

# CONFERENCE PROGRAM

**2022 IEEE Conference on Telecommunications, Optics and Computer  
Science (TOCS 2022)**

**December 10-12, 2022 Dalian, China**

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# Program

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| December 10, 2022                       | 10:00-17:00  | Registration  |
| <b>Poster Presentation Session</b>      |  |   |
| December 11-12, 2022                    | 08:00-18:00  | Poster Session 1, 2, 3<br><a href="http://www.ictocs.com/posters.html">http://www.ictocs.com/posters.html</a> |
| Poster Session 1                        | TC002, TC009, TC018, TC031, TC038, TC060, TC070, TC082<br>TC092, TC115, TC121, TC139, TC145, TC162, TC172, TC186 |   |
| Poster Session 2                        | TC192, TC211, TC238, TC244, TC261, TC269, TC270, TC286<br>TC293, TC306, TC311, TC312, TC328, TC335, TC343, TC354 |   |
| Poster Session 3                        | TC360, TC364, TC372, TC377, TC383, TC395, TC400, TC407<br>TC413, TC424, TC433, TC449, TC452, TC466, TC472, TC489 |   |
| <b>Oral Presentation Session</b>        |  |   |
| December 11, 2022                       | 08:00-12:00  | Session A, Session B, Session C, Session D  |
|   | 14:00-18:00  | Session E, Session F, Session G, Session H  |
| December 12, 2022                       | 08:00-12:00  | Session I, Session J, Session K, Session L  |
|   | 14:00-18:00  | Session M, Session N, Session O, Session P  |
| Session A<br>Meeting ID:<br>544-267-472 | TC001, TC003, TC005, TC006, TC007, TC010, TC011, TC013<br>TC014, TC016, TC017, TC020, TC022, TC023, TC025, TC026 |   |
| Session B<br>Meeting ID:<br>833-608-753 | TC028, TC029, TC032, TC034, TC035, TC037, TC041, TC043<br>TC044, TC045, TC046, TC050, TC051, TC052, TC054, TC055 |   |
| Session C<br>Meeting ID:<br>275-461-116 | TC057, TC059, TC061, TC063, TC065, TC066, TC067, TC068<br>TC072, TC073, TC076, TC077, TC078, TC080, TC081, TC083 |   |
| Session D<br>Meeting ID:<br>775-527-715 | TC085, TC086, TC088, TC089, TC090, TC093, TC096, TC097<br>TC099, TC100, TC101, TC103, TC104, TC105, TC107, TC108 |   |
| Session E<br>Meeting ID:<br>685-740-602 | TC111, TC112, TC116, TC117, TC119, TC123, TC125, TC126<br>TC128, TC130, TC132, TC133, TC134, TC136, TC138, TC141 |   |
| Session F<br>Meeting ID:<br>248-964-730 | TC143, TC144, TC149, TC150, TC153, TC154, TC155, TC157<br>TC158, TC160, TC161, TC163, TC165, TC166, TC167, TC170 |   |

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| Session G<br>Meeting ID:<br>850-714-360 | TC173, TC175, TC176, TC177, TC179, TC180, TC182, TC185<br>TC188, TC190, TC191, TC193, TC195, TC196, TC198, TC200 |
| Session H<br>Meeting ID:<br>183-778-899 | TC201, TC203, TC204, TC205, TC206, TC208, TC210, TC215<br>TC216, TC218, TC219, TC222, TC223, TC225, TC226, TC228 |
| Session I<br>Meeting ID:<br>587-760-088 | TC230, TC231, TC234, TC235, TC237, TC239, TC240, TC243<br>TC245, TC246, TC249, TC251, TC253, TC254, TC256, TC257 |
| Session J<br>Meeting ID:<br>698-326-793 | TC258, TC260, TC263, TC265, TC266, TC272, TC275, TC276<br>TC277, TC280, TC281, TC282, TC285, TC288, TC289, TC290 |
| Session K<br>Meeting ID:<br>125-536-829 | TC295, TC296, TC297, TC298, TC300, TC301, TC303, TC304<br>TC305, TC307, TC309, TC310, TC314, TC315, TC317, TC318 |
| Session L<br>Meeting ID:<br>390-571-436 | TC320, TC321, TC322, TC323, TC325, TC326, TC330, TC331<br>TC333, TC334, TC336, TC339, TC342, TC345, TC346, TC349 |
| Session M<br>Meeting ID:<br>613-698-766 | TC350, TC351, TC355, TC357, TC358, TC361, TC362, TC366<br>TC367, TC369, TC370, TC373, TC375, TC380, TC381, TC385 |
| Session N<br>Meeting ID:<br>236-703-516 | TC386, TC388, TC389, TC392, TC396, TC397, TC399, TC402<br>TC404, TC405, TC408, TC409, TC411, TC414, TC415, TC417 |
| Session O<br>Meeting ID:<br>323-356-961 | TC419, TC422, TC425, TC426, TC430, TC434, TC436, TC437<br>TC440, TC441, TC444, TC445, TC450, TC451, TC455, TC456 |
| Session P<br>Meeting ID:<br>273-934-577 | TC460, TC461, TC464, TC465, TC468, TC469, TC471, TC473<br>TC475, TC477, TC480, TC481, TC484, TC485, TC490        |

## Oral Session A

|       |   |
|-------|---|
| TC001 | <b>Model for Single Image Enhancement Based on Adaptive Contrast Stretch and Multiband Fusion</b>                             |
|       | <i>Gengchen Xu, Chao Zheng, Yilin Gu</i>  |
| TC003 | <b>Research on General Terminal of Intelligent Measurement and Control of Distribution Network Based on Open Architecture</b> |
|       | <i>Xiaobing Xiao, Yongxiang Cai, Xiaomeng He, Yue Li, Yujie Ding, Ergang Zhao</i>   |
| TC005 | <b>MAT-GT: An Automated Ground Truth Collection Tool for Mobile Application Traffic</b>                                       |
|       | <i>Qingya Yang, Jialin Zhang, Junzheng Shi, Peipei Fu, Gang Xiong</i>   |
| TC006 | <b>Research on 5GC Cloud-Native Deployment Mechanism Based on Cloud-Edge Collaboration</b>                                    |
|       | <i>Yijun Cao, Peng Lv, Xiaojie Zhou, Yuting Wu, Shuo Quan, Zeya Zhu, Shen Gao</i>   |
| TC007 | <b>Classification of Schizophrenia Patients According to DNA Methylation Data Based on Meta-learning</b>                      |
|       | <i>Qi Li, Haichun Liu, Lanzhen Li, Tao Chen, Qinting Zhang, Haozhe Li, Changchun Pan</i>                                      |
| TC010 | <b>A High-Sensitivity Single-Beam Triaxial Atomic Magnetometer Based on Optical Fiber Transmission</b>                        |
|       | <i>Zinan Wu, Jialong Zhang, Mengyang He, Bokang Ren, Zilong Wang, Zhonghua Ou, Huimin Yue, Xiaojun Zhou, Yong Liu</i>         |
| TC011 | <b>Ultra-Wideband Terahertz Absorber Based on Graphene and Vanadium Dioxide</b>   |
|       | <i>Xingxin Cheng, Zigang Zhou, Yongjia Yang, Tao Liu, Hao Chen</i>  |
| TC013 | <b>Design and Implementation of Enterprise Resource Planning Management System</b>  |
|       | <i>Feiyan Zhang</i>   |
| TC014 | <b>Business Data Clustering Analysis of Power Internet of Things Platform Based on Improved K-Means</b>                       |
|       | <i>Xian Luo, Rongtao Liao, Ronghao Yang, Dai Zhang, Xiangyu Yuan, Botao Wang</i>  |
| TC016 | <b>Research on Internet Corpus Collection Method</b>  |
|       | <i>Yuguang Wang, Hongzhi Yu</i>   |

