Wavelet Packet Analysis</b>	257
Qiufeng Xie, Yunhong Zheng	
<b>A Comprehensive Model for Analysing Correlation and Traceability of Alarm Data from Power Stations by Coupling DBSCAN and SOM Algorithms</b>	262
Guanghui Wang, Hailong Li, Shengping Su, Yunxiang Wang	
<b>Method for detecting pollution degree of insulator based on Locality Preserving Projections Extreme Learning Machine</b>	269
Xi Liu, Yicen Liu, Lin Yang, Yihan Fan, Yujun Guo	
<b>Experimental study on physical simulation of seepage mechanism in multilayer gas reservoirs</b>	273
Hua Wang, Zhijun Liu, Jiaojiao Liu, Qian Liu	
<b>3D Visual Simulation of oil Spill Evaporation in the Ship-Handling Simulator</b>	278
Zhihong Sun, Yongfeng Suo, Shenhua Yang, Yuxiang Ji	
<b>Numerical Simulation of Ship Grounding Motion with Six Degrees of Freedom in Rigid Slope</b>	283
Lei Tian, Hongbo Sun, Chunyu Zhang, Liting Shen, Liuyang Jiang	
<b>Numerical Analysis of the Effect of Ship Exits on Evacuation Efficiency</b>	289
Siming Fang, Zhengjiang Liu, Yuchuan Chou, Xinjian Wang, Shengke Ni	
<b>Dynamic Modeling and Simulation of Ship External Collision</b>	293
Yulai Su, Guoquan Chen, Zijian Zhao, Minjie Zheng	

<b>Molecular Dynamics Simulation Technology in Asphalt Materials</b>	303
Cuicui Sun, Fangzhou Li, Siqiang Wang	
<b>Refined evaluation method for aircraft unimpeded taxi-out time</b>	307
Luhao Chen, Zhen Zhao	
<b>Short term photovoltaic power prediction based on BP neural network optimized by improved sparrow search algorithm</b>	314
Chen Liu, Yihu Huang	
<b>Dynamic modeling and Simulation of mining truck</b>	318
Lin Cheng, Guna Wang, Jiantong Song	
<b>Simulation design and performance analysis of Aircraft Landing Gear Hydraulic Extension/Retraction System</b>	322
Aihua Yao, Cunbao Ma, Zhen Qian, Zhenyao Zhao, Yun Lu	
<b>Research and application of wind farm power prediction method based on meteorological data characteristics and similar scenarios</b>	328
Le Dong, Feng Song, Xueqing Zhang, Dang Xiong, Yaoheng Du	
<b>Health status evaluation method of smart distribution station based on operation trajectory information matrix</b>	333
Hejin Liu, Guoqiang Su, Xinhong You, Pengping Zhang, Shuai Li, Min Huang	
<b>Energy Storage Lease Pricing Strategy based on Whole-life Cycle Costs Quantification</b>	339
Guojun Xiao, Bowen Huang, Lingqiao Zhang, Zihao Zeng, Xueyuan Xie, Hong Chen, Chenyi Ge	
<b>Analysis on the Mechanism of the Impact of High Proportion of New Energy on Power Market Clearing Price</b>	345
Xiqing He, Juan Li, Hande Qi, Wei Pang, Jingze Ma, Wenna Xu, Jie Yang, Hujin Wang	
<b>Grid New Investment Demand Forecast Based on IBA-LSSVM under Grid-Load Investment Interface Extension</b>	349
Qun Su, Zhihua Ding, Keyao Lin, Zhenda Hu, Xin Tian, Huiru Zhao	
<b>Numerical study on the tidal current of wave energy demonstration project near Dawanshan Island of the Pearl River Estuary</b>	355
Yonggang Cao, Yizhan Chen, Yu Ma, Dongsheng Zhou, Shizhi Liao, Tongmu Liu, Changjian Liu	
<b>Research on Target Planning Method of Urban Distribution Network Considering Investment Benefit and Reliability</b>	361
Jinlan Hu, Gang Sun, Min Guo	
<b>The Application of Artificial Intelligence in the Factor Analysis and Scenario Forecast for Carbon Peak in Major Cities in Jilin Province</b>	365
Jinyan Tian, Shouqin Wang, Zheyong Piao, Wei Guo, Chen Tan, Hao Xu	
<b>Quantification algorithm of carbon dioxide and nitrogen oxide mixture based on ion fragment deduction</b>	370
Zihan Qiang, Enzhi Hao, Yutian Wang, Jian Wang	

<b>Research on LRU division tradeoff index system</b>	374
Zhiming Guo, Liang Gao, Yang Li, Ting Pang, Zilong Bai	
<b>Simulation Analysis of Ammonia Diffusion from Vent Mast</b>	379
Tingjun Zhan, Zhuohang Jiang, Tingyong Wang, Chao Zhao, Weiwu Zeng	
<b>Evaluation of Information System Mental Model Based on Eye Movement Data</b>	385
Yuhan Jin, Wenjun Hou, Ximing Zhu, Yufan Wei	
<b>A Joint Event Extraction Framework based on Conditional Information Fusion Layers</b>	394
Guandong Lan, Bin Qin, Feixiang Zhou, Yang Yang	
<b>Frame analysis based real time related indicators measurement of industrial ethernet Powerlink</b>	398
Jian Wang, Chuang Xie, Ce Dong	
<b>An Overview of Current technology of Skin-Attachable Haptic Interface</b>	403
Aoyu Dong	
<b>Design of Emergency Position Service Platform Based on AML</b>	407
Xun Dai, Ying Deng, Yi Huang, Lei Wang, Qinjuan Zhang	
<b>Classification of Blueberry Varieties Based on Improved EfficientNet</b>	411
Meijuan Yi, Cuifang Zhao, Fanglei Liao, Wanyun Yao	
<b>A parameter selector of OFDM waveform based on GAMP algorithm</b>	416
Jiayun Wang, Chaosan Yang, Jinhai Lia	
<b>Troubleshooting Configuration Errors via Information Retrieval and Configuration Testing</b>	422
Teng Wang	
<b>3D Visual Management of Substation Based on Unity3D</b>	427
Xinghui Duanmu, Guiwen Lan, Kan Chen, Xiaoyong Shi, Letan Zhang	
<b>Joint Entity And Relation Extraction Method Fused With Multiple Information</b>	432
Xiaohan Zhang, Yang Xiang, Ling Ding, Jianting Chen	
<b>Research on the input-output evaluation method of power grid enterprises considering the "double-carbon" target</b>	436
Yuhong Zhang, Jie Yang, Chao Wang, Ping Zhou, Yun Wang	
<b>Research on Lean Investment Benchmarking Method and Cost Control Strategy for Construction of Pumped Storage Power Station</b>	440
Tianqiong Chen	
<b>A preference-based path planning approach for multi-UAV collaborate reconnaissance in static environment</b>	444
Longmei Li, Yuquan Xue, Yanting Yu	
<b>Technical Status and Development Trend of Double Arm Pipe Arranger for Offshore Drilling Platforms</b>	448
Shuguang Sang, Chengyu Wang, Yihua Zhou, Kan Zhou	



