

2023 IEEE International Conference on Control, Electronics and Computer Technology (ICCECT 2023)

**Jilin, China
28-30 April 2023**

Pages 1-534



**IEEE Catalog Number: CFP23DO4-POD
ISBN: 979-8-3503-9903-5**

**Copyright © 2023 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:	CFP23DO4-POD
ISBN (Print-On-Demand):	979-8-3503-9903-5
ISBN (Online):	979-8-3503-9902-8

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
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

Table of Contents

PID	Paper Information	Page
CE001	Soft Actor-Critic Based Power Control Algorithm for Anti-jamming in D2D Communication Keyu Jia, Dianjun Chen, Xuebin Sun	1
CE003	Simulation analysis of harmonic distortion characteristics of three-phase bridge inverter circuit based on SPWM control strategy Qiwen Ye, Yimin Ruan, Zhilin Ma	6
CE004	Research on Graphic Processing System of Visual Communication Design Based on Computer Big Data Zhenjie Xia, Min Li	13
CE005	Trajectory planning of 6-DOF manipulator based on spatial ant colony algorithm and obstacle avoidance Songyan Xu	18
CE006	2D Maze Path Planning Based on Q-Learning and Bezier Curve Guoqing Mu	23
CE007	Improved A-star Algorithm in Efficiency Enhancing and Path Smoothing Tianyi Long	28
CE010	Improved A-star Method for Collision Avoidance and Path Smoothing Shenghao Chen, Jiayi Ji, Hongjie Su, Yuyu Yang	32
CE011	Four-wheeled Ackermann Robot Path Planning in 2D Maze Based on Q-Learning-Bezier Method Zichen Zhang	36
CE013	Research on Building Daylighting System Based on Computer Network Technology Jie Chen, Peiye Xu	42
CE014	Anomaly Segmentation Based on Cosine Similarity Edge Iteration Smoothing Yongheng Ren, Cong Wang, Changzhen Xiong	47
CE016	Improved adaptive image enhancement algorithm based on SSA Weijie Song, Canbin Lin	54
CE018	Accompaniment Generation Based on Deep Learning and Genetic Algorithm Haina Niu	58
CE019	An Investigation into the Detection of Human Scratching Activity Based on Deep Learning Models Kevin Wang	66
CE020	Improving CNN Cardiac MRI Segmentation by Transformer and Direction Feature Xinyue Ma, Xuebin Sun	71
CE022	A Design of Angular Acceleration Evaluation Algorithm Based on FAL-RLSN Yulin Yan, Pengfei Yang, Binglin Gong, Pu Fan	75

CE023	Research on Trigger Control Strategy of Voltage Reinjection Converter Xiangyue Han, Zhenpeng Luo, Ziqi Shen, Ran Li	80
CE025	A YOLO-Based Transmission Line Protection Method in Smart Electric Power Grid Tao Du, Chuangang Zhao, Kai Guo, Lingjun Meng, Sichao Zhang, Chunliang Song, Liuyan Ren, Gang Nie	84
CE026	Research on electroplating power supply based on three-phase interleaved parallel LLC resonant converter Wan Hang, Liu Cheng, Zhang Xingzhi, Zhang Yaoze	90
CE028	Satellite Image Parcel Segmentation and Extraction Based on U-Net Convolution Neural Network Model Haoming Kong, Chunming Ling, Kairui Zhang	95
CE031	Convolutional Neural Network in Face Recognition Application Analysis Anna Meng	101
CE032	Research on the star algorithm for safe path planning Bochun Cao, Zijing Yang, Lan Yu, Yizhi Zhang	105
CE033	Automatic parking problem based on path planning Yuan Yao, Zhenji Feng, Zhenyi An	110
CE035	Design of Navigation System for Underground Mine Complex Environment Based on LVI Zinan Lv, Cheng Chen, Ruqi Yang, Rui Li	116
CE037	Design and analysis of control system for rail car Wenhao He, Yixiao Wang	121
CE039	HSVAugRegNet: Random Augmentation to Rotate Image Recognition Boyan Liu, Haiqing Bai, Yuyuan Liu	126
CE040	Design of Intelligent Service Robot for Military Recuperation Jun Feng, Jingguo Sun, Yun Yao	131
CE041	Research on Power Marketing System Based on Intelligent Full Speech Recognition and Feature Analysis Tairan Guan, Jiangteng Huang, Huidong Yang, Menglang Yao, Xufeng Bao, Xinxin Liu	138
CE044	Research on Terminal Access System of Power Equipment Based on Plug and Play Protocol Zhan Wen, Xia Taofang, Zhan Shi'an, Zheng Hong, Lin Zongmin	145
CE046	Pure orientation passive localization and adjustment strategy of UAV attempted formation based on greedy algorithm and target planning Yourong Xue, Yiheng Sun	152
CE049	Research on Formation Control Method of UAV Group Haixin Pan, Rongbing Zhou, Sijie Zhang	157
CE050	A novel 2-bit 2.5-dimensional miniaturized multifunctional active frequency-selective surface Zilong Chen, Yiwei Chen, Fukang Li, Xiaoxiang He, Yang Yang	163
CE052	IBM Stock Forecast Using LSTM, GRU, Attention and Transformer Models Sihan Fu, Zining Tang, Jialin Li	167