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| TC017 | <b>SOC Estimation of Lithium Batteries Based on Cluster-Growing Leaky Intergrator Echo State Network</b>                      |
|       | <i>Zongqing Jing, Shuxian Lun, Chang Liu, Zhenduo Sun</i>   |
| TC020 | <b>Direct X-ray Photodetector Based on Polycrystalline CsCu<sub>2</sub>I<sub>3</sub> Wafer Prepared by Compression Method</b> |
|       | <i>Xiongsheng Fan, Peiqing Cai, Zugang Liu</i>  |
| TC022 | <b>Micro-Expression Recognition Based on Multi-task Learning and Resnet18</b>   |
|       | <i>Liangyu Fu, Qian Zhang, Rui Wang</i>   |
| TC023 | <b>AV-ITN: A Method of Multimodal Video Emotional Content Analysis</b>  |
|       | <i>Liangyu Fu, Qian Zhang, Rui Wang</i>   |
| TC025 | <b>Fine-Grained Micro-Expression Recognition Based on Hierarchical Attention Mechanism</b>                                    |
|       | <i>Liangyu Fu, Qian Zhang, Rui Wang</i>   |
| TC026 | <b>Design and Analysis of AWS Wireless Communication Equipment Model Based on PIFA Antenna</b>                                |
|       | <i>Huanyu Sun, Junlin Pan, Jiemin Liu</i>   |

### Oral Session B

|       |   |
|-------|---|
| TC028 | <b>Intelligent Community Property Management System Based on J2EE</b>   |
|       | <i>Chun Liu</i>   |
| TC029 | <b>Optical Waveguide Mode Field Diameter Measurement Method Based on Near-field Fiber Probe End-face Scanning</b> |
|       | <i>Meihua Xiang, Zhiyong Wang, Ziyang Li, Dengcai Yang, Gang Xiong</i>  |
| TC032 | <b>WEB Security Protection Technology Based on Honeypot Technology</b>  |
|       | <i>Ying Ling, Chunyan Yang, Xin Li, Dongmei Bin, Songming Han, Ming Xie</i>                                       |
| TC034 | <b>Parameter Identification of Stylized Free-lane-changing Bezier Model Based on Behavioral Clustering</b>        |
|       | <i>Huitong Fu, Zhichao Xing, Dong Cui, Xianming Meng, Hui Zhang, Jingyan Zhou, Zhonghao Ji</i>                    |
| TC035 | <b>An Intelligent Monitoring System for Rice Seedling</b>   |
|       | <i>Xiaoyan Zhou, Lihua Zou, Xiaoyan Zhou</i>  |

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| TC037 | <b>Data abnormal fluctuation detection and early warning</b>   |
|       | <i>Chunyi Xu, Xuechen Sun, Yitong Yan</i>  |
| TC041 | <b>Research on Computer Artificial Intelligence Ice and Snow Sports Tourism Route Optimization System</b>              |
|       | <i>Landong Xu</i>  |
| TC043 | <b>Research on the Planning of Civil Aviation Passenger Service Data Resource System</b>                               |
|       | <i>Yaoshuai Zhao, Yi Liu, Di Feng, Xingguang Zhou, Ge Song</i>   |
| TC044 | <b>Study on the deployment method of public security electronic fence</b>  |
|       | <i>Dandan Ding, Fanliang Bu, Zhixin Hu</i>   |
| TC045 | <b>Research on Digital Twin Modeling and Operation Energy Efficiency Improvement System of Wind-Solar Storage Base</b> |
|       | <i>Zhaogang Han, Jia Wu, Jian Li, Yaqiang Wang, Xuedong Hou</i>  |
| TC046 | <b>Systematic Analysis of Big Data Based Machine Learning Algorithms on Various Fields</b>                             |
|       | <i>Yang Wang, Tianding Zhou, Chenglin Li, Zhixin Liu, Shichuang Zheng, Qingqing Liu</i>                                |
| TC050 | <b>Multi-modal Object Tracking: Comparison and Prospective</b>   |
|       | <i>Jike Lu</i>   |
| TC051 | <b>Simulation and Research of Liquid Level Cascade Control System</b>  |
|       | <i>Xinhua Li, Qi Lu, Yanli Zhang</i>   |
| TC052 | <b>Optimization design of a new simulated projectile electromagnetic blocking device based on permanent magnet</b>     |
|       | <i>Jiahua Ma, Xiangyu Dong, Dawei Ma, Jie Ren</i>  |
| TC054 | <b>Application of VR technology in simulated attack training of armed helicopters</b>                                  |
|       | <i>Xiaoqin Liu, Xun Yan, Zhihu Ding, Jun Zhang</i>   |
| TC055 | <b>Mask Detection for Covid-19 under Extreme Conditions</b>  |
|       | <i>Cheng Qin</i>   |

## Oral Session C

|       |   |
|-------|---|
| TC057 | <b>Identification of Crop Pests and Diseases Using a Single Convolutional Neural Network</b>                      |
|       | <i>Siyu Yang</i>  |
| TC059 | <b>Application Research of Mechatronics System Based on Computer Artificial Intelligence Technology</b>           |
|       | <i>Yutian Xu, Hui Xu, Chuanqing Yao</i>   |
| TC061 | <b>Governance of Abnormal Data Acquisition and Recording through Operation and Distribution Based on Big Data</b> |
|       | <i>Fuxin Li, Yingchun Yang, Houdong Xu, Faxian Zuo</i>  |
| TC063 | <b>Research on Abnormal Data Monitoring of Intelligent Vehicle Communication Network</b>                          |
|       | <i>Min Li</i>   |
| TC065 | <b>Research on Network Information Security and Protection System Based on Computer Big Data</b>                  |
|       | <i>Hongkai Chen, Zheng Xiao</i>   |
| TC066 | <b>Wide-area detection technology based on hybrid neighborhood search and improved genetic algorithm</b>          |
|       | <i>Changfeng Xia, Fuqiang Cheng, Guozheng Li, An Wang</i>   |
| TC067 | <b>Behavior Recognition of Substation Maintenance Personnel Based on Deep Learning</b>                            |
|       | <i>Riquan Yao, Shaojun Jin, Yingqun Fei, Lifeng Fang</i>  |
| TC068 | <b>An Improved COSMIC Software Evaluation Method</b>  |
|       | <i>Fangxu Wang, Futan Ma, Guoxing Song, Jianqiang Zhang</i>   |
| TC072 | <b>Multi-hypothesis Data Association for Multiple Target Tracking</b>   |
|       | <i>Siyang Liu, Haosen Pan, Long Xiao, Beining Zhang</i>   |
| TC073 | <b>A review of noise removal techniques in ECG signals</b>  |
|       | <i>Fengjun Shi</i>  |
| TC076 | <b>Verification and Analysis of Security Hardening Operating System for Smart Power Terminals</b>                 |
|       | <i>Bin Xu, Feng Zhai, Baofeng Li, Yongfeng Cao, Chao Zhang, Qi Zhou</i>   |