<b>Research on Apple Maximum transverse diameter detection based on OpenCV</b>	452
Chenlong Xiong, Xie Fang	
<b>Construction of Knowledge Map of Power Marketing User Address Data Based on Information Extraction Model</b>	456
Qi Chen, Liming Lin, Yao Zhang, Ying Jiang	
<b>Power Supply Reliability Evaluation Method of Distribution Network Based on Improved LSTM Neural Network</b>	460
Fan Yang, Jun Liu, Bingbing Lu, Wei Chai, Lijia Ren	
<b>Water consumption prediction model based on clustering and Multi-layer Perceptron</b>	464
Jianzhuo Yan, Kunhao Liu, Yongchuan Yu	
<b>Manufacturing Process Management Based on BOP in Teamcenter</b>	468
Xianghui Zhan, Xiaoda Li	
<b>Voice control system for intelligent mine control platform</b>	472
Kun Yang	
<b>Research on Prediction of Innovation Efficiency of Universities in Western Region Based on DEA-BP Neural Network</b>	480
Qianqian Yuan	
<b>YNU-Industrial Fasteners: <i>a benchmark dataset for industrial fasteners classification</i></b>	484
Chenyang Qiu, Xiaolong Liu, Wen Wang, Hao Li	
<b>WZ frame reconstruction algorithm based on side information improved in distributed video coding</b>	490
Mengjuan Ma, Junkai Xia, Zhuyuan Xie	
<b>Forecasting Analysis of the Interaction Between Shipping Demand and Economic Development Based on Neural Network Optimization Model under the Double Carbon Objective</b>	495
Mingming Sun	
<b>Segmentation Algorithm for COVID-19 Infections using Joint Mix and Context Encoder</b>	499
Xuan Pei, Yifan Guo, Kai Zeng, Peizhi Chen	
<b>Metamorphic Relations Prioritization And Selection Based on Test Adequacy Criteria</b>	503
Dafei Huang, Yang Luo, Meng Li	
<b>Research on 3D Simulation Management Information System of Baitouwang Reservoir in Guizhou Province Based on 3D GIS</b>	509
Qifeng Ding, Yiyang Zhuang, Jingjing Wang, Hualong Cai	
<b>Macroscopic Traffic Flow Modeling and Empirical Analysis of Multiple Modes of Travel in Urban Road Network</b>	513
Jiaming Wang, Long Xu, Zhonghe He, Li Wang	

<b>Prediction of economic benefit on PV Power Station Based on Multivariate Nonlinear Regression Model</b>	518
Zehui Wei	
<b>Chinese provincial power consumption convergence features based on CEEMDAN hierarchical clustering algorithms</b>	522
Qiuji Sun, Zhou Lan, Fenghua Wang, Yanming Jin	
<b>Consensus mechanism of virtual power plant transaction blockchain based on credit value</b>	527
Jiani Xiang, Jianli Zhao, Wenjuan Zhou, Di Wang, Qian Ai, Shuangrui Yin, Lei Qi	
<b>Calculating and channeling unbalanced funds of grid agent power purchasing based on power generation and consumption in spot market optimization matching</b>	534
Lin Zhang, Rui Min, Qihua Wang, Xin Du	
<b>Research on the evaluation index system of power grid physical assets management based on the concept of life cycle</b>	540
Zhaoyang Zhang, Ran Chen, Xuejun Tang, Fangchao Ke, Li Zhou, Zhiwei Li	
<b>Research on Information Visualization of Thermal Power Plant Based on D3+SVG Technology</b>	544
Zhaopeng Zhang	
<b>Research on Inspection and Safety Management System of Heating Pipe Network Based on UAV</b>	550
Wei Tian, Hong Feng, Shuai Kong, Minghua Shen, Qin Hong, Jiansheng Hu, Shifang Du, Zhangwei Ling, Ping Tang	
<b>A Study on Quantitative Analysis Technology and model of investment decision of emerging industries under low carbon economy--Empirical prediction based on dynamic programming method</b>	555
Changyou Xu, Yachao Wang, Xinlong Li, Xiujiang Zuo, Shishen Yu, Huibo Fan, Xuemin Liu, Wenxue Liu	
<b>Research on pricing model of electricity retail package in spot market</b>	561
Bo Sui, Haibo Wu, Mei Wang, Jianing Zhu, Hao Yin, Yan Ma, Tengjian Li	
<b>Research on the investment benefit analysis of grid projects considering large-scale distributed PV access</b>	565
He Huang, Yaqiu Hu, Xinchun Wang, Zhongqi Wu	
<b>Optimization of Reverse Logistics Path for Shipbuilding Enterprises under Low- carbon Cost</b>	571
Zhanpeng Zhou, Zhenhua Zhao	
<b>Research on robot path planning algorithm in modern automatic storage environment based on improved A* algorithm</b>	576
Lihua Wang	
<b>Practical bus timetable optimization method based on deep reinforcement learning</b>	581
Junjun Li, Hao Dong, Xuedong Zhao, Liming Tao, Chao Liang, Ying Zhang	