CE054	Analysis and research on probabilistic power flow calculation method of new urban distribution network based on LHS Hairong Luo, Qingping Zhang, Bo Gao, Yongliang Li, Bin Wang, Hailong Wang	173
CE055	Java card competitive product analysis method and device Bin Zhou, Xuesong Bai, Lili Fu	178
CE057	Research on Power Supply Route Optimization Method Based on Dijkstra Algorithm and Genetic Algorithm Zheng Jun	182
CE058	Satellite Communication Coding Design Based on Large Frequency Reuse Factor and Precoding Technology Jun Wang, Ke Li, Yuan Geng, Yifeng He	187
CE060	Prediction of Stock Price Using LSTM, MA and EMA Models Zhijin Zhang, Kexin He	191
CE061	Research and application of the detection technology of low voltage photovoltaic grid-connected circuit breaker Xiuru Wang, Xuan Ge	195
CE062	A Temporal Convolutional Knowledge Tracing Model Integrating Forgetting Factors and Item Response Theory Zhu Changsheng, Po Shichao, Ma Fanglan	200
CE063	A memory allocation method for MPU memory protection unit Xin Wang, Zhiqiang Wang, Qilong Hu, Lin Fan, Ling Yi, Jing Xu	205
CE066	Research on Key Technology and System Design of Network Performance Monitoring System Jiang Meilei, Feng Jianfeng, Zhou Xiaodeng	210
CE067	Fault diagnosis of pile machine based on improved artificial bee colony and K-means clustering algorithm Ye Yang, Zhenyu Wu, Liang Zhao	215
CE068	Voltage Stability Evaluation Considering Successive Commutation Failure Risk Rui Ding, Hengtong Wang, Zhaohao Jia, Yuanzhen Zhu, Changgang Li, Yongji Cao	220
CE070	Energy-Based Controller Design for Decentralized AC Inverter-Base Micro-grids Mohsen Bozorgmehrian, Samareh Attarsharghi, Amin Ramezani	225
CE071	Research on Multi-Agent Reinforcement Learning Traffic Control Xinpeng Fu, Simin Chen, Qixian Liang, Yueqiao Li	231
CE072	Research on Chinese Patent IPC Classification Based on ERNIE Model and Deep Pyramid Convolutional Neural Networks Hongwang Zhao, Bo Lv	240
CE073	3D Building Reconstruction Using 2D GANs Christopher Siyuan Tao	244
CE076	Research on Intelligent Modeling Analysis and Recognition System in Architectural CAD Engineering Drawing Huiyi Song	248
CE077	Design and Implementation of COVID-19 Database Management System Based on Java and MySQL Database Guixiu Ouyang	252

CE078	Research on Expert System Technology of Biomass Detection in Fermentation Process Xie Junkai, Li Wanpeng, Wu Qiyu, Zheng Chaosong, Zhang Liaoyuan	256
CE080	Bearings only passive location for UAV in formation flight Zhuo Liu, Xinxin Di, Xiaoyu Shen, Lei Wang	260
CE081	Research on pure azimuth passive positioning of UAV based on optimization model Zhe Feng, Zhichen Zhao, Ya'nan Jin	264
CE082	Vehicle precise control system based on active disturbance rejection control under multi-source disturbance Yitao Lei	271
CE084	Software Defined Network Load Balancing Based on Im-ACO Siyao Song	276
CE085	Small object detection algorithm based on improved yolov5 Hongyu Zhang, Lixia Deng, Lingyun Bi, Haiying Liu	280
CE086	A Network Traffic Classification Method Based on Federated Learning and Extreme Learning Machine Cheng Qiu	284
CE088	A Parameter-Optimized Mobilenet-v2 Using SSA and Its Application in Fault Diagnosis of Bearing Shuting Wang, Haoyu Lu, Yuqi Xing	290
CE091	Pedestrian Detection Based on Improved YOLOv3 Network Yongbo Yu, Shaochen Yan, Xinpeng Hao	297
CE093	An Adaptive High Frequency Time Series Prediction Model Based on LSTM and Bayes Model Averaging Xiong Gao	302
CE095	Experimental teaching platform of artificial intelligence of robotic arm based on voice control and visual assistance Ziyang Xie, Mingyi Zhu, Nanqi Huang, Zhonglei Ma, Lanke Zhu	308
CE096	Topology and start strategy for DC-DC transformer based on voltage balancing circuit Yuanyuan Liu, Xiaomin Liu, Zheng Wang	313
CE097	Optimal Design and Experimental Research on Intelligent Traction Plate for Stringing Construction Zhou Ya'ao, Jiang Ming, Yu Yongchuan, Peng Fei, Sun Guolei	320
CE099	Research on Intelligent Manufacturing Flexible Production Line System Based on Industrial Robot Ye Yuan	325
CE101	Design and implementation of intelligent control system based on embedded linux Shunqing Ge, Zhongxun Wang	330
CE103	IoT-based ice room temperature and level monitoring and classification system Bárbara García-Guananga, Vicente Herrera-Guayaquil, Marcelo Villarroel-Corrales, José Varela-Aldás	335
CE104	Comparison of MPC Algorithms for Continuous Stirred Tank Reactor Danial Pazoki, Roozbeh Roozbahani, Amirhossein Nikoofard	340

CE105	Performance Evaluation for Deploying Dockerized Web Application on AWS, GCP, and Azure Arya Putra Kurniawan, Muhammad Nasry Ashar, Fajrul Hidayat, Salsabila, Pramudya Tiandana Wisnu Gautama, Ary Mazharuddin Shiddiqi, Hudan Studiawan	346
CE107	A 16-21 GHz Double-Balanced Gilbert Upconversion Mixer with Low in-Band Spurious Using 0.25 μ m GaAs pHEMT Technology Danqi Wang, Hongxi Yu	351
CE109	Research on the evaluation system of friendly charging of electric vehicles considering the characteristics of user behavior trends based on hierarchical fuzzy comprehensive evaluation Zhang Yuzhuo, Chen Guangyu, Tian Jiang, Zhao Qi, Zhang Chengxin, Cheng Nuo	355
CE110	Study on the Pressurization of Liquid Nitrogen in a Robotic Water Jet Thruster Jixue Mo, Changqing Gao	361
CE111	Research on Photovoltaic Power Forecasting Based on SOM Weather Clustering Zhizhuo He, Haoyang Li, Tiantian Lu	368
CE112	Research on the peak intelligent detection technology of AC voltage Haichao Yu	374
CE114	Research on Optimal Allocation of Energy Storage in Distribution Network Adapted to Large-Scale Distributed Photovoltaic Access Jiang Zhuohan, Tu Jingyi, Liu Shuncheng, Peng Jian, Ouyang Guang	378
CE115	Research on Intelligent Control of Dynamic Surface Synovial Membrane Based on Adaptive Fuzzy Neural Network Chao Zhan	383
CE116	Research on Intelligent System of Malformed Document Correction Based on Computer Big Data Technology Peiyu Xu	390
CE118	An Improved Wavelet Denoising Method Based on Acoustic Echo Analysis Tian Gao, Yuchao Xie, Xingshun Wang, Liyuan Qiu	394
CE119	Defect Identification Technology for Rotate Object in Transmission Lines Based on Multi-scale Residual Network Jing Wen, Liu Shugang, Wang Wanguo, Wang Zhenli, Li Zhenyu, Ma Xinyue	399
CE120	Research on the recognition and localization of Momordica grosvenori based on binocular vision and a convolutional neural network Hongwang Zhao	404
CE122	Study of Different Working Conditions Influence on the Performance of Attitude Control Device in Stratospheric Airship Xiaoyu Xing, Guoquan Tao, Qian Li	409
CE123	Research on a high-precision real-time 3D sonar image registration algorithm Qiaojun Wu, Guangchu He, Chao Liu, Jun Li, Bo Zhang, Changxing Tao	413
CE126	Simulation of Financial Market Index Prediction Model Based on Artificial Neural Network Yingkai Ma	417
CE127	Six Transformations and Their Relationships in Digital Signal Processing Yuange Ma	421