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| TC077 | <b>Research on Comprehensive Evaluation of Relay Protection Devices Based on Entropy–G1 Method and TOPSIS Method</b>          |
|       | <i>Junjie Zhang, Li Zhang, Xinzhuo Li</i>   |
| TC078 | <b>Systematic Research on Controllable Process Parameters of Second-Generation Resonant Pulse Repair Equipment</b>            |
|       | <i>Xiaoyan Qi, Fanmin Meng, Tao Wang, Qiming Wang, Xiaoyu Liu</i>   |
| TC080 | <b>Research on Portable Integrated System of Second Generation Resonant Pulse Repair Equipment</b>                            |
|       | <i>Min Jiao, Xiaoyan Qi, Qiuhua Hou, Changlun Hu, Kang Li</i>   |
| TC081 | <b>Research on Resonant Composite Pulse Repair and Reuse Technology of Lead-Acid Battery Triggering Process in Substation</b> |
|       | <i>Shengxia Zhao, Yan Liu, Xueting Wang</i>   |
| TC083 | <b>The Advance of Generative Model and Variational Autoencoder</b>  |
|       | <i>Zhenhua Ren</i>  |

### Oral Session D

|       |  |
|-------|--|
| TC085 | <b>Research on the Application of Computer Artificial Intelligence Technology in the Digitalization of Modern Cities</b>               |
|       | <i>Binxi Wu</i>  |
| TC086 | <b>Application of 5G Private Network and Internet of Things in Smart Cold Chain Logistics Park</b>                                     |
|       | <i>Cong Cheng</i>  |
| TC088 | <b>A Lightweight Adaptive Attention Based Transportation Mode Detection Model Using Sensors Integrated in Smartphones</b>              |
|       | <i>Shan Xue, Yong Fang</i>   |
| TC089 | <b>Design and implementation of takeaway counter anti-theft system based on face recognition technology</b>                            |
|       | <i>Yihui Wu, Jiayi Jiang, Lin Gao</i>  |
| TC090 | <b>Research on university fire equipment management system based on RFID technology</b>  |
|       | <i>Zirou Liu, Lin Zhu, Ting Jiang, Dezhi Qiu</i>   |
| TC093 | <b>Information Retrieval from Internet Data Using Textual Mining and Statistical Models for Stock Market Price Movement Prediction</b> |
|       | <i>Baojia Huang, Liuyu Wang, Linghan Zhou</i>  |



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| TC096 | <b>Multi-image fusion multi-modal rumor detection</b>  |
|       | <i>Huan Liu, Jinhui Li, Wenzhaoting Hu</i>   |
| TC097 | <b>Stock price prediction based on multifactorial linear models and machine learning approaches</b>                                  |
|       | <i>Guanlan Shao</i>  |
| TC099 | <b>Research on online detection method of HVDC circuit breaker</b>   |
|       | <i>Danguo Xu, Yamei Li, Shiyang Huang, Linru Ning, Yu Li</i>   |
| TC100 | <b>Research on Calibration Method Based on Structured Light Vision Measurement System</b>  |
|       | <i>Mao Zhiyong, Zhu Qing, Chen Jigang, Ni Bo, Zhang Minghua</i>  |
| TC101 | <b>Low-voltage topology identification method based on big data analysis and informatization</b>                                     |
|       | <i>Zhang Yuhong, Wang Shi, Ming Zhiyong, Wu Shouchang, Long Yan, Yao Linpeng</i>   |
| TC103 | <b>Research on Intelligent Network Operation Management System Based on Anomaly Detection and Time Series Forecasting Algorithms</b> |
|       | <i>Jian Guo, Hua Guo, Zhong Zhang</i>  |
| TC104 | <b>Hyper-net: A Dual-Path Convolutional Network for Thyroid Fine Needle Aspiration Cell Segmentation</b>                             |
|       | <i>Wenjie Ren, Yan Wang, Lili Gao, Qingli Li</i>   |
| TC105 | <b>English-Chinese Translation using Neural Machine Models</b>   |
|       | <i>Qi Liu, Pengfei Ou</i>  |
| TC107 | <b>Measurement Research Based on Stereo Vision Fusion</b>  |
|       | <i>Xiaodong Chen, Shichong Chen, Yudong Zhang</i>  |
| TC108 | <b>An effective incomplete data fuzzy clustering method via attribute-weighted partial distance</b>                                  |
|       | <i>Jiayun Liu, Dexin Zhang, Jiapeng Chen</i>   |

### Oral Session E

|       |   |
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| TC111 | <b>Research on synthetic algorithm for simulating the situation of cyclists</b> |
|       | <i>Beibei Wang, Kexin Zhou, Ziye Wang, Meng Bi</i>                              |

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| TC112 | <b>Construction of short-term stock price prediction algorithm based on MLP and CART Bagging ensemble learning</b>  |
|       | <i>Yuan Hua, Runde Zhu, Yanan Duan</i>  |
| TC116 | <b>Research on Contribution Analysis of Hubei Risk Big Data Based on RBF Neural Network</b>                         |
|       | <i>Guizhong Sheng, Yunqi Yang</i>   |
| TC117 | <b>Research on Chinese synergies based on K-Means clustering algorithm and correspondence analysis</b>              |
|       | <i>Yunqi Yang, Guizhong Sheng</i>   |
| TC119 | <b>Simulation Research on Space Charge of High Voltage XLPE Cable under Different Working Conditions</b>            |
|       | <i>Yule Sun, Guolong Qiu, Zehong Yang</i>   |
| TC123 | <b>Precise subpixel edge localization based on partial area effect</b>  |
|       | <i>Yuyang He, Lu Li, Yuxin Yang, Shuo Yin, Yihong Zhu</i>   |
| TC125 | <b>A Feasibility Study of Microwave Metal and Dielectric Classification Based on Machine Learning Techniques</b>    |
|       | <i>Gengyang Qie, Lixinran Tang, Mingdong Li</i>   |
| TC126 | <b>Low-light image enhancement model based on improved SCT in indoor scenes</b>                                     |
|       | <i>Yuxiang Cheng, Chong Yang</i>  |
| TC128 | <b>Scheduling study of vascular robot ordering and biological learning based on mixed integer programming model</b> |
|       | <i>Zhenan Ding, Chenyuan Jia, Jingyao Han</i>   |
| TC130 | <b>A fast incomplete data classification method based on representative points and K-nearest neighbors</b>          |
|       | <i>Donghe Chen, Ruolin Ma, Haijun Du</i>  |
| TC132 | <b>An Unsupervised GAN-based Quality-enhanced Medical Image Fusion Network</b>                                      |
|       | <i>Liu Yanli, Li Zimu, Feng Junce, Yuanjie Gu</i>   |
| TC133 | <b>Trading Method Based on ARIMA Model and Greedy Algorithm</b>   |
|       | <i>Zirui Wang</i>   |
| TC134 | <b>Study on the allocation of resources based on SD-MOP coupling model and genetic hybridization algorithm</b>      |
|       | <i>Shunyi Chen</i>  |

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| TC136 | <b>Research based on "FAST" active reflector shape adjustment problem</b>                   |
|       | <i>Xinyi Lin, Ruiting Hu, Wenjia Liu</i>  |
| TC138 | <b>Automatic segmentation and fitting of image edge contours based on Douglas algorithm</b> |
|       | <i>Yu Cao, Maosong Wang</i>   |
| TC141 | <b>Demand Forecasting: From Machine Learning to Ensemble Learning</b>                       |
|       | <i>Yang Zhang, Hongyi Zhu, Yujing Wang, Tianchen Li</i>                                     |