<b>Modeling and Analysis of Airport Surface Traffic Flow Based on Variable Cell Transmission Model</b>	588
Mingyu Guo, Minghua Hu, Fengjie Liang, Zheng Zhao	
<b>FLC: Empower Large-Scale Multi-Label Text Classification via Free Label Correlations Derived from Massive Raw Texts</b>	595
Xianjie Shen, Saimin Ma, Zhenning Lu, Shu Xu	
<b>Development And Optimization of Airborne Display Scene Based on SCADE</b>	603
Qian Song, Li Zhang, Ze Tian	
<b>Application of Hardware in Loop Simulation Technology in Maintenance Training of Complex Systems</b>	608
Junbin Shi, Huanxi Cai, Manman Wang, Guobao Ding	
<b>Electricity Consumption Forecasting in Jiangsu Province Based on Machine Learning Model</b>	613
Lin Liu, Jing Yang, Wenhao Chen	
<b>Modeling and Simulation of Dedicated Railway Transportation Dispatching System Based on Petri Net</b>	617
Xin Bai, Qianguo Chen, Lijun Sun, Qingfang Teng	
<b>On-line Monitoring System of Customer Electricity Safety Based on Power Grid Enterprise</b>	623
Jiawei Li, Lu Lin	
<b>High-risk Factor Mining with Gray Relation Analysis for Pulmonary Infection after Renal Transplantation</b>	627
Xinyu Zhang, Qianxue Yan, Luping Ji	
<b>Big data retrieval model of substation area household change relationship based on coupling feature extraction</b>	632
Jianxi Zhang, Jianwu Ding, Mingchun Li, Zhidong Yang, Xiaojing Kang	
<b>Prediction of COVID-19 Confirmed Cases Combining The LSTM Model and Evolutionary Strategy</b>	637
Xin Tang, Huicong Wu, Yi Chen	
<b>A Design of Satellite-based Integrated Multi-aperture Deployable Antenna</b>	642
Xi Liu, Xingang Zhang, Zhaoxuan Xue, Huayang Cui	
<b>RISC-V processor-based automatic access floating-point computing accelerated dataflow co-processor</b>	647
Chaoxing You, Qitong Wang, Han Zhong, Cheng Liu	
<b>Research on Application of Edge Calculation in Power Grid State Prediction</b>	651
Jun Yu, Min Chen, Hui Zhou, Liuwang Wang, Huafeng Luo, Jianbin Lan	
<b>Improved SLPA algorithm based on the Louvain community module optimization capability</b>	656
Pan Chen	

<b>Technical framework and architecture of Beidou-3 smart grid converged networking</b>	660
Jiangang Lu, Ruifeng Zhao, Shiming Li, Zhiwen Yu, Haobin Li	
<b>Real-Time Deformation Monitoring for Tunnels Using Distributed Millimeter Wave Radar</b>	664
Wenbin Lian, Guozhi Wang, Shang Liu, Guofu Zhu	
<b>Accurate Time Synchronization of Power Device based on Multi-satellite Clock Sources</b>	669
Jiangang Lu, Ruifeng Zhao, Zhiwen Yu, Yue Dai, Kaiwen Zeng	
<b>An Algorithm to Improve SNR of Target Detection by Coherent Synthesis of Multi-Frequency Signals</b>	673
Baorui Liu, Tao Yan, Xiuquan Dou	
<b>A Neural Network Pruning Method by the Sum of Matrix Similarity Measures</b>	679
Xiaoyu Dong, Mengshu Song, Binqi Li, Yuantao Song	
<b>A Comprehensive High Accuracy Positioning Method Based on BD3 System</b>	685
Jiangang Lu, Zhiwen Yu, Kaiwen Zeng, Ruifeng Zhao, Wenxing Guo	
<b>The algorithm of array antenna multi-beam targeting multiple GEO satellites simultaneously</b>	689
Baorui Liu, Xiuquan Dou, Tao Zhou	
<b>SCA: Segmentation based adversarial Color Attack</b>	695
Liangru Sun, Geguang Pu	
<b>The Temporal and Spatial Analysis of County Poverty Prevention in Ningxia Based on Night Light Remote Sensing Data</b>	699
Jingwen Li, Qin Zou, Shiqi Luo, Yaqi Huang, Yanling Lu, Jie Wang	
<b>Balanced computing server data security storage system based on blockchain</b>	707
Wuqiang Shen, Jinbo Zhang, Zhenyue Long, Lei Cui, Zheheng Liang	
<b>Study on Improving Imaging Quality of Spaceborne SAR by Pulse Coding Technology</b>	711
Weizheng Shao, Haifeng Huang	
<b>Learning from the history: Identifying configuration change in software development</b>	716
Yuanliang Zhang	
<b>Indoor Fall Detection Based on Yolov5 And Openpose</b>	721
Yingying Shi, Xin Zhou, Hongyu Ma, Longhua Ma	
<b>Research on constant modulus algorithm of multi-core multiplexing system</b>	727
Fang Wang, Fengping Yan, Qi Qin, Yulin Zhu	
<b>Research on online detection and identification method of vibration signal of cutting process</b>	732
Youzhi Zhang, Xiu Wu, Qiang Shao, Yu Liu	
<b>Routing Distribution Model Based on Node Role for MQTT Broker</b>	736
Yingyue Wang, Zhike Zheng, Chao Shi	