CE129	Research and design of wireless charging system for intelligent device Qingguang Kong, Mengmeng Song, Shungen Xiao	424
CE130	Research on the Security of Electronic Information Engineering Transmission System under the Integration of Computer Wireless Network Communication Technology Qiang Wei, Yanli Hua, Jian Zhao, Chao Zhang	427
CE131	An Improved YOLO-v4 Algorithm for Recognition and Detection of Underwater Small Targets Tiansong Li, Jian Yang, Tao Lian, Xiangzhi Lu, Yilin Li	432
CE133	Improved facial expression recognition algorithm based on convolutional neural network Cui Dong, Rongfu Wang, Yuanqin Hang	437
CE134	3D mapping and visual navigation system for automatic driving scene Jialiang Zhang, Jianjun Wu, Qian Chen, Yijun Chen, Feng Wang, Zhiming Xu	441
CE136	Research on Real-Time Signal Transmission System of Competitive Sports Competition under Computer Big Data Technology Qingfeng Shi	444
CE137	Research on the Application of Computer Virtual Reality Technology in the Simulation System of Physical Fitness Parameters of Sprinters Qingfeng Shi	449
CE138	Optimizing CNN Using Adaptive Moment Estimation for Image Recognition Zeyu Liu, Xiyuan Xu, Diange Fang, Dezhi Gan	454
CE140	Study of a Three-step Nonlinear Control Method for Electric Heating Boilers Based on Smith's Predictor Xingquan Gao, Xu Chen, Hao Guo, Yang Sun, Decai Xu, Xinyu Xiao	464
CE142	Research on Urban Landscape Design Based on Data Fusion and Computer Virtual Reality Technology Huang Yu, Huang Jingming, Lei Weiqun, Wei Yuanjing	468
CE143	Effectiveness evaluation of cooperative reconnaissance between electronic signal reconnaissance equipment and SAR Huang Jinke, Zhao Xiaolin, Yang Tiancai	473
CE144	Design and implementation of quickly building artificial intelligence training environment on high-performance server Jianfeng Zhao	478
CE146	Research on Improvement of Configurable I2C controller IP Core Lidan Li, Yanyong Wang, Xiaoyu Chen, Xuebing Ren	484
CE149	Fire Distribution Method of Ground Assault Equipment Based on Improved NSGA-II Algorithm Wang Minyi, Ma Xiao, Liu Xinan, Ye Honghui, Yin Lihong	490
CE150	Scene Prediction and Manipulator Grasp Pose Estimation Based on YOLO-GraspNet Li Wanyan, Ruan Guanqiang	496
CE151	Hierarchical HOI Detection Framework Augmented by Human Interactive Intention Shuai Wang, Dehui Kong, Jinghua Li, Baocai Yin	502
CE153	Dependency enhanced session-based recommendation based on GNN Yonggui Wang, Jianfei Liu	509

CE154	Research on Disaster Identification Algorithm System of Key Technologies of Computer Urban Pipe Network Safety Monitoring and Early Warning Guangdi Zhang, Wei Liu, Jingyun Zhou, Qi He	515
CE155	Research and Design of Hydrological Monitoring System Based on Beidou Short Message and LoRa Mingjin Zeng, Mengxi Xia, Shuai Ren, Yiqiang Ran	520
CE157	Style-constrained Takagi-Sugeno-Kang Fuzzy Classifier Suhang Gu, Hangming Shi, Jie Zhou, Zhibin Jiang, Mingli Lu, Peiyi Zhu	525
CE158	Short-term passenger flow prediction strategy of urban rail transit based on ridge regression and LSTM Hongkun Liu, Jinshan Ren, Zixuan Wang	530
CE159	Investigation to Screen Region Division for Stable Input of Eye-controlled Cursor Cheng Chen, Jibin Yin, Tiewei Fu	535
CE160	Multi-Label Web Service Classification Using Neural Networks Bing Li, Xiuwen Nong, Yuxiang Hou, Li Hang	540
CE162	Research on an integrated index prediction model based on RF-XGBOOST-ANN Chunlei Ji	545
CE163	Research on Multi-robot Pursuit Control Based on Distributed Intelligent Algorithm Xu Zhang, Xianli Wang, Lili Zhang	550
CE165	Study on Multipath Interference Performance of a UAV Data Link Na Li, Feng Wang, Leigang Hu, Mingming Guo, Yanyan Xu, Jingliang Zhang	555
CE166	Research on Smart Home Appliance Control System under IoT Artificial Intelligence Technology in 5G Era Zhizhuo Su, Zhenfei Zhan, Shang Pan	560
CE167	Image Restoration Based on Wiener Filter and Constrained Least Square Filter Jingda Zhu, Zhe Wang, Qi Tang	565
CE168	Consortium Blockchain Efficient Storage Access Control Solution Baohua Huang, Huiying Zheng, Xi Qu, Tinggang Xiong	570
CE169	A ubiquitous IoT localization algorithm for power system Dawei Cheng	576
CE171	Design of Ethernet Interface for Liquid Level Collection in Conticaster Crystallizer Yulin Liu	580
CE172	A safety helmet recognition algorithm for substation operation site Xiufeng Han	583
CE175	Research on Grid Communication Encryption Quantum Key Encryption Transmission System Based on 5G Communication Terminal Yanhua He, Yun Ren, Liwei Zhang, Xiaojie Chen, Zhongping Wu	587
CE176	Survey on Neural Networks in Natural Language Processing Fei Hu	591
CE179	Network Topology Planning Method of Emergency Microwave Communication Network Based on ACO Optimization Algorithm Sheng Yu, Wei Zhu, Haoran Chen, Zhenwen Gong	595