### Oral Session F

|       |   |
|-------|---|
| TC143 | <b>Short-term wind speed prediction method based on deep learning</b>   |
|       | <i>Peilong Guan</i>   |
| TC144 | <b>Nanolayered graphene-based tunable terahertz metasurfaces as polarization converters and beam deflectors</b>               |
|       | <i>Mingliang Xie, Yilin Jing, Yiyang Zheng</i>  |
| TC149 | <b>Markowitz Portfolio Model Based on LSTM</b>  |
|       | <i>Keyuan Ye</i>  |
| TC150 | <b>Application research of port cargo data system based on system dynamics model</b>  |
|       | <i>Yuxin Tian, Yu Bai, Zhongyuan Zhao</i>   |
| TC153 | <b>Knowledge graph technology based on Natural Language Processing and reinforcement learning e-commerce customer service</b> |
|       | <i>Xiaochen Xiao</i>  |
| TC154 | <b>Research on station site planning based on combined intelligent algorithm</b>  |
|       | <i>Yan Fan, Qingding Tong, Aoshen Yang</i>  |
| TC155 | <b>Fire alarm model based on AHP and improved BP neural network</b>   |
|       | <i>Yiming Han, Xiaomin Tang</i>   |
| TC157 | <b>Urban Road Passenger Interpretation Based on MLP and SHAP</b>  |
|       | <i>Dashuang Ji, Qianxin Dong, Yu Zhang</i>  |
| TC158 | <b>Medium and Long Term Carbon Emission Forecast Based on GM BP optimized by Beetle Antennae Search</b>                       |
|       | <i>Xiaomin Tang</i>   |

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| TC160 | <b>Parameter analysis model of ore product based on BP neural network</b>                               |
|       | <i>Yuning Hong, Yuhao Zhao, Shuailong Lei</i>   |
| TC161 | <b>Research on the control system of intelligent epidemic prevention robot based on microcontroller</b> |
|       | <i>Xiaying Ji, Xin Qiu, Minyan Geng</i>   |
| TC163 | <b>Research and analysis of base station optimal location model based on cluster analysis</b>           |
|       | <i>Mingyue Liu, Zhitao Wang, Hengrui Zhu, Xumin Song</i>  |
| TC165 | <b>Short-term Electricity Price Prediction Based on CEEMD-TCN-ATTENTION</b>                             |
|       | <i>Chenyu Yan, Chaochao Qu, Gao Mo</i>  |
| TC166 | <b>Bumblebee recognition and analysis model based on CNN</b>  |
|       | <i>Xiaochen Xiao</i>  |
| TC167 | <b>A framework for predicting the location of Vespa mandarinia nests via deep learning approach</b>     |
|       | <i>Wu Guangnan, Wang Zhenyou</i>  |
| TC170 | <b>Computer Big Data Analysis Internet Business Risk Prevention System Research</b>                     |
|       | <i>Jun Mu, Wei Zhao, Chenfei Wang, Shuo Zhang, Yintie Zhang, Guangming Fan</i>                          |

### Oral Session G

|       |   |
|-------|---|
| TC173 | <b>Security Measurement and Protection Technology Based on Power Internet of Things Terminal</b>                      |
|       | <i>Caiwei Guo, Yuxiang Cai, Wen Ji, Qimin Xiao, Shulin Wu, Weitao Zheng, Wei Zhou, Taining Huang, Jianxiong Huang</i> |
| TC175 | <b>Temporal-Spatial Mapping Model Based on Hidden Markov Model</b>  |
|       | <i>Zhiyuan He, Weitao Zheng, Yuxiang Cai</i>  |
| TC176 | <b>Cloud Computing in Real-time Alarm Information Push of DingTalk Platform</b>                                       |
|       | <i>Helin Zhang, Meiling Jiang, Dongying Gao, Dewei Lin, Ning Ding, Zhiwei Zheng, Haosong Sun</i>                      |
| TC177 | <b>Monitoring Information of Multi-type Energy Equipment in Smart Energy System Based on CPLD</b>                     |
|       | <i>Chen Ran, Weng Lingwen, Chen Weibiao, Wu Xi, Pan Jianli, Lin Jianhua</i>   |

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| TC179 | <b>New Energy Operation Platform Monitoring Data Verification Method Based on Correlation Analysis Algorithm</b>                                 |
|       | <i>Lin Dewei, Sun Haosong, Lin Chenhan, Ding Ning, Weng Binxin, Li Jinhu</i>   |
| TC180 | <b>High-Speed Retrieval Method for Unstructured Big Data Platform Based on K-Ary Search Tree Algorithm</b>                                       |
|       | <i>Zhang Helin, Jiang Meiling, Wang Yiting, Zhang Hang, Liao Huadong, Chen Anqing</i>  |
| TC182 | <b>Charging Pile Control System and Material Management Platform Based on Internet of Things Technology</b>                                      |
|       | <i>Li Qiang, Li Wenjing, Liu Zhu, Deng Huixian, Weng Zhangjun</i>  |
| TC185 | <b>Power Equipment Fault Diagnosis and Prediction Based on Improved ID3 Algorithm and Apriori Association Rule Algorithm</b>                     |
|       | <i>Sun Haosong, Gao Dongying, Zhang Hang, Zhang Helin, Li Jinze</i>  |
| TC188 | <b>Research on Regional Integrated Energy Cluster Management and Control Technology</b>  |
|       | <i>Jiangjing Wang, Jiaqing Ye, Jie Xu, Jianli Yang</i>   |
| TC190 | <b>Research on Simulation Model of Self-consistent Power Supply System for Independent Micro-grid</b>  |
|       | <i>Yueyan Ren</i>  |
| TC191 | <b>Design of Intelligent System for Solidification Processing of Engineering Mud Based on Data Mining Algorithm</b>                              |
|       | <i>Wei Xiang</i>   |
| TC193 | <b>Chinese Sentiment Analysis Using Deep Learning Methods</b>  |
|       | <i>Yushi Wang</i>  |
| TC195 | <b>Research on the Construction System of Computer Big Data in the Community Integrated Garbage Classification AI Image Recognition Platform</b> |
|       | <i>Lijun Fu</i>  |
| TC196 | <b>Substation intelligent security management and control practice based on artificial intelligence and big data analysis</b>                    |
|       | <i>Xinzhuo Li, Li Zhang, Junjie Zhang, Xianyue Luo</i>   |
| TC198 | <b>TAMU-Net: A Tree Attributes Measurement Method Combined with UNet++</b>   |
|       | <i>Yulin Shen, Chaoyan Zeng, Chenyang Lei</i>  |

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| TC200 | <b>IT Automatic Operation and Maintenance Service System Based on SaaS Architecture</b>    |
|       | <i>Zheng Zhiwei, Sun Haosong, Gao Dongying, Huang Fangfang, Lei Qinghai, Cui Chuanjian</i> |