<b>Application of High Performance Computer Based 3D Animation Character Modeling Design System</b>	740
Juan Li	
<b>Evaluation Method of Ship Electronic System Availability Based on Bayesian Inference</b>	745
Zhaojun Hao, Jiming Wang, Tiefei Ma, Qi Li, Xiaofei Wang, Xiang Gao	
<b>Blockchain-based Trusted Software Distribution Mechanism</b>	749
Zhe Zhao	
<b>Data monitoring platform based on Modbus protocol</b>	754
Wei Zhang, Kai Chen, Tao Yang, Yanjun Wang, Chenbo Zhang, Qian Zhang	
<b>Design and Application of Abnormal Cigarette Traceability System for Integrated Test Stand Based on Motion Analysis</b>	759
Yameng Tong, Huiping Wang, Fuqiang Wu, Andong Bi, Botao Yuan, Feng Zeng, Hao Li, Yachao Liu, Hongjiang Duan, Tao Wang	
<b>Clustering Algorithm Based on Many-to-Many Matching in Heterogeneous Cloud Radio Access Network</b>	766
Siquan Xie, Hongxian Tian	
<b>Tag-Based Trust Evaluation In Zero Trust Architecture</b>	772
Chenxin Zhang, Jin He, Baixiang Fan, Yaqiang Gong, Shuo Li, Bo Yin, Yongfeng Lin	
<b>Research on data security sharing mechanism and application based on blockchain and privacy computing</b>	777
Baoluo Ma, Cheng Chi, Juan Tian, Yuwen Zhang	
<b>Intentional knowledge map representation learning method based on fusion of action roadmap</b>	783
Wei Wu, Xiaoze Gong, Yongli Wang	
<b>Multi-physical Field Simulation and Parameter Inversion Method Based on Digital Twin Model</b>	788
Beibei Qu, Chengpeng Yang, Wendong Shen, Fei Li, Junyun Wu	
<b>Storage I/O Acceleration Scheme Based on SPDK in OpenStack Cloud Platform</b>	792
Junli He, Weifeng Gong, Kaiyuan Qi, Guangfeng Su, Wenping Song	
<b>Intelligent Positioning Method of Paging Buttons Based on Machine Learning</b>	796
Jiamin Gao	
<b>Research on Fingerprint Algorithm for Indoor Positioning Based on Improved BP Neural Network</b>	800
Fulin Li, Huanqin Wu, Jun Nie, Hanhua Cao	
<b>An event driven communication architecture model and its application</b>	804
Yizhu Xiong, Heping Ye, Xiangyu Li, Zhiming Wang	
<b>Multi-agent working together based on the improved k-means</b>	812
Feiyu Wang, Jingjing Wang, Haosen Wang, Renhua Zheng	

<b>A Time Domain Radar Signal Imaging Algorithm Based on the Characteristic Points of the Direct Wave Signal of the Transceiver Antenna</b>	817
Miao Yang, Longfei Dang, Mao Wang, Hong Xu	
<b>Research on RF data transmission technology based on intelligent water injection system</b>	821
Baoshan Xue	
<b>Fault Diagnosis Technology of Photovoltaic Device Based on Computer Prediction</b>	825
Dan Peng, Zhanpeng Xu, Peijian Xu	
<b>Research on Technology for Separating ADS-B Overlapped Signals</b>	829
Zhendong Kuang, Jiyan Huang, Yanmin Tan, Zhiyuan Liu, Yufei Liu, Wei Hu	
<b>Document information similarity calculation method based on multi-feature fusion</b>	834
Wenqing Li, Haoyi Tian, Yong Li	
<b>Miniaturized Dual-Band Half-Mode Vivaldi Antenna</b>	838
Fan Yin, Jun Dong, Taixing Jiang, Bingqing Zhong, Wanyun Zhang, Yajuan Liang	
<b>PN code tracking aided by GMSK signal algorithm based on GMSK+PN-FH</b>	842
Songming Liu, Shixun Luo	
<b>Estimation of Underdetermined Sources of Co Frequency Interference Signal Based on GAVMD-SVD</b>	848
Rong Liu, Zhiyong Yu	
<b>Research on Pedestrian Tracking And Location in Dynamic Backgrounds</b>	855
Yuxuan Zeng, Jie Zhan, Lichao Wang, Xudong Wang, Sirui Cheng	
<b>An Efficient Computing Task Offloading Strategy Based on Energy Consumption and Load Balancing Degree</b>	860
Nan Hu, Min Xiang, Chunmei Huang, Lingling Qin, Bin Yang, Ruiqiong Wang, Zhang Luo	
<b>Lightweight Face Pose Estimation Multi-task Model Based On Rotation Matrix</b>	867
Guanghui Ge, Youjia Fu	
<b>An Attentional YOLOv4 Model for Target Detection</b>	871
Fan Liu, Gui Li, Cheng Wu, Likai Zeng, Guangxin Wu	
<b>Design and Implementation of Electronic Data Blockchain Judicial Deposit Platform for Power Grid Business</b>	876
Guomin Li, Jiaxing Xuanline, Wenhao Xue, Fan Jia	
<b>Numerical Study of Electronic Power Simulation Based on Fundamental Calculation Methods</b>	882
Zinan Liu	
<b>Analysis of spatial distribution characteristics and influencing factors of rural tourism in Zhejiang Province based on ArcGIS</b>	886
Yingzhi Wu	