CE180	Research on the Intelligent Recognition Method of the Shipboard Equipment Status Chang Li, Jiangang Chao, Ning He, Yanqin Zuo, Min Xie, Yao Huang	600
CE183	A Fully-Integrated Relaxation Oscillator with No Reference Voltage for IoT Applications Xiaofei Wang, Ke Zheng, Xingzhi Liu	607
CE186	Improved WD-Transformer Based Wire Rope Damage Detection Algorithm Ziyu Yang, Chen Huang, Biru Ren	611
CE187	Research on the Application of Data Analysis in Agricultural Products E-Commerce Wei Yuanjing, Li Yunfei	616
CE188	Classification of black tea leaf water content based on hyperspectral imaging Peiye Li	621
CE191	Energy Efficient VNF Placement Algorithm Using Reinforcement Learning in NFV-Enabled Network Zihao Wang, Lei Zhuang, Feijie Zhou, Ruimin Wang	625
CE193	Frequency regulation control method of power grid based on variable coefficient droop consistency algorithm Linlin Hu	630
CE194	Design of Heterogeneous Data Synchronization Framework for Power System Kaining Ji, Yitian Liu, Changju Hu	634
CE197	Research on Application of Computer Big Data Technology in Visual Modelling Design Chaobao Ke, Hongyu Su, Bin Li	638
CE199	Collaborative path planning method for vehicle and vehicle-mounted unmanned aerial vehicle for power tower inspection Zenglin Ding, Wenxuan Liu, Yang Yu, Yufan Zhang, Xinyuan Mu	642
CE200	Research on UAV Intelligent Scanning and Shooting Technology under Computer Artificial Intelligence Technology Bingqian Chen, Qin Liu, Yan Yan, Xiaoning Lin	645
CE202	Research on Application of Computer Big Data Technology in Mobile Communication System Yuan Feng	649
CE203	Application and research of interpretable real-time software defect detection method Zhai Pan	654
CE204	High-altitude parabolic detection system based on machine vision Kaige Cui	658
CE207	Research on autonomous obstacle avoidance assistance system for surface unmanned vehicle based on intelligent vision Xiangwei Hu	663
CE208	Research on ship route control based on LOS navigation Xinyuan Cui	668
CE209	Research on the Application of PLC Technology in Electrical Engineering Automation Control Ling Qi, Hancheng Yu	672

CE210	Application Analysis of Electrical Automation Control Based on Artificial Intelligence Technology Ling Qi, Hancheng Yu	676
CE211	Design and implementation of a new online English learning artificial intelligence system based on JAVA Jie Liu	680
CE212	Algorithm design and application research of English picture recognition intelligent system based on convolutional neural network Jie Han	685
CE213	Application of BeiDou Navigation Satellite System Based Indoor and Outdoor Fusion Positioning Technology in the Construction of Power Grid Substations Nanhui Chen, Qin Liu, Bingqian Chen, Guokai Weng, Wenjiang Liao, Haiqiang Lin, Qianshen Luo, Zhenqiu Liao, Chengbin Liao, Yuanfeng Zhang	691
CE215	Experimental Study on Cheap Biomimetic Collision Detection for Flexible Structures Zhuo You, Xingqun Li, Qinghua Song, Yu Zhang, Jiachang Qian	696
CE216	Suppression method of MT interference noise based on marginal spectrum and blind source separation Xiaoling Cao, Tao Jiang	700
CE218	A Combined Multi-Pulse Transmitting Circuit for Time- Domain Electromagnetic Detection Wei Liu, Xuquan Hu, Xian Liao, Zhihong Fu	705
CE220	Ground classification based on optimal random forest model Wenzhao Liao	709
CE222	Design and research of hydraulic monitoring system based on single chip microcomputer control Xiaoqing Chen, Ying Zhu	715
CE223	Research on Extraction Method of Transformer Winding Deformation Signal Liangyuan Chen, Bing Tian, Ke Zhou, Zhiming Wang, Dajian Li, Xiaopeng Fan, Jian Zhao, Yi He	718
CE225	Design of Radar Waveform Using Adaptive-Network-Based Fuzzy Inference Systems Fengming Xin, Weiji Meng, Jiawen Sun, Yan Wang	724
CE226	Design, Optimization and Performance Analysis of Permanent Magnet Synchronous Generator for Fuze Zhaoxuan Guo, Guanglin He, Guangsong Ma, Yulong Zhang, Zenghui Qiao	730
CE227	Research on UAV path planning based on improved particle swarm algorithm with inertia weight Wenlong Hao, Chao Wu, Shicong Lin	738
CE229	Multi-mode Voltage Control Strategy for High Proportion Residential Photovoltaic Based on Plug-and-Play Device Shufeng Li, Yonghua Chen, Fangsheng Wang, Tao Zheng, Jiping Li, Chenghong Tang, Cheng Liu	742
CE231	An Overall Weighted Fusion Algorithm Based on Dynamic Optimal Estimation Zehu Wang, Guanglin He, Yukuan Liu	750