### Oral Session H

|       |   |
|-------|---|
| TC201 | <b>GRU-GAT Model for Blockchain Bitcoin Abnormal Transaction Detection</b>  |
|       | <i>Yang Zheng</i>   |
| TC203 | <b>Application Research of Computer AI Technology in Flat Landscape Garden Design System</b>  |
|       | <i>Xun Zhou, Li Bi</i>  |
| TC204 | <b>Application Research of Computer 3D Visualization View Technology in Environmental Design System</b>   |
|       | <i>Xun Zhou, Li Bi</i>  |
| TC205 | <b>Cardiopulmonary Function Detection System of Aerobic Exercise Based on Machine Learning Algorithm</b>  |
|       | <i>Xiaobao Zhang, Wenhui Tan</i>  |
| TC206 | <b>Research and design of a customized route recommendation system for social entrepreneurship education based on collaborative filtering algorithm</b> |
|       | <i>Zhongfeng Pan, Hao Wang, Xiaohan Zhang</i>   |
| TC208 | <b>Application Research of Computer Big Data Technology in Enterprise Safety Production Portrait Information System</b>                                 |
|       | <i>Yang Zhengwei, Qin Jie, Zhang Yongqiao, Wu Song, Zhang Lei</i>   |
| TC210 | <b>Application of improved generalized predictive control for frequency control in ultrasound therapy instruments</b>                                   |
|       | <i>Fenghua Shu, Jingwen Yang</i>  |
| TC215 | <b>Research on the Application of Computer Machine Vision Technology in the Electrical Automation of New Energy Vehicles</b>                            |
|       | <i>Zikun Jin, Hongfeng Song</i>   |
| TC216 | <b>Forest fire smoke recognition and detection based on EfficientNet</b>  |
|       | <i>Yutong Li</i>  |

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| TC218 | <b>Design of a human-robot interaction system for robot teleoperation based on digital twinning</b>  |
|       | <i>Ruishuo Xu, Weijun Wang, Wei Feng, Zhaokun Zhou, Boyoung An, Ruizhen Gao, Kaichen Zhou</i>        |
| TC219 | <b>Frabirc-based Consortium Chain Secondary Certificate Improvement Scheme</b>                       |
|       | <i>Xie Jiagui, Nie Fanjie, Zhang Bo, Guo Jian</i>  |
| TC222 | <b>Stock Investment and Trading Strategy Model Based on Autoregressive Integrated Moving Average</b> |
|       | <i>Litao Liu</i>   |
| TC223 | <b>Design of Control System for Material-sorting Arm Based on PLC</b>                                |
|       | <i>Zhihong Zhou, Qichang Zhou</i>  |
| TC225 | <b>Robot locomotions in complex terrains</b>   |
|       | <i>Liangzheng (David) Liu</i>  |
| TC226 | <b>Application of Artificial Intelligence in Playing Cards</b>                                       |
|       | <i>Qiyue Chen</i>  |
| TC228 | <b>Exploration and Practice of Industrial Internet Platform in Manufacturing Industry</b>            |
|       | <i>Yaqi Cao, Changming Hu, Yaguang Xie, Zhanying Feng</i>  |

### Oral Session I

|       |   |
|-------|---|
| TC230 | <b>TrustGNN: Enhancing GNN via Multi-similarity Neighbors Identifying for Social Recommendation</b> |
|       | <i>Qi Han</i>   |
| TC231 | <b>Based on D-S Evidence Theory to Calculate Pipeline Failure Probability</b>                       |
|       | <i>Xiao Li, Jiyin Liu, Hu Ai, Jie Wang</i>  |
| TC234 | <b>A survey of phishing detection: from an intelligent countermeasures view</b>                     |
|       | <i>Yifei Wang</i>   |
| TC235 | <b>Research on Multi-source Exploration Data Modeling Technology and Data Processing</b>            |
|       | <i>Youping Wu</i>   |
| TC237 | <b>The optimized designs and implements of the work paraboloid of FAST</b>                          |
|       | <i>Runhao Liu, Wenjie Guo, Yukun Qin, Shuo Ma, Ziming Chen, Tianjun Xie, Zhengwei Hai</i>           |

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| TC239 | <b>Organizational Behavior Management System Based on Multi-Agent Algorithm</b>                                 |
|       | <i>Zhiru Wei</i>  |
| TC240 | <b>Design and Implementation of Cultural Communication Platform Based on Intelligent Optimization Algorithm</b> |
|       | <i>Xiaoli Wu</i>  |
| TC243 | <b>Multi-Time Scale Low-Carbon Optimization of IES Considering Demand Response of Multi-Energy</b>              |
|       | <i>Fan Caixiong, Zhao Wenqiang, Xu Jiawei, Wang Zhengwei, Zhou Jun, Shi Shengchao</i>                           |
| TC245 | <b>Ecological Intelligent System of Short Video Cultural Industry Based on Neural Network Algorithm</b>         |
|       | <i>Liyuan Huang</i>   |
| TC246 | <b>Application Research of Image Feature Recognition Algorithm in Visual Image Recognition</b>                  |
|       | <i>Wenjie Yu, Jing Peng, Jian Li, Yanjie Deng, Hai'an Li</i>  |
| TC249 | <b>Design and Implementation of Digital Information Platform for Home-based Elderly Care Services</b>           |
|       | <i>Lili Zhu, Tao Pang</i>   |
| TC251 | <b>Deep Learning Models for Text Classification</b>   |
|       | <i>Boran Liu, Yikai Wang</i>  |
| TC253 | <b>Image Classification Using the Method of Convolutional Neural Networks</b>                                   |
|       | <i>Kaixin Huang</i>   |
| TC254 | <b>Smart Grid Oriented Service Function Chain Deployment Method</b>   |
|       | <i>Huiping Meng, Jizhao Lu, Feng Gao, Ruimin Wang, Shibo Li, Zihao Wang, Zhiyuan An</i>                         |
| TC256 | <b>Detection and localization of power theft based on CNN-LSTM algorithm</b>                                    |
|       | <i>Chao Jiang, Yukun Xu, Jianfeng Jiang, Zhijing Zhang</i>  |
| TC257 | <b>Dynamic Optimal Dispatch Strategy of Integrated Energy System Considering Translatable Loads</b>             |
|       | <i>Fan Caixiong, Lei Guobin, Wang Zhengwei, Zhou Jun, Ma Runsheng, Qi Fuzhi</i>                                 |



## Oral Session J

|       |   |
|-------|---|
| TC258 | <b>Research on Motor Drive Control Strategy of Electric Vehicle</b>   |
|       | <i>Ziqi Shen, Zhenpeng Luo, Siqing Zhang, Shuyu Wang</i>  |
| TC260 | <b>Comparative Analysis of Positioning Capability of Beidou and GPS in Maritime Islands</b>                     |
|       | <i>Yuan He</i>  |
| TC263 | <b>Sound anomaly detection of industrial products based on MFCC fusion short-time energy feature extraction</b> |
|       | <i>Fan Hua, Li Li</i>   |
| TC265 | <b>Research on the Application of Computer Software Encryption Technology in Digital System</b>                 |
|       | <i>Zhijian Zhao</i>   |
| TC266 | <b>The Image Recognition of Guns and Knives Based on Deep Learning of Tensorflow</b>                            |
|       | <i>Rui Pang</i>   |
| TC272 | <b>Control strategy research of hybrid energy storage system to smooth out PV fluctuations</b>                  |
|       | <i>Kun Wang, Sen Wang, Guochao Yang, Xueming Zhao, Li Zhang, Qian Nie, Zhiyong Gan, Yan Qi</i>                  |
| TC275 | <b>Design of Intelligent Air Quality Online Monitoring Trolley Based on STM32 MCU</b>                           |
|       | <i>Zhihong Zhou, Linlin Li, Qichang Zhou</i>  |
| TC276 | <b>Dynamic Path Planning for Parking Lot Based on Carbon Emission Optimization</b>                              |
|       | <i>Yuqing Tao</i>   |
| TC277 | <b>Research on single-cell segmentation and identification based on image features fusion</b>                   |
|       | <i>Lihui Ren, Hongyan Wu, Yuxin Sun, Lijun Sun, Jinjia Guo, Qi Wang, Huilan Yu, Yuan Lu</i>                     |
| TC280 | <b>A Hand Gesture Detection Algorithm and Quantization Implementation</b>                                       |
|       | <i>Bin Ma, Xianxian Lv, Yueli Hu</i>  |
| TC281 | <b>Research on communication network site planning and regional clustering algorithm</b>                        |
|       | <i>Wenjuan Yang, Chenyu Sun</i>   |

