# 2024 International Conference on Electrical Drives, Power Electronics & Engineering (EDPEE 2024)

Athens, Greece 27 – 29 February 2024

Pages 516-1035



**IEEE Catalog Number: ISBN:** 

CFP24UU2-POD 979-8-3503-9564-8

## Copyright © 2024 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:
 CFP24UU2-POD

 ISBN (Print-On-Demand):
 979-8-3503-9564-8

 ISBN (Online):
 979-8-3503-9563-1

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

Curran Associates, Inc 57 Morehouse Lane Red Hook, NY 12571 USA Phone: (845) 758-040

Phone: (845) 758-0400 Fax: (845) 758-2633

E-mail: curran@proceedings.com Web: www.proceedings.com



### 2024 International Conference on Electrical Drives, Power Electronics & Engineering (EDPEE)

### **EDPEE 2024**

#### **Table of Contents**

Message from the Program Committee
EDPEE 2024
Design of Automatic Disaster Detection Algorithm for Remote Sensing Images Based on Deep Learning
Numerical Simulation of Fire and Safety Evacuation in a University Dormitory
Performance Simulation Analysis of Energy Internet Communication Network Based on Integrated Deep Belief Networks
Lightweight Design and Mechanical Simulation of a New Four Channel Frequency-Conversion  Module

Construction of Regional Energy Internet Information Management System Based on Big Data22 Rongtao Liao (Information & Communication Branch of State Grid Hubei Electric Power Company, China), Yuxuan Ye (Information & Communication Branch of State Grid Hubei Electric Power Company, China), Lei Li (Information & Communication Branch of State Grid Hubei Electric Power Company, China), Jian Zhang (Information & Communication Branch of State Grid Hubei Electric Power Company, China), and Yujie Zhang (Information & Communication Branch of State Grid Hubei Electric Power Company, China)
Research on System Engineering Application in Substation Project Management
Design of Virtual Assistant and Human Machine Dialogue System Based on Natural Language Processing Algorithms
Developing a Green GGDP Calculation Model to Predict the Impact of Global Climate  Mitigation
Optimization Design of Distribution Terminal Automation Joint Debugging System Based on Artificial Intelligence Algorithm
Application of Computer GIS Remote Sensing and Intelligent Information System in Rural Planning
Optimal Design of Battery Life Prediction Algorithm for New Energy Vehicles Based on Deep Learning
Research on Computer Intelligent Auxiliary System of Accounting Cost Accounting in Large Enterprises
Abnormal Detection of Mechanical Automation Production Process Based on Support Vector  Machine

search on Intelligent Access Optimization Model of Power Construction Subcontractors sed on Data Mining Algorithm	67
Yulei Tao (State Grid Gansu Electric Power Company, China), Yaping Liu (State Grid Gansu Electric Power Company, China), Duoxian Zhao (State Grid Gansu Electric Power Company, China), Ming Ma (State Grid Gansu Electric Power Company, China), and Xipeng Liu (Gansu Tongxing Intelligent Technology Development Co., Ltd, China)	
Instruction of "Source-Network-Load-Storage" Smart Energy Internet Based on Multiple Fordinated Control of Source-Network-Load-Storage	71
ediction of Stroke Probability by Data Analyzing and Model Training	78
ergy Internet Channel and Power Joint Optimization Game Algorithm Based on Fuzzy Neural etwork Model Lei Li (Information & Communication Branch of State Grid Hubei Electric Power Company, China), Zheng Zhou (Information & Communication Branch of State Grid Hubei Electric Power Company, China), Yixi Wang (Information & Communication Branch of State Grid Hubei Electric Power Company, China), Huanjun Hu (Information & Communication Branch of State Grid Hubei Electric Power Company, China), and Yujie Zhang (Information & Communication Branch of State Grid Hubei Electric Power Company, China)	83
ndy of the Thermal Conductivity of Ice Based on Higher-Order Fitting Functions Yichen Bao (North China Electric Power University, China) and Wenjun Ding (North China Electric Power University, China)	89
Fault Prediction Method for Meteorological Disasters of Grid Equipment Based on uipment Vulnerability	94
oplication of Machine Learning and Multi-Objective Optimization in Shale Oil Ultimate coverable Reserves Prediction	00
ordination of Global Data Asset Management in Digital Power Grid Corporation	04