CE232	Research on near field noise source location method of vertical array Xi Zhao, Xinghua Liu, Xiaohui Liu, Heyuan Tan	755
CE234	Simulation and experiment of intelligent vehicle lateral control based on Fuzzy PID algorithm Shiren Ma, Peng Gong	759
CE235	Economic dispatching model of virtual power plant and carbon emission under carbon trading mechanism Wang Yutong, Teng Yun	765
CE236	Improved NSGA-II based process dynamic multi-objective algorithm Yaze Zhang	770
CE237	Safety helmet wearing detection in thermal power plant based on improved YOLOv5 Li Ruiping, Hou Jianhua, Zhou Yun, Wang Chi, Huang Danqing, Zhao Roujun	778
CE240	Chinese Text Sentiment Classification Based on LSTM Word-Tag Relational Network Model Na Li, Yanling Wang, Lili Huang	783
CE242	Research on Information Big Data Prediction System Based on Support Vector Machine Integration Changjiang Huang, Liuchun Zhan	787
CE243	Research on Big Data Center System Based on Computer Internet Technology Changjiang Huang, Liuchun Zhan	792
CE245	Research progress of part point cloud detection based on deep learning Guanghao Qi, Baozhen Lei, Huaiguang Guan, Ziping Liu, Yizhou Su, Xunwei Wang	797
CE246	Research on Trustworthiness Analysis Technology of Artificial Intelligence Software Shen Xiaomei, Wu Lijin, Jin Kuangyu, Han Xinyu, Tang Longli	802
CE249	A Distributed Microservice Scheduling Optimization Method Han Li, Yun Zhao, Zhenxiong Liu, Wei Liu	807
CE251	Encrypted malware detection based on HTTPs financial data communication mode Shoupu Lu, Ying Shi	813
CE252	Comprehensive Analysis and Research on the Mainstream Algorithm of Machine Learning in Stock Trend Prediction Jiajing Cai, Xiuyan Zheng, Jiabin Wang, Shangyu Meng	818
CE253	A New Strategy for Optimizing Threshold Voltage of Artificial Neurons Zhengxian Zhou, Yongjie Ling, Huipeng Chen	823
CE254	Business process modeling extension and scheduling strategy compatible with big data business Jindong Xu, Minghao Qi	827
CE255	Research on Chinese Sentiment Classification Based on BERT-wwm-BiLSTM-SVM Yong Zhang, Jiabin Liu	832
CE257	Research on the Joint Learning Method of Intent Detection and Slot Filling by Fusing Tag Semantic Information Yaxin Lu, Yahui Zhao, Rongyi Cui, Guozhe Jin	838
CE258	UWB Radar Performance Analysis Based on OFDM Pilots Jing Liu, Jin Tian, Shuaishuai Zhang	843

CE260	TCN Stock Price Prediction Model Based on Channel Attention Mechanism Jing He, Yuanliu Feng, Jiayi Zhu	850
CE261	Multimodal Fatigue Recognition State Based on Eyelid Features Xiangyu Han, Licao Dai	856
CE263	Improvement of semantic segmentation algorithm based on ResNeSt network Jia Mian, Wan Yaping, Yan Wei, Xie Jianbin, Zhong Hua, Wang Yue	866
CE265	Prediction of B-cell epitopes using diverse class-conditional data selection policies Hongguang Yang, Yunfei Zhou, Bin Cheng, Chenxi Li	871
CE266	Prediction search on the threat of darknet based on machine learning Jin Qian, Ang Li, Yuanzhong Chen, Xinyue Zhou	876
CE268	Realization of hierarchical early warning management system for cigarette manufacturing department Zhihui Ye, Jian Wu, Jie Qian, Wenjuan Wang, Wujun Chai, Xiaohuan Wang	881
CE269	Adaptive Learning for Fast Training Neural Network in Hybrid Beamforming MIMO System Jiajun Yan, Ziyang Shao, Xingzhong Xiong	886
CE271	Cross-scene Transfer of Road Disease Classification Model Based on Dynamic Knowledge Distillation Network Haihang Han, Xinxiao Wang, Yangyang Wang, Zhi Yu, Shoujing Yan, Yue Wang	891
CE272	Fault Identification and Localization for Cables Based on Time-Frequency Domain Reflection Dengfeng Ju, Guangbin Chu, Yun Liang, Jie Huang, Wei Bai	896
CE275	Lunar Impact Crater Detection Based on Yolo V7 Using Muti-source Data Jionghao Zhu, Jiarui Liang, Xiaolin Tian	901
CE277	Enhancing Education Performance through Machine Learning: A Study of Student Learning Outcomes Prediction Using GANs and ANNs Zhong Minghui, Li Zhijun	906
CE278	Research on the Method of Periodic Operation Plan of Railway Station Based on NSGA-II Haiqing Wu, Zhi Zhao	912
CE279	A self-supervised, few-shot semantic segmentation study based on mobileViT model structure Lei Zhou, Ruohan Gao, Jiaxiang Wang	917
CE282	Driving Circuit Based on Artificial Synapse for Display Yongjie Ling, Huipeng Chen	922
CE283	Optimal allocation of park-urban multi-energy systems considering carbon trading and energy flow Yu Xin, Teng Yun, Li Yang	927
CE285	Research on risk assessment and damage prediction model of typhoon disaster in Shandong Province based on <i>TDRI</i> Min Ji, Fengjie Guo, Chenghu Zhou, Ting Li, Liguozhang	934
CE286	Fault diagnosis of Hydraulic Pump Based on ICEEMDAN Sample Entropy and LLTSA Yanan Li, Liqing Fang, Ziyuan Qi	941