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| TC282 | <b>Research and design of intelligent parking management system based on UML technology</b>                        |
|       | <i>Li Lyu, Ningning Fan</i>  |
| TC285 | <b>A yield prediction and optimization method based on nonparametric boundary analysis</b>                         |
|       | <i>Huatong Zheng, Lei Zhou</i>   |
| TC288 | <b>Adaptive Inversion Sliding Mode Control of Double-joint Manipulator Based on Nonlinear Disturbance Observer</b> |
|       | <i>Hongwang Zhao</i>   |
| TC289 | <b>Prediction of Drug-Target Interaction Based on Multi-Head Self-Attention</b>                                    |
|       | <i>Xin Ma, Yujing Cheng</i>  |
| TC290 | <b>Design and Realization of University Discipline Archives Management System Based on Data Mining Technology</b>  |
|       | <i>Wang Chunxia, Yang Xinbao</i>   |

### Oral Session K

|       |  |
|-------|--|
| TC295 | <b>Big Data Analysis and Calculation on Occupant Protection Based on Intelligent Sled Test System in Passenger Car</b> |
|       | <i>Wu Yongqiang, Liu Manli, Chen Chao</i>  |
| TC296 | <b>A velocity planning algorithm of high speed dispensing based on wavelet transform optimization</b>                  |
|       | <i>Weiming Yang, Yong Zhang</i>  |
| TC297 | <b>Research on Intelligent Tourism System of 5A-Level Tourist Attractions Based on Computer Big Data</b>               |
|       | <i>Du Lili, Lu Youlan</i>  |
| TC298 | <b>Advances of Gate Stack Technology in MOSFETs</b>  |
|       | <i>Lefu Xie</i>  |
| TC300 | <b>Application research of 3D geological modeling based on discrete smooth interpolation</b>                           |
|       | <i>Tian Longqiang, Zeng Qingqiang, Liu Liling, Wang Yanbing, Tu Xinbin, Jin Yongjun, Chen Qingwei</i>                  |
| TC301 | <b>Key Technologies of Electricity Information Collection System</b>   |
|       | <i>Caixia Zhang, Xinyu Li, Zhu Tang, Peng Wang, Nan Xu</i>   |

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| TC303 | <b>Research on stock quantitative investment strategy based on ARIMA-GARCH-MLP Model</b>  |
|       | <i>Yutong Sun, Tianjia Dong, Bing Shan</i>  |
| TC304 | <b>Design of Power Quality Analyzer Based on Virtual Instrument</b>   |
|       | <i>Yujin Zhu, Xin Hu, Yuchong Zhu, Yang Geng</i>  |
| TC305 | <b>Electricity price prediction based on a new hybrid model</b>   |
|       | <i>Shan Zhang, Powei Chen, Ziqiang Yang</i>   |
| TC307 | <b>Research on optimal configuration of UAV for rapid response to wildfire based on ant colony algorithm and terrain complexity model</b> |
|       | <i>Shihan Chen, Jialu Ma</i>  |
| TC309 | <b>Research on optimal location of network base stations based on establishing 0–1 dynamic programming</b>                                |
|       | <i>Chenyuan Jia, Jiawen Liang, Jingyao Han</i>  |
| TC310 | <b>CInet:Towards Precise Flame and Smoke Detection with Grid Partition Adopting Context and Interior Paths</b>                            |
|       | <i>Mingqi Yang, Dingke Zhang, Wenxia Yang</i>   |
| TC314 | <b>Mass Appraisal of Real Estate Prices Using Improved BP Neural Network with Policy Evaluation</b>                                       |
|       | <i>Yikai Zheng, Bohan Yang, Ruichen Zhang, Zhixin Bai, Yu Sun</i>   |
| TC315 | <b>K-mean clustering algorithm and particle swarm algorithm based on base station siting optimization problem</b>                         |
|       | <i>Ziyao Zhu, Yueyao Li, Yan Guo, Zixuan Zhou, Ziyu Liu</i>   |
| TC317 | <b>Wind Speed Prediction Based on Gate Recurrent Unit</b>   |
|       | <i>Yiliu Sun, Jie Wang</i>  |
| TC318 | <b>Research on the Best Riding Strategy</b>   |
|       | <i>Zhenhui Duan, Hexuan Wu, Yuanze Luo, Jin Yan</i>   |

### Oral Session L

|       |  |
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| TC320 | <b>Designing the intelligent epidemic control robot control system for epidemic prevention and control</b> |
|       | <i>Shuhan Wang, Mingliang Xie, Ji Feng</i>   |

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| TC321 | <b>Urban Highway Freight Volume Prediction Based on the BP Neural Network</b>   |
|       | <i>Xiaoshuang Ji, Shengyu Feng, Haobo Ma</i>  |
| TC322 | <b>Study on Microwave Food Contamination Examination Based on Machine Learning Approach</b>                                   |
|       | <i>Yidan Qiao, Shikai Wu, Jinsong Wang</i>  |
| TC323 | <b>Quantitative investment decision model based on ARIMA and iterative neural network</b>                                     |
|       | <i>Naihan Han, Shuo Zhang, Hexiao Wang, Zhihao Chen, Xiaolong Hou, Zhijie Sun</i>   |
| TC325 | <b>Optimization of Network Base Station Location Based on Immune Algorithm</b>  |
|       | <i>Jiyuan Song, Zhong Wang</i>  |
| TC326 | <b>Design and research on business processor of electricity consumption information collection system</b>                     |
|       | <i>Caixia Zhang, Jun Sun, Yuhang Xiao, Chun Guo, Xu Dong</i>  |
| TC330 | <b>Research on 5G communication station location planning and regional clustering based on K-medoids and DBSCAN algorithm</b> |
|       | <i>Rong Guo, Jinsong Zhang</i>  |
| TC331 | <b>Structural design and research of underwater inspection robot for nuclear power plant</b>                                  |
|       | <i>Jianhua Zhou, Jianpeng Fu, Ruitang Pan, Guangzheng Tian, Yujun Li</i>  |
| TC333 | <b>Design of underwater mobile platform suitable for nuclear reactor environment</b>  |
|       | <i>Jianhua Zhou, Fuhu Xiao, Jun Liu, Guangzheng Tian, Jianpeng Fu</i>   |
| TC334 | <b>Research and Application Status of Distribution Network Grid</b>   |
|       | <i>Rui Fan</i>  |
| TC336 | <b>Design of an aperture measuring device for nuclear power plant</b>   |
|       | <i>Guangzheng Tian, Shuai Shao, Guangfeng Li, Jianhua Zhou, Jianpeng Fu</i>   |
| TC339 | <b>Flatness Error Evaluation Based on Marine Predator Algorithm</b>   |
|       | <i>Liu Changying, Yang Yuanyuan, Hou Yuguang, An Bowen</i>  |