<b>Projectile penetration positioning research based on microphone array</b>	891
Xin Zhang, Changli Wang, Bingwen Qian, Yutao Hu, Ming Ke, Fangli Ning	
<b>Research and application of smart grid data sharing risk assessment method</b>	899
Jingli Feng, Qinglei Guo, Kaiqiang Xian, Jiayi Lang, Hejian Wang, Desheng Bai	
<b>QoS-guaranteed 5G uplink radio resource scheduling algorithm for smart grid systems</b>	903
Yi Tang, Yunfan Yang, Hao Huang, Zhenwei Gu, Nan Zhou	
<b>Research and Application of Key Technologies on Cloud DTS based Intelligent Instructor System: Architecture and Functions</b>	909
Mengyu Ruan, Hongfu Chen, Chunlong Lin, Qi Gao, Wei Jin, Yukun Fan	
<b>Research and software development on auxiliary checking method of harmonic tolerance for substation main equipment</b>	914
Wei Wang, Gang Lv, Yakun Duan, Zongyuan Luo, Lu Cai, Hengshan Xu	
<b>Location algorithm for Wireless Sensor Networks based on Virtual Plumb Line and Optimized Particle Swarm Optimization</b>	919
Yanyan Hu, Xiuwu Yu, Yong Liu	
<b>Situation Awareness Method of Distribution Network Operation Based on Data Mining Technology</b>	923
Ning Wang, Hongwei Han, Xiaokang Wang	
<b>Research on ergonomic improvement of automobile assembly process based on JACK Software</b>	928
Li Wang, Shuting Qin, Cheng Cheng	
<b>Machine-Learning based Transportation Network Sparsification for IoT Trucking Automation and Optimization</b>	933
Di Chang, Zhiming Wang, Xia Zhang	
<b>Technology developing state and trend about advanced driving assistance system and calculating chip</b>	938
Wei Zhang, Jiawei Tang	
<b>Research on a calculation method of target damage effect simulation</b>	944
Guangzhao Lu, Yong Sun, Jinqing Zhao, Weiqing Yang, Di Wang, Shaopan Zhang, Mutian Guo, Chen An	
<b>Research on a simulation model of warning radar</b>	948
Yong Sun, Guangzhao Lu, Jinqing Zhao, Weiqing Yang, Di Wang, Shaopan Zhang, Mutian Guo, Chen An	
<b>Optimized implementations of stream cipher ZUC-256 algorithm</b>	952
Shunchao Wang, Rongcai Zhao, Zhe Yu, Lei Wang	
<b>Finite Element Analysis of Mount Pile Hole Drilling Rig Support</b>	957
Rongquan Fan, Qian He, Yunkai Gao, Heyuqiu Li, Jie Dong, Junjie Lyu	

<b>Digital Music Copyright Protection System Based on Blockchain</b>	962
Yuanyuan Jiang, Jiting Zhou	
<b>Image Privacy Regions Encryption Scheme Based on SIFT Features and Face Detection</b>	967
Shanwu Shao, Ji Li, Ping Shao, Xiangyuan Zhu	
<b>D-Resnet: A Static Gesture Segmentation Recognition Network Based on Feature Fusion</b>	973
Leyi Li, Wenjun Hou	
<b>Improving the Accuracy of Recommendation Systems based on the Relations in Knowledge Graph</b>	978
Yunhao Mei	
<b>Research on Learning method of text graph representation based on knowledge enhancement</b>	983
Yibo Ding, Yang Xiang, Jianting Chen, Ling Ding	
<b>Decoupled Traffic Spatial-Temporal Graph Neural Network for Traffic Flow Prediction</b>	987
Hao Liu	
<b>Path Connectivity Assessment Based on Continuous Sniffing</b>	991
Kai Liu, Menghan Xu	
<b>Design of Lightweight Infrared Image Enhancement Network Based on Adversarial Generation</b>	995
Lehao Pan, Canyu Mo, Jiayuan Li, Zhihua Wu, Tong Liu, Jianghua Cheng	
<b>An Abstractive Text Summarization Method Based on Improved ConvS2S</b>	999
Yufei Zhao, Jian Wang, Yuqi Peng, Xingxing Zhang	
<b>An ISAR Image Classification Method Based On MLP-Mixer Framework</b>	1003
Bowen Sheng, Chengzeng Chen, Ruohui Wang, Beicheng Ding	
<b>Anchor-free 3D point cloud target detection network with attention mechanism</b>	1008
Rui Ma, Shiyue Xu, Jianbo Gao, Xiaolin Cheng	
<b>Air Quality Prediction Model Based on Spatio-temporal Graph Convolution Neural Networks</b>	1015
Weidi Shi, Anjun Song	
<b>Offline handwritten Chinese character recognition based on improved capsule network</b>	1019
Mingyan Han, Haitao Zhang	
<b>Data adversarial enhancement method without lucky ingredients for SAR image ship data</b>	1025
Wei Gao, Yunqing Liu, Yi Zeng, Qi Li	
<b>An abnormal behavior recognition method of intelligent construction site based on Markov random field</b>	1030
Wenqi Huang, Lingyu Liang, Qunsheng Zeng, Ruiye Zhou, Bang Ao	



<b>Stress classification using multispectral imaging technology</b>	1035
Kan Hong	
<b>Sleep Stage Classification via Kernel Extreme Learning Machine with Particle Swarm Optimization Using Heart Rate Variability as Features</b>	1039
Yingdan Cheng, Dongning Liu, Bingo Wing-Kuen Ling	
<b>A Web-Based Audio-to-Sign Language Converter for Chinese National Sign Language</b>	1045
Peiyan Wang, Ning Yin, Krishamoorthy Sujatha	
<b>Design and Implementation of Group Video Animation Based on Intelligent Algorithm</b>	1049
Yongchun Liu	
<b>Animation Video Production System Based on Three Dimensional Vision Sensor Network</b>	1055
Yongchun Liu	
<b>Research on end to end low resource speech synthesis based on meta learning</b>	1059
Guangming Li, Guanyu Li, Yugang Dai, Zhihao Song, Lin Meng	
<b>SVM License Plate Recognition Method Based on PSO Algorithm</b>	1065
Guiliang Song, Zhaoyang Zuo	
<b>A Multi-level Deep Network Algorithm For Image Segmentation In Coal Mine Operation Scenarios</b>	1069
Haoze Liu, Jianxin Zhang, Jiating Qie, Xintao Zhang	
<b>Research on face recognition technology based on fusion depth learning under different light intensity changes</b>	1075
Chao Zhu, Xun Qiao	
<b>Application of Machine Vision Technology in 3D Printing Quality Inspection System</b>	1079
Ying Zhang, Yi Zhang, Xinhao Song, Yongxing Li	
<b>Web Spam Detection based on Single Page Semantic Features</b>	1083
Musheng Chen, Fei Gao, Junhua Wu	
<b>Research on spam message recognition algorithm based on improved naive Bayes</b>	1088
Jihui Fan, Fengshan Yuan	
<b>EEG emotion recognition based on LMD fuzzy entropy</b>	1092
Zhijia Wang, Bin Guo, Zhanying Cui, Jiayang Zhang	
<b>Research on Image Semantic Segmentation Method Based on Combination of DeepLabV3+ and Structure Reparameterization</b>	1096
Yang Li, Fengshan Zou, Zhonghua Wang, Xiaofeng Wang, Shengran Qin, Li Zhang	
<b>Average Time Synchronization Algorithm Based on Dynamic Clustering</b>	1103
Ying Hu, Guifen Chen, Xinyu Zhou, Xinzhou Li	
<b>Improving Adversarial Detection Methods for SAR Image via Joint Contrastive Cross-entropy Training</b>	1107
Zhiwei Zhang, Shuwei Liu, Xunzhang Gao, Yujia Diao	