CE288	Service Dynamic Mapping Algorithm for Industry Chain Knowledge Graph Dou Hao	945
CE289	Simulation of IGBT switch transient analysis model considering parasitic parameters Zhongxin Hu, Xinjian Cai, Cheng Zhang	949
CE290	Research on DNS Attack Detection Based on HMM Jin Qian, Ang Li, Libing Xu, Hanlin Xu	957
CE293	Application of residual network in household waste classification Yutong Guo, Jie Luo, Weile Guo	963
CE295	A data augmentation strategy for scene text recognition Xin Luan, Jinwei Zhang, Miaomiao Xu, Wushour Silamu, Yanbing Li	968
CE296	Cascading Modular Multimodal Cross-attention Network for Rumor Detection Huawei Han, Jianlei Yang, Wushour Slamu	974
CE299	CNN-BiLSTM-Attention Prediction Model for Merchandise Sales Based on Attention Mechanism Chengxing Zhou, Xiaofan Yan, Qiude Li, Chujiao Hu, Rui Wang, Mingming Liu	981
CE300	Defense against sybil attack in blockchain based on improved consensus algorithm Yanting Wang, Minsheng Tan	986
CE301	SRv6-based Differentiated Service Framework for IP Networks Zhenlin Tan, Mingjiang Fu, Xiaobin Liang, Zhuojun Huang, Shuangfeng Lan, Quan Lu	990
CE303	A Three-Dimensional Shape Measurement for Large Deep-Cavity Parts Zhaoliang Liu, Hao Shen, Hongyu Chen, Linzhi Yang, Hongzhi Jiang	995
CE304	Research on Blockchain Technology-based Optimization Algorithm for Precise Distribution Ju Zhang, Xu Xu	1000
CE306	An emotion speech sequence alignment algorithm based on ShapeDTW++ Danyang Cao, Chengzhi Miao	1005
CE307	Research on the Application of Deep Reinforcement Learning Algorithm for Sensor Networks in Intelligent Environment Control Wang Xiaowei	1011
CE308	Research on Hydraulic Pump Fault Diagnosis Method Based on SSA-KELM Yanan Li, Liqing Fang, Ziyuan Qi	1016
CE309	Low carbon operation of integrated energy systems with carbon capture devices Yang Li, Zhe Chen, Xin Yu	1020
CE311	Radio Frequency Emitter Identification Based on Ensemble Learning Qi Cheng, Jie Li, Xiaoli Gao, Quan Zhou, Heng Liu, Liu Yang	1025
CE313	Multiple ensemble learning methods for Mandarin multisyllabic pronunciation assessment Jianlei Yang, Aishan Wumaier, Huawei Han, Cuicui Zhu, Man Yang	1030
CE314	IP Service Core Network Architecture and Service Demonstration Peiyong Ma, Xiaobin Liang, Jie Liang, Quan Lu, Mingjiang Fu	1035

CE315	Multi-objective Feature Selection Algorithm Based on Apache Spark and Particle Swarm Optimization Rong Haisen, Liu Zhenyu, Ling Huidong	1040
CE317	Mathematical Model of Campus Water Supply Network Leakage Problem Based on BP Neural Network Baijie Deng, Banxiang Duan	1046
CE319	Sharded Blockchain Architecture Oriented to Multilateral Collaboration of Source-Grid-Load-Storage Tingting Duan, Shuang Sun, Chao Yang, Yan Sun, Xiangbo Zhu	1050
CE320	Architecture Design of Electronic Evidence Trusted Deposits and Traceability Application System for Safety Production in Power Grid Enterprises Peng Chen, Hejian Wang, Lihua Zhao, Qinglei Guo, Bo Gao, Yongliang Li	1055
CE322	A study of trajectory selection based on pedestrian willingness in extreme situations Ziheng Ding	1059
CE323	Wear reliability analysis of pantograph systems based on an optimized radial basis function neural network Xiaojun Luo	1062
CE325	The assignment decision of human resources in hydraulic engineering based on TAP Na Luo, Yi Zhang	1066
CE326	Development of fault diagnosis expert system based on wastewater treatment systems of intelligent substations Minghao Ran, Xingyun Zhao, Yixin Li, Haifeng Liang	1070
CE329	Electroencephalography Data Denoising with Deep Neural Networks Munto Wondimagegn Bekele, Deboch Eyob Abera, Mamo Tadiyos Hailemichael, Kumsa Yeabsra Dechasa, Mola Natnael Fanos, Mengesha Yared Getachew	1074
CE330	Hydrodynamic shape simulation optimization of an underwater vehicle equipped with ocean observation devices Jiankun Zhang, Kun Yang, Lei Zhou	1079
CE331	Treatment of OOV Words in Neural Machine Translation Jing Xiong	1083
CE333	Deep Neural Network Copyright Protection Method Based on Fingerprinted Adversarial Samples Tianxing Liang, Siquan Hu, Zhiguo Shi	1086
CE334	Research on UAV Remote Control Signal Recognition Based on Time-frequency Map Yanwen Wang, Zijian Zhong, Yipen Rui	1093
CE336	Research on sea target detection method based on deep learning Su Zhijin, Kang Lan, Zhao Zhanzhuang	1097
CE337	Research on pavement crack detection algorithm in complex background Jianwu Xie, Weiwei Li, Mingyue Wang	1102
CE339	The Study on NLP-based Semantic Analysis Technology to Improve the Accuracy of English Translation Meifang Zhang, Yanhong Zhang	1107

CE340	Research on Improving Personalized Recommendation Accuracy Based on NLP Semantic Analysis Hang Chen, Xiubin Zhang, Xiaoxia Wu	1113
CE341	Calculation of Safety Evaluation Index Weight for Tactical Training Airspace Planning Based on Fuzzy AHP-DEMATEL Jilong Lu, Xusheng Gan, Junmei Xie, Shenghou Li	1119
CE342	Adaptive Learning Analysis System for Colleges and Universities Based on Online and Offline Mixed Teaching Yansong Cai	1125
CE345	Design and implementation of fuzzy PID DC motor control system based on STM32 Xuexia Zhang	1129
CE348	Simulation and Optimal Design of Closing Buffer System of the High Voltage Vacuum Circuit Breaker Huang Jingxia, Yu Lin, Su Haibo, Liu Junxiang, Zhu Lu, Hong Haicheng, Gu Le, Ye Jianbin	1132
CE349	Tile surface defect detection based on improved YOLOv5 Yu Zhang, Wei Zeng, Jun Zheng, Jun Liu, Yihong Zhao, Tianfeng Fan	1138
CE350	Research on Torque Pulsation Suppression of Permanent Magnet Synchronous Motor Based on Harmonic Injection Shankun Zhang, Baochun Cui, Jie Li, Yun Shi, Ning Pan, Yaoguang Han	1142
CE351	Prototype-guided Unsupervised Domain Adaptation for Semantic Segmentation Shaoqi Xia, Hua Huang, Qishen Li, Yifan He	1147
CE354	Research on Comprehensive Ability Evaluation of NBA Basketball Players Based on Cloud Model Algorithm Qianru Wu	1152
CE357	Design of control system of electric proportional valve for new logistics transfer equipment Ke Wang, Jinke Bai	1163
CE358	Train a Highly Robust Model with a Data-enhanced Wavelet Residual Network Xinjun Zhang, Yuqing Cheng, Aonan Cheng	1167
CE361	Seam Carving Algorithm Based on Partitioning Yanfei Peng, Jing Wang, Xiaoxuan Liu, Shengjie Gong	1173
CE362	Study on Opening and Closing Valve for Sector Based on Air Traffic Controller Workload Wenchao Yang, Minghua Wang, Shuangyan Chen, Yuan He	1177
CE363	Research on aspect-level sentiment analysis of tourism review text based on joint learning Shao Yufei, Du Lei	1182
CE366	Photovoltaic Panel Fault Detection Based on Improved Mask R-CNN Tao Peng, Feng Wen	1187
CE367	Clipping-based Neural Network Post Training Quantization for Object Detection Cui Liqun, Hu Lei	1192