Research on the Application of Computer Vision Technology in the Virtual Effect Visualization System of Prefabricated Buildings	109
Yu He (Chongqing Metropolitan College of Science and Technology, China)	
Design of Personalized Book Recommendation System for Smart Library Based on Recommendation Algorithm and User Behavior Analysis	114
Correlation Analysis Between Software Performance of In-Vehicle Infotainment System and Chip	120
(CATARC Software Testing (Tianjin) Co., Ltd, China), Yu Su (CATARC Software Testing (Tianjin) Co., Ltd, China), and Ruiqing Zhai (CATARC Software Testing (Tianjin) Co., Ltd, China)	
Construction of Intelligent Automation Control System for High Voltage Circuit Breakers Based on Wavelet Transform	124
Zhangwei Yu (State Grid Shandong Electric Power Company Rizhao Power Supply Company, China), Shanhui Du (State Grid Shandong Electric Power Company Rizhao Power Supply Company, China), Yang Song (State Grid Shandong Electric Power Company Rizhao Power Supply Company, China), and Rui Zhang (State Grid Shandong Electric Power Company Rizhao Power Supply Company, China)	
Modeling and Application of Enterprise Financial Affairs Crisis Pre-Alarm Based on Decision Trees Algorithm	129
Research on Design and Optimization Methods of Intelligent Sensors Based on Optoelectronic Detection Technology	134
Optimization Study of Wave Energy Device Parameters Base on Multivariate Objective Optimization	140
Simulation of Reliability Assessment Model of EnergyNet Based on Convolutional Neural Network	146

Design of College User Portrait System Based on Data Centers  Yingying Tang (Taizhou Vocational and Technical College, China), Qiaoqi Shu (Taizhou Vocational and Technical College, China), Ruihao Ye (Taizhou Vocational and Technical College, China), and Liyu Chen (Tiantai County Fuxi Community Central Primary School, China)	152
Research on Optimal Zoning of Energy Internet Source Load Matching Power Grid Based on Improved K-Means Algorithm	156
Research on the Application of Composite Cycle G71 in Different CNC System Lathes	162
Tree Growth Simulation and Safe Distance Calculation Algorithm Design of Transmission Channel Based on Deep Learning Lei Shi (Guizhou Power Grid Limited Liability Company Intelligent Operation Center, China), Chun Xie (Guizhou Power Grid Limited Liability Company Intelligent Operation Center, China), and Kaifeng Deng (Guizhou Power Grid Limited Liability Company Intelligent Operation Center, China)	166
Design of Intelligent Controller for Strawberry Planting Greenhouse	172
Health State Perception Model of Distribution Equipment Driven By Multi-Source Environmental Data Based on Deep Learning	176
Theroy and Application Analysis of IoT-Enabled Integrated Circuits	182
Construction of Remote Sensing Matching Positioning and Emergency Rescue System Based on Genetic Algorithm	
Implementation and Applications of Neural Networks Based on FPGA  Jiajun Li (Shenzhen College of International Education, China), Chuhuan Zhang (Nanjing University of Aeronautics and Astronautics, China), and Xiangcheng Ma (Shenzhen College of International Education, China)	192