<b>Intuitionistic fuzzy multi-attribute decision-making method based on improved score function</b>	1111
Nan Zhou, Fuchuan Li	
<b>Face Recognition Based on Collaborative Sparse Representation with Dictionary Learning</b>	1120
Mingzhi Yao, Youbing Feng, Yiqiu Lu, Bo Jin	
<b>Formal modeling method of the weaponry using process based on multi-views and SysML</b>	1125
Bing Zhang, Zixuan Fang, Dongliang Wang, Changchao Gu	
<b>Research on an Enhancement Algorithm of Color Low Illuminance Image Based on Bilateral Filtering and Defog Model</b>	1129
Xueling Long, Xin Dai	
<b>Apple size classification method based on image recognition</b>	1134
Qi Zhang, Hao Cao	
<b>Financial opinion map production system based on cross-domain opinion mining</b>	1139
Qiao Yang	
<b>Deep Temporal Network for VOC Gas Recognition in the Middle Infrared Spectrum</b>	1143
Xingchun Wang, Yuhan Miao, Yan Chen	
<b>Dynamic Community Detection Based on Similarity of Social Network Nodes</b>	1147
Junjie Jia, Lifang Li	
<b>A scene text detection algorithm based on feature filtering and fusion algorithm</b>	1152
Shuailei Yang	
<b>Depthwise Separable Convolutions based relation network for few-shot learning</b>	1156
Qinghua Liu, Xianxin Ke, Tao Xue	
<b>Image Super-Resolution based on Feedback Non-Local and Second-Order Attention</b>	1160
Xiaohui Zhao, Min He, Dongming Zhou, Xinzhi Zhou	
<b>Robust Singular Spectrum Analysis</b>	1165
Wenxi Zhu	
<b>Infrared and Visible Image Fusion Based on Two-scale Edge Preservation Decomposition and Edge Detection</b>	1171
Kai Wang	
<b>Scene change detection based on sequence statistics using structural similarity</b>	1179
Jun Shen, Xi Jiang, Jinshan Zhong, Shimeng Yao	
<b>Time-Frequency Correlated Network Sensing Edge Deployment for Digital Twin</b>	1183
Yue Guo, Yan Zhuang, Xiang Li, Liang Dong, Yuan Liang, Wangsong Ke, Rui Wang	
<b>Enhancing Production Scheduling Provisioning in IIoT Systems with Digital Twin</b>	1188
Yue Dong, Yi Li, Haoren Ke	
<b>Relational Sequence Encoding Graph Attention Network for Aspect-based Sentiment Analysis</b>	1192
Yingkun Yang	

<b>Application of Voiceprint Recognition Based on Improved ECAPA-TDNN</b>	1196
Xiaoyang Dong, Jihong Song	
<b>Improving Intrusion Detection System Using Ensemble Methods and Over-Sampling Technique</b>	1200
Fan Li, Wendan Ma, Huisi Li, Jianhui Li	
<b>Research and Implementation of Intelligent Detection for Deserialization Attack Traffic</b>	1206
Jianhua Chen, Wenchuan Yang, Can Cui, Yang Zhang	
<b>Image denoising method based on double-branch hole residual convolutional neural network</b>	1212
Yue Su, Xinlei Jia, Yali Peng, Shigang Liu	
<b>Research and Implementation of the Algorithm of Flower Recognition Based on Deep Learning</b>	1217
Jie Zhang	
<b>Analysis of the Relationship between Internal Waves and Tidal Currents Based on a SAR Image</b>	1222
Bingzhi He, Kan Zeng	
<b>Image Classification Algorithm combining Local Feature and Attention</b>	1226
Xiaoxue Zhang, Ansheng Deng, Yuntao Wang, Zihao Wang	
<b>Interference-Aware Latency Prediction With Kernels For Deep Neural Network</b>	1232
Peijie Huang, Xiufeng Sui, Dawei Liu, Liyue Zhu	
<b>Intelligent recognition method of indication of substation pointer instrument based on deformable convolution neural network</b>	1239
Guohua Lu, Zhiyong Tong, Junhui Wang, Likun Gao	
<b>A Loop Closure Detection Method Based On CNN For Extracting Global And Local Features</b>	1244
Zhiqiang Xie, Hao Jiang, Wei Zhang, Ben Wang	
<b>Image defogging algorithm based on sky area recognition</b>	1249
Yamei Li, Yuhao Fan	
<b>Research and comparison on identification and prediction methods of air traffic network congestion</b>	1256
Zheng Zhao, Jialing Yuan, Ying Liu	
<b>Chinese text summary generation based on Seq2Seq framework</b>	1265
Lingming Meng, Weimin Qi, Yongkang Zhou	
<b>Research on lightweight security aggregation transmission method for massive vehicle network interaction data</b>	1270
Minglu Yao, Jian Zhang, Siwei Li, Ting Yang	
<b>A Star Identification Algorithm based on Radial Basis Neural Network</b>	1274
Bowei Chen, Shiqiao Qin, Dongkai Dai	