CE368	Network Equipment Fault Maintenance Decision System Based on Bayesian Decision Algorithm He Bai	1197
CE370	Test and Research on Calibration of Power Generation Operating Parameters of No.4 Generator of a Hydropower Station Longfei Yu, Shenghui Lin, Tiankuo Wang, Jia Huang, Qing Wei, Diyang Wang	1203
CE371	Timing Verification and Optimization Method of Spacecraft Signal Processing Circuit Chongyang Gu, Peng Bo, Peilei Li, Qianqian Lv, Lei Zhang, Wei Zhang	1207
CE373	Data Storage Architecture and Data Backup Scheme for Digital Learning Platform Lei Ao	1211
CE375	Auction Pricing for Bandwidth across Multiple Datacenters with Traffic Engineering Xinran Liang	1216
CE376	Non-oscillation Path Planning Based on Artificial Potential Field Shengxuan Zheng, Liang Luo, Jiarui Zhang	1225
CE377	Research on comprehensive evaluation of energy efficiency in the transportation sector under the "dual-carbon" target Yuelong Jia, Chengjie Wang, Jie Ma, Qingkun Tan, Wei Tang, Binglin Lv	1229
CE379	Trajectory Planning and Obstacle Avoidance Behavior of Manipulator Based on Q-learning Algorithm Guo Xinlan, Li Tao, Zhang Jian	1235
CE380	Collision Warning Method for Unmanned Vehicles Based on Region Division Zhenfeng Li, Yuhan Chen, Peng Li	1242
CE382	Digital Video Technology and Image Detection Algorithms in Film and Television Post-Production Qinqin Liu, Zhe Wang, Xinyi Cheng	1246
CE383	Design and implementation of hospital infusion monitoring and alarm system Chunming Zhang, Peng Luo, Yiyue Sun	1253
CE385	Intelligent English Automatic Translation System Based on Improved GLR Algorithm Lijun Wang	1258
CE386	The overall architecture design of English listening and speaking autonomous learning software based on feature matching Yingjuan Chen	1263
CE388	Research on Energy Saving Control of 3D Animation Rendering Cluster Based on Programmable Processor Jing Zheng	1268
CE389	Technical Model of Computer Network Database Security Management Based on State Voting Hui Ding	1272
CE390	Design of Translation Accuracy Correction Algorithm for English Translation Software Based on Semantic Relations Hongxia Dong	1277
CE391	Research on English semantic intelligence analysis method based on deep learning Li Fang	1282

CE392	Music chord sequence recognition method based on audio feature extraction algorithm Wenjun Wang	1286
CE393	Research on Optimization of English Machine Translation Based on Association Rules Mining Xia Wei	1290
CE396	A method for intelligent segmentation and acknowledge of musical notes based on artificial brilliance Tingsen Yang	1294
CE397	Optimization of machine translation algorithm for English long sentences based on deep learning Guowei Zhang	1299
CE398	Photovoltaic grid-connected control system based on improved genetic algorithm and its implementation Chongyu Cui, Hongmei Wu, Xiaojun Lv, Xuezheng Quan	1304
CE399	Big Data Classification Model and Algorithm Based on Double Quantum Particle Swarm Optimization Duan Jingbo	1309
CE400	Design of Computer Intelligent Scoring System for English Translation Based on Markov Model Jing Liang	1314
CE401	Research on Modal Parameter Identification and Damage Diagnosis of Bridge Structure Based on Improved Genetic Algorithm Wenyu Xu, Yin Wang	1319
CE402	Optimization of apparatus translation algorithm for English complex long sentences based on multi-layer filtering Wei Zhou	1324
CE404	Design of online educational resources recommendation algorithm based on collaborative recommendation algorithm Chen Chen, Tian Meixia	1328
CE405	Intelligent model description language and algorithm generation based on deep learning Jian Gao	1333
CE406	English pronunciation quality evaluation system based on data mining algorithm He Miao	1338
CE409	Human resource recommendation algorithm based on convolutional neural network Jiakun Liu, Haoran Li, Li Wan	1343
CE410	Design of intelligent travel route selection system based on multi-objective genetic algorithm Yihan Ning	1349
CE411	Intelligent Control System of Metal Surface Heat Treatment Based on Fuzzy PID Technology Jie Yang, Baozhong Feng	1354