Research on Two-way Transmission of Energy Internet Source and Load Based on Analysis of Power Grid Source and Load Characteristics	195
Yixi Wang (Information&Communication Branch of Hubei Epc., China), Shengwei Wang (Information&Communication Branch of Hubei Epc., China), Yuxuan Ye (Information&Communication Branch of Hubei Epc., China), Jian Zhang (Information&Communication Branch of Hubei Epc., China), and Huanjun Hu (Information&Communication Branch of Hubei Epc., China)	
Lightweight Design and Simulation of Robot Arm	201
Simulation of Load Classification and Load Forecasting Model for Energy Internet Based on Neural Network Models	207
Numerical Simulation Study Based on the Internal Flow of a Dual Oil Circuit Nozzle	212
Talent Recommendation and Matching System Based on Collaborative Filtering	216
Analysis on Evaluation and Design of Intelligent Cockpit in Automobiles	222
An Automatic Assessment and Optimization Algorithm for English Translation Software Combining Deep Learning and Natural Language Processing	226
A Tunable Dual-Band Terahertz Metasurface Based on Dirac Semimetal	232
Construction of Efficient Thinning Model of Point Cloud Data Based on PCA and Deep Learning  Shiping Yang (Power grid Planning Research Center of Guizhou Power Grid Co., LTD, China), Chen Luo (Power grid Planning Research Center of Guizhou Power Grid Co., LTD, China), Bin Wang (Power grid Planning Research Center of Guizhou Power Grid Co., LTD, China), Xuepeng Mou (Power grid Planning Research Center of Guizhou Power Grid Co., LTD, China), and Wei Wang (Power grid Planning Research Center of Guizhou Power Grid Co., LTD, China)	. 237
Numerical Simulation of Laser Deposition Manufacturing Based on Feature Islands	. 242

Construction of a Differentiated Planning Model for the Electric Power Internet Based on an Improved Genetic Algorithm	47
A Study on Design of Dragonfly Flapping Wing Micro Air Vehicle System	52
Design of Characteristic Marking System for Danger Sources Invasion by Tree Barriers in  Transmission Channels Based on Random Forest Algorithm	59
Research on the Progress of Remote Sensing and Geographic Information System Technology Application	64
Vibrational De-Icing Technology for Power Transmission Lines: An Innovative Approach	68
Research on Information System Under Computer Big Data Cloud Computing Environment 2 Jiangang Sun (State Grid Information & Telecommunication Branch, China), Liang Chen (State Grid Information & Telecommunication Branch, China), Menglei Zhang (State Grid Information & Telecommunication Branch, China), Huaiyu Wang (State Grid Information & Telecommunication Branch, China), Jingwen Zhang (State Grid Information & Telecommunication Branch, China), Jinyi Sun (State Grid Information & Telecommunication Branch, China), and Yanhong Li (NARI Group Corporation Information System Integration Company, China)	73
A Model and Simulation of EnergyNet Information Risk Transmission Based on Deep Learning 2' Yixi Wang (Information&Communication Branch of Hubei epc., China), Qiang Rao (State Grid Hubei Electric Power CO. LTD., China), Yuxuan Ye (Information&Communication Branch of Hubei epc., China), Shengwei Wang (Information&Communication Branch of Hubei epc., China), and Jialin Chen (Information&Communication Branch of Hubei epc., China)	78

Research on Ultrasonic Vibration Cutting Performance Based on Computer-Aided Engineering 283 Qi Liu (Yanshan University, China), Tianyu Hu (Jilin Agricultural University, China), and Wenqi Liu (Xi'an University of Architecture and Technology, China)	
Application of Neural Network Algorithm to Load Forecasting of Distribution Network	
Research on Power Transaction Data Platform Based on Cloud Service	
Research on Deterministic Network Prototype of Two-way Transmission of Source and Load in Energy Internet Based on Deep Learning	
Research on the Distribution and Diffusion of Particulate Matter in Urban Street Canyons  Based on CiteSpace	
Simulation Study on the Competitive Game Model of Microgrid Market in the Face to Face Energy Internet	
Stiffness Analysis of 3-TPT Parallel Robot	
Real Time Scheduling and Intelligent Prediction Algorithm for Electric Vehicle Charging Station Based on Big Data Analysis	:

Computer Network Intelligent Analysis Platform Based on Big Data	329
DDos Attack Detection Method Based on Information Entropy and Naive Bayes	.335
Engine Detection and Online Monitoring Technology Based on Image Recognition	341
Constructing an Intelligent Manufacturing Knowledge Graph in Electricity Big Data Using Machine Learning Algorithms  Yangyun Guo (China Southern Power Grid Digital Power Grid Research Institute Co., Ltd., China), Shuyu Xiao (China Southern Power Grid Digital Power Grid Research Institute Co., Ltd., China), Min Luo (China Southern Power Grid Digital Power Grid Research Institute Co., Ltd., China), Shangli Zhou (China Southern Power Grid Digital Power Grid Research Institute Co., Ltd., China), and Yuchen Lai (China Southern Power Grid Digital Power Grid Research Institute Co., Ltd., China)	. 347
A Systematic Analysis on the Research Trends of Machine Learning in Supply Chain  Management  Danyu Zhao (University of Wollongong, Australia)	.352
Design of Automatic Production Algorithm for Ceramic Patterns Based on Machine Learning  Yueming He (Fuzhou University, China) and Xinyue Xu (Fuzhou University, China)	359
Computer Network Data Security Encryption Technology	. 365
Research on Load Forecasting Model of Energy Internet Network Based on Fuzzy Neural Network  Lei Li (Information & Communication Branch of State Grid Hubei Electric Power Company, China), Zheng Zhou (Information & Communication Branch of State Grid Hubei Electric Power Company, China), Yuxuan Ye (Information & Communication Branch of State Grid Hubei Electric Power Company, China), Jian Zhang (Information & Communication Branch of State Grid Hubei Electric Power Company, China), and Yujie Zhang (Information & Communication Branch of State Grid Hubei Electric Power Company, China)	.370
Analysis of Sea Ice Area Fluctuation in the Arctic Circle Based on Big Data and SARIMA  Model	376

Simulation Research on Differentiated Configuration Model of Green Power Certificate for Energy Internet	31
The Application of Neural Networks in the Field of Architecture in Machine Learning	36
Research on Intelligent Cockpit Information Integration Algorithm Based on Sensor Data Fusion	}1
Assessment and Research of Destructive Effects of the Space-Based Weapon	<b>)</b> 7
Mechanical Parts Life Prediction and Health Monitoring System Based on Deep Learning	)4
Numerical Simulation Research on Wellbore Stability of Ultra-Deep and High-Pressure Gas Wells	)8
Optimization of Path Planning Algorithm in Intelligent Air Traffic Management System	∟ <b>7</b>
Research on Construction Cost Control System of Project Management Based on Computer BIM Technology	<u>2</u> 3
Research on Malicious Software Detection and Clearing Algorithms Based on Artificial Intelligence	<u>2</u> 8

Research on LID Facility System Based on SWMM Digital Model	34
Optimization and Application of Neural Network Machine Translation Model Based on Deep Learning	40
Optimization and Operation Strategy of Intelligent Energy Platform Based on Big Data	46
Pan Xinyu (State Grid Info-Telecom Greate Power Science and Technology Co.Ltd, China), and Wang Ruoxue (Fuzhou Power Supply Company of State Grid Fujian Electric Power Company, China)	
Adaptive Control and Path Planning Algorithm for Intelligent Robots Based on Reinforcement  Learning	51
Design of Unstructured Data Management Platform for Power Enterprises Based on the Internet of Things	55
Design of Automatic Search and Rescue UAV Based on Jetson Nano Combined with PX4 Pixhawk Flight Controller and Color Recognition Technology	60
Application and Development of Wearable Sensing Devices for Health Monitoring of the Elderly	67
Design and Practice of Human-Machine Collaborative Manufacturing System Based on Mechatronics Equipment	71
A Review of Semi-Physical Simulation Techniques for Aircraft Ring Control Systems	76