<b>Optimization of energy consumption with hybrid cooperative NOMA for secure MEC</b>	1279
Xincheng Fu, Xueyong Yu, Shuyang Wang	
<b>Automated ensemble method for merging retinal photoreceptor identification results on adaptive optics scanning laser ophthalmoscope images</b>	1286
Yiwei Chen, Yi He, Jing Wang, Wanyue Li, Lina Xing, Xin Zhang, Guohua Shi	
<b>A Suppression Strategy of Bus Voltage Transient Sag Caused by Heat Pump with AdaDelta Algorithm</b>	1291
Yangyang Zhao, Chaoliang Wang, Lei Guo, Tao Xiao, Baiqiang Shen	
<b>Research and Implementation of Onboard BTM Demodulation OQPSK Based on FPGA</b>	1297
Genzhu Jiang, Qing Xu	
<b>Development, Simulation and Experiment of Municipal Pipeline Installation Equipment</b>	1303
Xiaotong Ba, Guangjun Liu	
<b>A quality measurement and sorting system for Kiwi fruit based on automatic identification technologies</b>	1308
Zhili Qian, Shengyi Yang, Wenping Cao	
<b>Research on Adaptive Fault Diagnosis Method for Multi-type Circuit Breakers</b>	1313
Yaqi Chen, Qiong Li, Yang Zou, Yuxing Jia, Yihui Wu, Muliang Cai	
<b>Prediction of temporal and spatial distribution of electric vehicle charging load considering the characteristics of mountainous cities</b>	1321
Fangxing Chen, Wei Xiang, Zhenqi Guan, Hao Tan, Jianbo Yu, Hongyu Long	
<b>Numerical Simulation Study on Jet Washing Effect of Chemical Ship</b>	1327
Kaiping Xie, Jianwei Zhang	
<b>Design of Intelligent Flow Control System for Extracorporeal Cardiopulmonary Support Based on Blood Oxygen Feedback</b>	1331
Xiaoqin Lian, Zhihong Luo, Chao Gao, Jiachen Mi	
<b>Load Frequency Control of Microgrid Based Risk-Averse Model Predictive Control</b>	1338
Yuntao Shi, Tingshen Chneg, Tao Zhang, Xiang Yin, Guishuai Wang	
<b>Research on Healthy Bracelet Based on Projection Pursuit Algorithm</b>	1343
Xianguo Wang, Xing Yu, Juan Ding, Chunxi Guan, Rong Zhu, Xiu He	
<b>Design and Implementation of Smart Home System Based on STM32</b>	1352
Mi Liu, Yubo Zhang, Zhentao Shi	
<b>Automatic Generation Of Mobile Application Behavior Statement Template Based On API Call Graph</b>	1358
Zixu Kong, Xuejun Yu	
<b>Theoretical modeling and experimental verification analysis of mechanical vibration characteristics of converter transformer winding and bushing accessories</b>	1364
Shiling Zhang, Wei Song, Liangjun Dai, Xuanjie Zhou	

<b>Congestion control algorithm for power internet of things based on bandwidth estimation</b>	1370
Wenyan Xie, Xueying Lu, Haiji Wang, Jiankun Hu	
<b>Flexible Pressure Sensors and Their Applications in Wearable Electronics</b>	1374
Mujun Yu, Yang Zhang, Yuchen Han, Yuzhen Zhang	
<b>A 3D Model-Driven Integration and Visualization Framework for Aerospace Engineering Data</b>	1379
Haijun Yu, Yunfei Liu, Yunziwei Deng, Shengyang Li	
<b>Machine Learning-Based Adaptive Fault Detection Method for Wind Turbine Gearboxes with Imbalanced Data through An IIoT Platform</b>	1383
Xiao Fu, Junyi Han, Xinnuo Li, Kuo Cao	
<b>An Imaging Algorithm for Obstacle Detection of Tunnel Horizontal Transporter Based on Millimeter Wave Radar</b>	1388
Kai Wang, Zhiheng Wang, Yonghui Yang, Xingyou Li, Wenfan Yang, Chan Wang, Xiaoyu Wang	
<b>Research and Test on Beidou Positioning for Shared Bicycles</b>	1394
Rui Huang, Yi Huang, Shuai Zhang, Xun Dai	
<b>Research on Automatic Emergency Braking System Control Based on TTC Algorithm</b>	1399
Jian Wang, Mingzhe Fei, Changfeng Zhou, Dasheng Li, Zhiyong Yang, Wenlong Chang	
<b>Physical Layer Security for FSO-based Data Center</b>	1403
Wenning Lu, Bingbing Li	
<b>Design and Implementation Of Automatic Gain Control Algorithm In Power Line Communication</b>	1408
Xu Zhang, Zheng Li, Bingjie Li, Zhijie Chen, Peiyuan Wan	
<b>Intelligent diagnosis technology of oil well working condition based on deep residual network</b>	1412
Tianyu Wang, Zhongxian Gao, Siqi He, Yao Long, Hongwei Du, Liang Sun	
<b>Missile overall parameter optimization design based on the simulated annealing-particle swarm optimization algorithm</b>	1416
Gang Lei, Yunshu Li, Wei Luo, Canhui Lai	
<b>Design of space power supply telemetry and telecommand system based on state transition diagram</b>	1423
Gengxin Shi, Dawei Li, Jianping Li, Taifeng Zhang, Fengping He, Wenhua Li	
<b>Automatic Output Method of Adhesion Spectrum Based on Atomic Force Microscope</b>	1428
Mingxin Chen, Lanjiao Liu, Yifan Gao, Liguo Tian	
<b>Research on cooling control strategy of mine electric vehicle driving system</b>	1433
Zhe Xue, Yuhao Wei	
<b>Bus voltage stabilization control of AC microgrid based on active disturbance rejection control</b>	1439
Bo Zhang, Liying Sun	