CE412	Design of Artificial Intelligence Teaching System in Colleges and Universities Based on Collaborative Filtering Algorithm Shujun Zhang	1359
CE413	Dynamic Adjustment Algorithm of Cloud Computing Virtual Cluster under Fragment Interference Bai Yong, Yang Jeong Yean	1363
CE415	Design and Implementation of Horse Riding Action Monitoring Platform Based on Deep Learning Qingxuan Zeng	1368
CE416	Overload state estimation of embedded devices based on improved particle swarm optimization and big data analysis Rong Zeng, Yueying Zhai	1373
CE418	Research on Segmentation and Recognition Algorithm of Moving Human Image Based on Deep Learning Deng Hui	1379
CE419	Research on Conductive Model of Composite Conductive Fiber Based on Transmission Line Model Fei Jia, Kai Cui, Hongquan Bao	1383
CE420	A Smart Mat for People Identification Based on BP Neural Network Ning Jiang, Jie Zhang	1388
CE421	Multiple Harmonic Current Control Based on Adaptive Inverse Control Jianjun Sun, Jingang Han	1393
CE423	Research on Welding Robot Path Planning Based on Genetic Algorithm Chenxu Duan, Shiqiang Luo	1401
CE424	Research on Mobile Robot Path Planning Based on Fuzzy Artificial Potential Field Algorithm Chenxu Duan, Shuangcen Li	1408
CE425	Discussion on Using Continue Statement to Improve a Descending Algorithm Weida Qin, Yinhu Wei	1414
CE428	Research on Impedance Control of Two Robot Cooperative System Yuyu Wang, Shaojun Liu	1419
CE429	Prediction of Robot Index Based on AdaBoost Yang Gong, Pan Zhang	1424
CE430	Multi-loop Feedback Analysis of Distributed Power Inverters in Microgrids Xinli Zhang, Jianfeng Wang	1431
CE432	Intelligent Warning System of Transformer Based on Fault Recording Zeyu Ouyang, Jiasheng Chen, Silin Zhu, Jiyulei Dai	1435
CE433	Intelligent Warning System of Circuit Breaker Based on Fault Recording Zeyu Ouyang, Jiasheng Chen, Silin Zhu, Jiyulei Dai	1440
CE434	Optimization of Optical Detection System for Partial Discharge Haobin Guan, Ming Ren, Yue Chen, Jin Miao, Tao Zhang	1445

CE435	Design Optimization of Substation Video Monitoring Based on Transparent Transmission Principle Xinzhuo Li, Li Zhang, Xianyue Luo, Junjie Zhang	1450
CE436	Gesture Recognition Using Inertial Sensors with 1D Convolutional Neural Network Zhenyu He, Qianying Li, Zhenfeng He	1456
CE437	An Automatic Approach for Fault Isolation Based on System Abnormity Probability Model Wei Wang	1461
CE440	The Algorithm Based on Supervised Time Series Segmentation of Researching Dynamic Gesture Recognition Ruimin Zhang, Shuqiang Du	1466
CE441	A Cloud-based Photographing System with Adaptive Image Quality Promotion Xiang Wu, Deyi Shao, Yuxiang Wu, Guangao Shao, Qiming Huang, Rui Chen	1471
CE442	MLSCH: Multi-layer Semantic Constraints Hashing for Unsupervised Cross-modal Retrieval Zhaomeng Wu, Yang Yu	1479
CE444	RDRS: Represent Document-level Relation with Sentence-level Relation by Distant Supervision Tingrui Zhang, Guiquan Liu	1485
CE445	Design and Research of Intelligent Analysis System of Operating State of Electric Energy Metering Device Based on Computer Technology Yunpeng Jia, Qingfeng Meng, Bo Jiang, Zhi Qu, Yongchao Lin, Xiaokai Su, Dongjian Zhang, Wei Mao, Dongxu Su	1491
CE446	Research on Control Strategy of Automatic Capacity Adjustment Transformer and Circuit Implementation Zhijie Zhu, Liangliang Zhao, Wei Li, Yongqiang Liu, Jing Feng, Hao Li	1497
CE450	Feature screening for high dimensional data with response and covariates missing at random Linli Xia	1502
CE452	Research on Human Activity Recognition Based on Random Forest Classifier Zhiyong Feng, Yike Shi, Duomu Zhou, Liping Mo	1507
CE454	Based on Sememe Knowledge Enhanced Network for Paraphrase Identification Lin Li, Jie'an Jian, Qian Hou	1514
CE455	Study on Quantum Phase Transition of 2-D Quantum System by Tensor Network Algorithm Shenghao Li, Yuanyuan Wu, Fei Xiong	1521
CE456	Design and Implementation of a Cyber Rang with Emulated Network Security Devices Wensheng Qin	1526
CE459	Research and Implementation of Virus Infection Detection Mechanism Based on Brute-Force Algorithm Jinyang Xie, Guifang Xie	1532

CE460	Research on Single Bottleneck Optimization Based on Intelligent Manufacturing Mode Han Hu, Jun Cao, Guan Hui	1537
CE462	Critical Variable Guided Mutation for Directed Greybox Fuzzing Yubo He, Long Liu	1541
CE465	A WPT System Applied to Space Solar Arrays MPPT/Constant Voltage Mode Control Strategy Juan Du, Jianyu Lan, Qingxin Wei, Meng Xie, Yufei Han	1548
CE466	Research and Application of Cable Broadband Linear Impedance Spectrum Test Technology Yuxiao Zhou, Jingwei Han, Huajun Wu, Tao Li, Changlong Yang, Xuchen Lu, Tie Guo, Weigang Zheng	1552
CE467	Control Structure Design and Simulation Analysis of Table Tennis Picking Robot Ming Wei, Chengming Zhao, Chunling Wang, Zihong Chen	1558
CE469	Recent Advances and Future Perspectives of Digital Twins Yangyang Zhang, Liqing Fang, Huiyong Deng, Ziyuan Qi, Hui Liang	1563
CE470	Federated Learning Scheme Based on Gradient Compression and Local Differential Privacy Lun Zhao, Siquan Hu, Zhiguo Shi	1567
CE471	The Research and Construction of Practical Case Library of Database Based on Knowledge Graph Shaojun Xiong, Xiangtao Qi	1573
CE475	Reconfigurable Planar Electromagnetic Lens Array Modeling for Fast Performance Evaluation Daniele Inserra, Wanqiang Xu, Yuqiong Zhang, Zehua Li, Essohan-Eyouemou Abalo, Fuzhen Xie, Guangjun Wen, Andrea M. Tonello	1578
CE476	Low Complexity AoA Estimation with Planar Electromagnetic Lens Arrays Wanqiang Xu, Daniele Inserra, Guangjun Wen, Andrea M. Tonello	1582
CE479	An Inverse Propensity Score Framework for Breaking Filter Bubble Recommendation Chengmin Zhang, Zhiheng Li, Kai Zhang	1588
CE481	Application of 5G+AI technology in agricultural administrative law enforcement Xiaorou Ping, Qin Zou, Liting Sun	1593
CE485	Stability of Generalized Continuous Hopfield Network Wen An, Yunxiao Jiang	1598