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| TC342 | <b>SVR Modeling and Parameter Optimization for Financial Time Series Forecasting</b>  |
|       | <i>Dahai Huang</i>  |
| TC345 | <b>Key Technology of Passive Wireless Temperature Measurement of Power High-Voltage Switchgear Based on Wireless Sensor Network</b> |
|       | <i>Junguang Gao, Hong Chen, Wei Liu, Bin Cheng, Chengtao Zhang</i>  |
| TC346 | <b>Integrated Forecast of Financial Time Series Data Based on Deep Learning Model</b>   |
|       | <i>Yingjie Ma</i>   |
| TC349 | <b>Chinese herbal recognition by Spatial-/Channel-wise attention</b>  |
|       | <i>Nan Wu, Jie Lou, Juan Lv, Feihan Liu, Xingjiao Wu</i>  |

### Oral Session M

|       |  |
|-------|--|
| TC350 | <b>A Forecasting Method for User-Side Power-Related Carbon Emissions</b>   |
|       | <i>Zhang Lu, Yan Jiahui, Wang Liyong, Li Xianglong, Wang Weixian, Ma Longfei</i>   |
| TC351 | <b>Study on site selection of long-term electromagnetic environment observation station for ac transmission lines in qinghai-tibet plateau</b> |
|       | <i>Zhenhuan Liu, Wan Hao, Rui Huang</i>  |
| TC355 | <b>Exploring the Role of PWV in Rainfall Time Series Prediction in Deep Learning</b>   |
|       | <i>Shenzheng Zuo, Lingzhi Liu, Yan Wang</i>  |
| TC357 | <b>Prediction of 5th Generation Mobile Users Traffic Based on Multiple Machine Learning Models</b>   |
|       | <i>Su Caiyu, Wei Jinri, Dong Jie, Wu Shanyun</i>   |
| TC358 | <b>Vehicle Price Forecasting Based on Multiple Machine Learning Models</b>   |
|       | <i>Zhongwei Chen, Xiaofeng Li</i>  |
| TC361 | <b>A Brief Review and Comparison Between Transmitarray Antennas, Reflectarray Antennas and Reconfigurable Intelligent Surfaces</b>             |
|       | <i>Zhiwei Fu, Xiaopeng Zou, Yunqi Liao, Guoming Lai, Yuzhong Li, Kwok L. Chung</i>   |
| TC362 | <b>Buckwheat Grain Image Segmentation Based on U-Net Model</b>   |
|       | <i>Bo Wang, Shaozhong Lv, Nan Zhou, Xinyu Wang, Zhengbing Xiong, Xiaohua Sun</i>   |

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| TC366 | <b>Trajectory Prediction Method of Millimeter-Wave Radar Based on Markov Model for Roadside Installation Scenario</b>   |
|       | <i>Baidong Ma, Haiqing Liu, Hai'en Fang</i>   |
| TC367 | <b>A GA-BP Neural Network Model for Students Examination Score Prediction</b>   |
|       | <i>Chen Mei</i>   |
| TC369 | <b>A Blockchain Distributed Computing Resource Scheduling Balancing Method Based on Variance Ratio</b>                  |
|       | <i>Xiaofeng Chen, Xiangjuan Jia, Lu Zhang, Liang Cai</i>  |
| TC370 | <b>Optimization of Blockchain Storage Architecture Based on Voronoi Diagram</b>   |
|       | <i>Xiaofeng Chen, Xiangjuan Jia, Lu Zhang, Liang Cai</i>  |
| TC373 | <b>Design and Implementation of Cross-Platform Well Site Integrated Monitoring and Management System Based on HTML5</b> |
|       | <i>Yang Cao, Fangzi Cui, Baofeng Zheng, Zhenlin Fan</i>   |
| TC375 | <b>Multi Optical Axis Parallelism Detection Method for Multiple UAVs Based on Multi-Sensor Data Fusion</b>              |
|       | <i>Xin Zhao, Xuebin Liu, Fuli Qi, Ping Yan, Ling Yang</i>   |
| TC380 | <b>A Lightweight Risk Advertising Image Detection Method Based on Mobile-ViT</b>  |
|       | <i>Hui Tong, Tian Peng, Xiangyao Jiang</i>  |
| TC381 | <b>Portable Air-fuel Ratio Analyzer Based on UEGO Sensor</b>  |
|       | <i>Xuehui Hua, Junli Zhao</i>   |
| TC385 | <b>Model of Pollution Source Information Recommendation</b>   |
|       | <i>Lina Wang, Qiuyue Zhang, Qingyi Li, Chuan Geng, Yitong Wang, Yongqiang Pan</i>                                       |

### Oral Session N

|       |  |
|-------|--|
| TC386 | <b>Estimation on Audience Status in Teaching Scene Based on Improved SSD Algorithm</b> |
|       | <i>Siquan Hu, Pei Wang, Zhiguo Shi</i>   |
| TC388 | <b>Planning and design of wifi-based university wireless networks</b>                  |
|       | <i>Mingwen Chi, Xiaoming Zhang</i>   |

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| TC389 | <b>Construction of Ocean Information Network with All Time, Space and Elements</b>                                   |
|       | <i>Zhiqiang Xu</i>   |
| TC392 | <b>A Security Enhancement Design of Video Surveillance System Based on TPM</b>                                       |
|       | <i>Wu Zhao, Xiarun Chen, Jiayi Zhang, Xiudong Fu</i>   |
| TC396 | <b>Research on Athlete Performance Prediction Model Based on Recurrent Neural Network</b>                            |
|       | <i>Ying Zhang</i>  |
| TC397 | <b>Design of Gesture Recognition System Based on Deep Learning</b>   |
|       | <i>Wu Zhisong, Huang Shiyang, Feng Yebin, Hu Anming</i>  |
| TC399 | <b>Part-of-Speech Tagging of English-Translation Bilingual Parallel Corpus Based on Convolutional Neural Network</b> |
|       | <i>Xiuli Gou, Rui Li, Peng Zhang</i>   |
| TC402 | <b>Construction of manufacturing green innovation system based on big data and artificial intelligence</b>           |
|       | <i>Yuanyuan Li, Dechao Han</i>   |
| TC404 | <b>Systematic Research on Marketing Based on Computer Big Data</b>   |
|       | <i>Le Zhang</i>  |
| TC405 | <b>Research Advanced in Deep Learning Object Detection</b>   |
|       | <i>Mingzhe Zhou</i>  |
| TC408 | <b>Text Classification Using Deep Learning Methods</b>   |
|       | <i>Chi Zhang</i>   |
| TC409 | <b>Confrontation with Noise in Selective Classification</b>  |
|       | <i>Haobo Xu</i>  |
| TC411 | <b>GBCD: A Granular-ball Based Discretization Method for Continuous Valued Attributes</b>                            |
|       | <i>Weiqi Chen, Shuyin Xia, Cheng Wang, Zizhong Chen, Guoyin Wang</i>   |
| TC414 | <b>Design and Application of Joint Approval Module for Industry Expansion Scheme Based on State Grid OA system</b>   |
|       | <i>Hailong Wang, Xinlei Huang, Hesun Wang, Beiyuan Fu, Cheng Wei</i>   |