<b>ADRC in Steady Speed Control of Medical Shaver system</b>	1443
Qiming Zhou, Wei Yuan, Yiwen Ma	
<b>Path planning of cotton bale handling robot based on improved gray wolf optimization algorithm</b>	1448
Wenqian Wang, Jianjun Wu, Zhongjie Zhang, Zhihui Li	
<b>Research on Intelligent Control Decision of Manipulator Based on Deep Reinforcement Learning</b>	1454
Min Li, Dan Zhu, Jie Shen, Hao Yan, Sufu Li, Kun Wang, Haijun Yuan	
<b>Development and Application of Financial Analysis Report Robot Based on RPA and VBA Technology</b>	1458
Yingmin Zhang, Shuqin Hao	
<b>Research and implementation of obfuscation binary code similarity detection</b>	1462
Yang Zhang, Da Xiao, XinHao Guo, Can Cui	
<b>Application of Grey Correlation Analysis in Intelligent Logistics Stereoscopic Warehouse Location</b>	1467
Xue Zhang, Jie Sun, Chao Zhang	
<b>The Design of Multipliers Based on Radix-4 Booth Coding</b>	1471
Haochi Wang, Youyao Liu, Jiawei Han	
<b>Research on the Model of Medical Early Warning and Automatic Call For Help Based on Vital Signs</b>	1476
Qiang Cao, Suihai Chen, Yingqiang Wang, Hongjin Zhu, Zhenduo Wang, Madhavi Devaraj	
<b>Coverages Coordinated Multi-UAV Trajectory Optimization for PloT Devices</b>	1482
Liang Dong, Xiang Li, Yan Zhuang, Yue Guo, Zhaoyu Zhu, Yuan Liang, Shuya Zhu	
<b><i>Adaptive Block-Based Compressed Sensing Based on Pre-sampling Using LDPC matrices</i></b>	1488
Zhuyuan Xie, Junkai Xia, Mengjuan Ma	
<b>A command and control partition system based on unified access platform</b>	1492
Yizhuo Yang, Hongjin Zeng, Tingping Chen, Meng Lv	
<b>An Improved Nginx Dynamic Load Balancing Algorithm</b>	1499
Gen Zhang, Qiyong Chen, Mingfeng Chen, Zhaoyu Su, Shaohua Sun, Yijie Zhou	
<b>Study on the Operational Safety Evaluation of High-speed Train under Strong Winds by Fuzzy Matter-element</b>	1504
Xiwen Wang, Wenzhe Qi, Decang Li, Gaoyang Meng	
<b>Improved Simulated Annealing Algorithm for Scheduling of Multi-load AGV Workshop with Limited Buffer Capacity</b>	1509
Zishi Wang, Jinchang Hu, Yaohua Wu, Yanyan Wang	
<b>A method of integrating machine learning algorithm to predict user behavior</b>	1516
Yue Qi, Xiaocui Wang, Na Li, Xue Zhang	

<b>Design of Intelligent Ammeter Sorting Robot System Based on Digital Twins</b>	1520
Qiuying Shen, Min Li, Dan Zhu, Bo Yang, Hao Yan, Sufu Li, Kun Wang	
<b>A Transfer Learning based Model for Knowledge Graph in Power Grid</b>	1524
Qionglan Na, Dan Su, Jiaojiao Zhang, Xin Li, Na Xiao	
<b>An Adaptive Rate Allocation Method for Distributed Compressive Video Sensing</b>	1528
Junkai Xia, Mengjuan Ma, Zhuyuan Xie	
<b>Application of intelligent fault diagnosis technology in AC voltage regulating circuit</b>	1532
Hao Meng, Naifa Gong, Wenli Xu, Xiaoshan Yao, Huihuang Mao, Neng Liao	
<b>Numerical study of aerodynamic noise characteristics of bionic pantograph head for high-speed trains</b>	1538
Bo Cai, Chang Liu, Liangwen Wei, Xiaoyu Zhou, Bingzhi Chen	
<b>Dual Arm Rubik's Cube Solver Robot</b>	1545
Chenglong Song	
<b>Mechanized construction technology of transmission line based on 3d visualization</b>	1550
Kejian Nie, Benzhaofu, Yuanhao Chen	
<b>Modeling and simulation of auto throttle control system based on Simulink</b>	1554
Jie Ke, Bihai He, Xu Zhang, Chongwen Jin, Kuan Feng	
<b>AI Intelligent Control Method for Energy Saving of HVAC Equipment in Smart Parks Based on Deep Learning</b>	1560
Peiping Lu, Yuping Liu, Jinyan Zhou	
<b>Application of Particle Swarm Optimization and Genetic Algorithm to the optimal design of CO<sub>2</sub> gas cooler</b>	1565
Jingyang Cai, Yichun Wang, Fen Guo, Hongzeng Ji, Xiaoyu Huang, Xiuhui Duan	
<b>Model and Algorithm for Pick-up Site Optimization Considering Evacuation Demand and Crowd Convenience</b>	1573
Mingxia Gao	
<b>Pixhawk-based scalable platform for multi-purpose surface unmanned vehicle</b>	1577
Jiabao Song, Haiwen Yuan, Bulin Zhang	
<b>Evaluation method of vehicle-station-net interaction strategy based on entropy weighting and hierarchical analysis</b>	1581
Yanjun Xi, Xuze Zhang, Jian Zhang, Qiang Wang, Fanjie Meng, Yang Ji	
<b>Design of real-time ECG monitoring wearable equipment based on the Holter system</b>	1585
Wenshu Liu, Chunyu Li, Jinmei Zhang	
<b>Data-driven modeling method based on hybrid neural network</b>	1589
Xiaolin Qiu, Zhikai Gan, Cheng Qiu, Wenzhan Zhang, Dan Liao	

<b>Research On Nonlinear Gain Adaptive Sliding Mode Control Of Ship Trajectory Tracking Based On Disturbance Observer</b>	1593
Zhaoyan Zhong, Jingtao Yao, Hongcheng Ma, Guibin Zhao, Jia Ren	
<b>Analysis of control valve opening prediction based on pipe heat transfer principle and Flowmaster simulation: a case study</b>	1600
Chunyin Deng	
<b>Spacecraft Operation Process Monitoring and Fault Diagnosis System</b>	1605
Fan Yang, Junliang Cai, Jiang Liu, Junying Wang, Mengfei Wang, Fengjun Guo	
<b>A Genetic Algorithm with Memory Function</b>	1610
Hongbo Gao, Ping Zhao, Qiangda Yang	
<b>Author Index</b>	