A Study Focusing on Load Optimization in Power Systems Using Neural Networks and Genetic Algorithms  Juanjuan Song (Zibo Technician College, China)	. 482
Selection of Medium Voltage Enclosed Busbar System in Power Plant Guoyuan Li (Henan Electric Power Survey & Design Institute, China), Kaiqiang Li (Henan Electric Power Survey & Design Institute, China), Peng Peng (Henan Electric Power Survey & Design Institute, China), and Xiaobing Chen (Henan Electric Power Survey & Design Institute, China)	.485
Design of Financial Information Disclosure Decision Support System Based on Greedy Algorithm Yueting Tang (Engineering Vocational College, China), Shuhua Li (Engineering Vocational College, China), and Jinxing Gu (Engineering Vocational College, China)	. 490
Research on the Application of Supply Chain Management Under Big Data and Blockchain Technology	. 497
Application of Big Data Analysis in Abnormal Detection of Power Grid Business Data	. 504
Analysis of Information Security Processing Technology Based on Computer Big Data	. 510
Design of Partial Discharge Detection and Anti-Interference System for Distribution  Network Cable Joints Based on Edge Calculation  Xiaokang Wang (State Grid Ningxia Electric Power Co., Ltd., China),  Guang Yang (State Grid Ningxia Electric Power Co., Ltd., China),  Jiabin He (State Grid Ningxia Electric Power Co., Ltd., China), Lei  Ding (State Grid Ningxia Electric Power Co., Ltd., China), Xueling Ma  (State Grid Ningxia Electric Power Co., Ltd., China), Penggang Li  (Tianjin Haoyuan Huineng Co., Ltd, China), and Xiaofeng Li (Tianjin  Haoyuan Huineng Co., Ltd, China)	. 516
Exploration 5G Fronthaul Technology & Networking Solutions  Rongchang Wei (Guangxi Science & Technology Normal University, China)  and Xiaoqiang Luo (Guangxi Science & Technology Normal University, China)	.522
Simulation Study on Generation Grid Load Coordination Model of Active Distribution Network Based on Deep Learning	. 525

Research on the Construction of RMF Model and Optimization Measures of Electric Power  Emergency Command System
Tao Li (State Grid Corporation of China, China), Cheng Guan (State Grid Intelligent Power Grid Research Institute, China), and Diange Fang (State Grid Intelligent Power Grid Research Institute, China)
Optimization Design of Data Compression and Transmission Optimization Algorithm for Facial
Energy Internet
Progressive Forming of Curved Circular Hole Flanging Based on Contour Forming Trajectory 54: Bodong Wang (Shenyang Aerospace University, China)
Research on Dynamic Network Security Defense Mechanism Based on Simulated Intrusion
Research on Decision Optimization Based on Big Data Analysis and Calculation
Application of Image Recognition Technology in 3D Printing Material Selection
Research on Vehicle Crash Safety Testing and Evaluation Based on Virtual Reality Technology
Zhao Bowen (China Auto Information Technology (Tianjin) Co., Ltd, China), Guo Xin (China Auto Information Technology (Tianjin) Co., Ltd, China), Yu Xince (China Auto Information Technology (Tianjin) Co., Ltd, China), Qin Lipeng (China Auto Information Technology (Tianjin) Co., Ltd, China), Zhao Jie (China Auto Information Technology (Tianjin) Co., Ltd, China), and Qiu Zhen (China Auto Information Technology (Tianjin) Co., Ltd, China)
Design of A Multi-Agent System for Electric Vehicle Cluster Regulation Based on Collaborative Filtering Algorithm
Grid Beijing Electric Power Company, China), and Qiong Wang (State Grid Beijing Electric Power Company, China)

Predictive Analysis of Yellow River Water and Sand Monitoring Data Based on the ARIMA Model	575
Hongyu Tao (Liming Vocational University, China), Qi Sun (Liming Vocational University, China), Ruiyi Wu (Liming Vocational University, China), Xijuan Zeng (Liming Vocational University, China), and Xiaoli Liu (Liming Vocational University, China)	
Application of Radio Frequency Identification Technology in Maintenance Tracking of Aircraft Electromechanical Equipment	.580
Application of Artificial Intelligence and Big Data in Smart Buildings	586
Application of Image Recognition Based on Deep Learning in Visual Communication Design  Chengjun Zhou (Hubei University of Technology, China) and Yan Qu (Hubei University of Technology, China)	591
Research on Classification Algorithm of Graph Neural Network Based on Combination of Graph Neural Network and LSTM	597
Simulation of Big Data Anomaly Detection Algorithm Based on Neural Network Under Cloud Computing Platform  Liang Liang (Zhengde Polytechnic, China)	603
Application of Enterprise Master Data Management System in the Informatization of Electric Power Enterprises	609
Student Mental Health Risk Prediction Based on Apriori Algorithm in the Context of Big Data  Jiao Chen (Chengdu Polytechnic, China)	615
ExtractiveAbstractive Text Automatic Summary Based on the BERT Graph Model	619
Application of Multi-Sensor Fusion Precise Positioning and Autonomous Navigation Technology in Substation Intelligent Inspection Robot	624
Design and Testing Research of Single Phase Carrier Energy Meter	630
Research on the Application and Optimization of Convolutional Neural Networks in Digital Audit Platforms  Jie Guo (State Grid Beijing Electric Power Corporation, China), Tingting Wu (State Grid Beijing Electric Power Corporation, China), Wenlan Li (State Grid Beijing Electric Power Corporation, China), and Ting Li (State Grid Beijing Electric Power Corporation, China)	635

Design of an Intelligent Decision System for Polymer Flooding Injection Plans Combining
Fuzzy Logic and Genetic Algorithm
The Design of a Fuzzy Clustering Algorithm-Based Subsumption and Classification System for Digitized Chinese Language Teaching Resources
Fault Diagnosis and Prediction of Oil Field Mechanical Recovery Combined with Multi-Source  Data Fusion and Machine Learning
Research and Practice of Intelligent Scheduling Algorithm Based on Machine Vision in  Mechanical Equipment Manufacturing
Research on Media Art Cloud Service Based on Data Mining in Big Data Era
Intelligent Analysis and Prediction of User Electricity Consumption Status Based on Big  Data
Simulation of Automatic Recognition System for Japanese Text Mistranslation Sentences  Based on Deep Neural Network Algorithm
Fluorescence Signal Enhancement and Noise Suppression Algorithm for Microscopic Imaging of Plant Living Cells Based on Machine Learning
Research on Intelligent Low-Dimensional Manifold Algorithm Based on Heegaard Mathematical  Model
Research on Real-Time Processing and Visualization Algorithms for Carbon Emission Data  Based on the Internet of Things
Road Dynamic Landscape Design and Simulation Based on Fuzzy Clustering Algorithm

Research on Network Security Measures in Electric Power Communication Network	705
Construction of Animation Story Board Model Based on Genetic Algorithm	. 712
Efficient Laser Paint Removal Strategy Through the Fusion of Computer Vision and Image Processing	. 718
Simulation of Machine-Assisted Translation Model Based on Python Data Analysis	724
Real-Time Data Analysis of Mechanical Sensor Networks Under the Background of Industrial Internet  Mingxing Hu (Zibo Technician College, China)	. 729
Simulation of Manufacturing Procurement Cost Control Model Based on Hybrid Genetic Algorithm  Hao Wang (Nanning University, China), Lei Chen (Guangxi Quality Technology Engineering School, China), Jing Zhu (Big Data Academy, China), and Yanfeng Wu (SPD Bank Nanning Branch, China)	733
Optimization Algorithm for Intelligent Cockpit Human Computer Interaction Interface Design Based on Neural Network Model	. 738
Research on Financial Crisis Early Warning Optimization of Listed Companies Based on Machine Learning Algorithm	.743
Research on Flight Data Mining and Analysis Algorithms Based on Intelligent Cockpit	749
Indoor Environment Design Method Based on Topological Information Region Matching	755
A Fault Diagnosis and Predictive Maintenance Algorithm for Mechanical Systems Based on  Deep Learning	760
Intelligent Classification of Music Emotions Based on Multi-Feature Fusion Algorithm of Feedforward Neural Network  Meicen Guo (China University of Geosciences, China)	766

Automatic Detection and Classification of Surface Diseases on Roads and Bridges Using Fuzzy Neural Networks	770
Xingjia Fan (Shandong High-speed Rail Transit Group Co Ltd, China) and Ruixiao Liu (Weifang Engineering Vocational College, China)	
Production Scheduling Optimization of Clothing Intelligent Manufacturing System Based on Association Rule Algorithm and Big Data Platform	776
Application Research of Intelligent Pneumatic Control System in Industrial Automation	781
Optimization Model and Algorithm Design of Rural Logistics Distribution Center Location  Based on Particle Swarm Optimization	785
Automatic Summarization and Key Information Extraction Algorithm of Japanese Corpus Based on Deep Neural Network	790
Simulation of Intelligent Color Matching Algorithm for Art Design Based on Markov Model	796
A Cross Language Transfer Learning Algorithm for French Corpus Based on Knowledge Distillation	301
Automatic Software Test Case Generation and Optimization Based on Multi-Objective Genetic Algorithm Wei Yunhua (Wuhan City Vocational College, China) and Jin Yuanwu (Design and Research Institute of Hubei Industrial Construction Group Co., Ltd., China)	807
Construction and Application of Knowledge Map of French Corpus Based on Graph Embedding Algorithm	813
Landscape Design Process Based on Virtual Display and Construction of Environmental Art  Design Model  Hang Yin (LuXun Academy of Fine Arts, China) and Guangpeng Yue (LuXun  Academy of Fine Arts, China)	819
Design of a Business Process Automation Monitoring Platform for Power Grid Enterprises for Digital Operations	823
3D Garment Image Generation Technology Based on 3D Image Analysis of Collar	329

Construction of Automation Operation Management and Control Platform for Power Grid Enterprises Based on Digital Transformation	. 833
Research on Development Technology of Comprehensive Administrative Management System Ba on Data Mining	
Design and Optimization of Smart Fire IoT Cloud Platform Based on Big Data Technology	. 843
Research on Data Mining of University Management Decision Support Archives Based on Cloud Computing	. 847
Research on Deterministic Network Prototype of Energy Internet Based on Neural Network  Modeling  Shengwei Wang (Information&Communication Branch of Hubei Epc., China),  Rongtao Liao (Information&Communication Branch of Hubei Epc., China),  Xiang Li (Information&Communication Branch of Hubei Epc., China), Jian  Zhang (Information&Communication Branch of Hubei Epc., China), and Hao  Ning (Information&Communication Branch of Hubei Epc., China)	852
Research on Cognitive Model and Interactive Technology of Music Emotion Based on Deep Belief Network	. 858
Emergency Rescue Decision-Making System Based on Joint Algorithm of Remote Sensing Image and Unmanned Aerial Vehicle	. 862
News Influence Prediction Algorithm Based on Deep Data Mining	. 868
Core Model and Simulation Operation of Economic Management Big Data Platform Based on Cloud Computing	. 872
Intelligent Calibrating Method of English Interpretation Based on Particle Swarm Optimization  Qiufen Dai (Jiangxi university of Applied Science, China)	. 877

Study on Reasonable Aggregation Capacity of Offshore Wind Power Directly Sending to Load Centers
Hui Qin (Guangxi Power Grid Co.LTD (China Southern Power Grid), China), Lijuan Huang (Guangxi Power Grid Co.LTD (China Southern Power Grid), China), Tong Wang (Electric Power Research Institute (China
Southern Power Grid), China), and Yue Wu (Guangxi Power Grid Co.LTD (China Southern Power Grid), China)
Computer Vision Based 3D Reconstruction and Motion Tracking Algorithm in Video Processing 887 Shihong Bi (Chengdu Neusoft University, China)
Applying Deep Learning Techniques to Downhole Data
Path Planning and Autonomous Navigation Algorithm of Intelligent Robot in Aviation Service 898 Xiaojiao Qu (Weifang Engineering Vocational College, China), Jinting Han (Weifang Engineering Vocational College, China), Rui Zhang (Weifang Engineering Vocational College, China), and Shan Su (Weifang Engineering Vocational College, China)
Application and Optimization of Automobile Collision Early Warning Algorithm Based on Computer Vision and Graph Convolutional Networks
Design of Power Equipment Fault Detection and Diagnosis System Based on Deep Learning 911  Haoliang Wu (GanSu Power Exchange Center, China), Wenbo Shang (State Grid Gansu Electric Power Company, China), Changan He (Gansu Shining Science & Technology Co., Ltd., China), Bokai Li (State Grid Gansu Electric Power Company, China), and Kai Song (Sgit-Uni Cloud Data Technology Co., Ltd., China)
Automatic Speech Error Detection Algorithm for English Learners Based on Machine Learning 917  Jing Yang (Sichuan University Jinjiang College, China)
An Automatic Segmentation and Disease Recognition Algorithm for Gastrointestinal Images  Based on Deep Learning
Dynamic Light and Shadow Rendering Algorithm of VR Scene Based on Global Illumination and  Deep Learning
Automatic Fault Location Technology of Electronic Circuit Based on Artificial Intelligence 936 Junna Zheng (Zibo Technician College, China)
A Redesign Method for Embroidery Pattern Graphics Based on Multiscale Image Processing Technology
Planning and Interconnection of State Grid Power Dispatching Data Network Based on Cloud Computing

Design of Power Load Forecasting Algorithm for Distribution Network Based on Machine Learning	949
Qian Ma (State Grid Xinjiang Electric Power Co, LTd, China), Dilniyar Dilxat (State Grid Xinjiang Electric Power Co, LTd, China), Jupar Nurlan (State Grid Xinjiang Electric Power Co, LTd, China), Yun Wen (State Grid Xinjiang Electric Power Co, LTd, China), and Jiangtao Guo (State Grid Xinjiang Electric Power Co, LTd, China)	
Research on Data Mining Technology Based on Artificial Neural Networks	954
Intelligent Design of Space Layout of UAV Hangar Based on Particle Swarm Optimization	960
Design of Intelligent Management System for Drone Hangar Based on Internet of Things Technology	965
Research on the Application of Digital Watermarking Algorithm Based on 3D Triangular Mesh Model	971
Application of Intelligent Speech Recognition Technology Based on Wavelet Algorithm in Chinese Oral Teaching	976
Simulation of Impact Prediction Model of Large-Scale New Energy Generation Access on Regional Power Grid Based on Particle Swarm Optimization	982

Research on Visual Management System of State Grid Power Planning Data Based on Genetic  Algorithm
Zhengyuan Zhu (State Grid Zhejiang Electric Power Co., Ltd., China), Hucheng Hou (State Grid Zhejiang Electric Power Co., Ltd., China), Weiwen Tao (State Grid Zhejiang Electric Power Co., Ltd., China), Wei Yan (State Grid Zhejiang Electric Power Co., Ltd., China), and Yukai Huang (State Grid Zhejiang Electric Power Co., Ltd., China)
Design of Power Grid Flexible Planning Algorithm Based on Deep Learning
Design of Generative Resource Recommendation Algorithm for Blended Teaching of Government  Accounting Based on Deep Learning
Design and Simulation of Front-End Actuators for Fire Barrier Opening Equipment
Structural Health Monitoring and Intelligent Maintenance Algorithm of Building Engineering Based on Graph Neural Networks and Reinforcement Learning
Modelling and Solving a Mathematical Model to Optimize the Production Allocation of Ampol $101^{\circ}$ Yixin Hu (The University of Melbourne, Australia)
Psychological Counseling and Personality Analysis Algorithm Simulation Based on Deep Learning
Research on Image Recognition and Classification Algorithm of Litchi Sorting Based on CNN 102 Han Zhou (Hainan Vocational University of Science and Technology, China), Yanpei Song (Hainan Vocational University of Science and Technology, China), and Danping Chen (Hainan Vocational University of Science and Technology, China)
Research on Heat and Mass Transfer of Hydrogen Production from Green Electricity

#### **Author Index**