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| TC415 | <b>Application Research in Computer Design System Based on 3D High-Definition Image Visual Communication</b> |
|       | <i>Zimo Chen</i>   |
| TC417 | <b>Computer Graphics Image and Visual Communication Design Model in Computer VR Environment</b>              |
|       | <i>Zimo Chen</i>   |

### Oral Session O

|       |   |
|-------|---|
| TC419 | <b>Safety Detection and Evaluation Method of Pressure Vessel Use Based on Multiple Regression Algorithm</b>   |
|       | <i>Guiqian Wang</i>   |
| TC422 | <b>Research on Optimization of Customized Bus Dispatching by Genetic Algorithm and Intelligent Information System</b>                                 |
|       | <i>Wen Shao, Baizheng Wang, Yanyan Han, Xiong Zhao, Qiang Zhang, Yihong Qin</i>   |
| TC425 | <b>The Application of Unmanned Aerial Vehicles Data Communication in Agriculture</b>  |
|       | <i>Guanlin Ji, Chen Shi, Mingtao Xue</i>  |
| TC426 | <b>Measurement and Analysis of Vibration Characteristic of 1000kV Reactor tank</b>  |
|       | <i>Jingzhu Hu, Diandian Tang, Jingli Ren, Jiangong Zhang</i>  |
| TC430 | <b>Research on the Application of Portable X-ray Backscatter Imaging Technology in the Field of Non-destructive Testing of Crimped Power Fittings</b> |
|       | <i>Hongyu Ni, Su Huang, Wuhao Huang, Zhimin Wu, Chengbin He, Wenhuan Zhu</i>  |
| TC434 | <b>Reliability evaluation of radar equipment based on improved IAHP grey target model</b>   |
|       | <i>Zhai Yun, Hu Bing, Shi Duanyang</i>  |
| TC436 | <b>Design of Intelligent Lock Based on Face Recognition</b>   |
|       | <i>Hui Li, Lei Zhu, Shijie Sun, Ke Xie, Jiabing Wang, Dong Liang</i>  |
| TC437 | <b>Heterologous Optical Remote Sensing Image Matching Method Based on Road a Priori</b>   |
|       | <i>Jiawei Zhao, Yongfei Li, Dongfang Yang, Peng Xiao</i>  |



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| TC440 | <b>Research on Construction of Armament Knowledge Graph by Protégé</b>   |
|       | <i>Qu Hui</i>  |
| TC441 | <b>Eye-Blink Detection under Low-Light Conditions Based on Zero-DCE</b>  |
|       | <i>Xiaolin Zhou</i>  |
| TC444 | <b>Research on the Application of Computer Network Technology in New Media Communication</b>                         |
|       | <i>Mi Zhou</i>   |
| TC445 | <b>A Robust and Efficient Path Planning System Based on the Global Euclidean Distance Fields</b>                     |
|       | <i>Hanxiong Zhou, Xiaoli Zhang, Xiafu Peng</i>   |
| TC450 | <b>Learning Emotion Representations on a Manifold</b>  |
|       | <i>Qingfeng Zou</i>  |
| TC451 | <b>An efficient deep learning algorithm for predicting market trends using cyclic long short-term memory network</b> |
|       | <i>Yao Qinghua, Zhang Wentao</i>   |
| TC455 | <b>Design of Customization Intelligent Management System for Whole House Home Based on SSH and Internet</b>          |
|       | <i>Zhou Linzhi, Fang Cheng</i>   |
| TC456 | <b>Named Entity Recognition Method for CNC Machine Tool Design Knowledge Text</b>                                    |
|       | <i>Hao Liu</i>   |

### Oral Session P

|       |  |
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| TC460 | <b>Research on Optimization of Enterprise Financial Management System Based on Big Data Hadoop</b>                             |
|       | <i>Yue Chang, Juan Wang</i>  |
| TC461 | <b>Research on remote intelligent monitoring system based on MQTT and LoRa communication for the five-axis NC machine tool</b> |
|       | <i>Lei Xie, Bing Xie, Yuming Qi</i>  |
| TC464 | <b>Research on key technologies of power grid operation resource allocation based on Internet of Things</b>                    |
|       | <i>Riquan Yao, Shaojun Jin, Yingqun Fei, Lifeng Fang</i>   |

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| TC465 | <b>Research Advanced in Image Denoising Based on Deep Learning</b>  |
|       | <i>Feiyang Huang, Yamin Jia, Yuxuan Yang</i>  |
| TC468 | <b>Research on the Automation System of the Intelligent Analysis and Evaluation Platform for Distribution Network Changes</b>             |
|       | <i>Lei Chen, Ming Tan, Tao Xu</i>   |
| TC469 | <b>Research on Network Security Protection System Based on Computer Big Data Era</b>  |
|       | <i>Xiuyun Lu, Wenxing Zhao, Yuquan Zhu</i>  |
| TC471 | <b>Neural network-based bipartite consensus tracking control of multi-agent systems with model uncertainties and unknown disturbances</b> |
|       | <i>Erfan Dou</i>  |
| TC473 | <b>A Review of Sparrow Search Algorithms</b>  |
|       | <i>Shaoqiang Yan, Weidong Liu, Xinqi Li, Ping Yang, Fengxuan Wu, Zhe Yan</i>  |
| TC475 | <b>A music recommendation system based on collaborative filtering and SVD</b>   |
|       | <i>Yuchang Chen</i>   |
| TC477 | <b>Deep Convolutional Neural Networks for Cancer Detection: Faster R-CNN, U-Net and GoogLeNet</b>   |
|       | <i>Zirui He, Zeyan Liu, Bowen Wu</i>  |
| TC480 | <b>CDAE-C: A Fully Convolutional Denoising Auto-Encoder with 2.5D Convolutional Classifier</b>  |
|       | <i>Haolan Zuo</i>   |
| TC481 | <b>Handwritten Digit Recognition using Deep Learning Networks</b>   |
|       | <i>Shiyong Yu, Jinmei Liu, Hang Shu, Zhiwei Cheng</i>   |
| TC484 | <b>Machine Learning Methods for Crime Scene Prediction</b>  |
|       | <i>Yue Hu</i>   |
| TC485 | <b>Research on Loss Reduction and Energy Saving System of Distribution Network under Computer Big Data Technology</b>                     |
|       | <i>Wenbo Cai</i>  |
| TC490 | <b>Image steganalysis method based on integrated GoogLeNet</b>  |
|       | <i>Yunhao Zhang</i>   |

## Poster Session 1

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| TC002 | <b>Sub-pixel edge extraction method based on sub-pixel edge detection model</b>  |
|       | <i>Yu Cao, Maosong Wang</i>  |
| TC009 | <b>Integrated Planning &amp; Scheduling Model and Optimization Simulation of Multi-base Collaborative Manufacturing for Cement Industry</b>                |
|       | <i>Xiaoxue Shang, Changchun Pan</i>  |
| TC018 | <b>An Optically Transparent Dipole Antenna Based on Silver Nanowire-Graphene Hybrid Conductive Film</b>  |
|       | <i>Youmei Tang, Lusong Wei, Weijia Wang, Qinghai Zhu, Yuhan Kong, Peng Ye, Jiangtao Huangfu, Mingsheng Xu</i>  |
| TC031 | <b>Financial Indicator System Based on Data Mining Algorithm</b>   |
|       | <i>Jianing Liu</i>   |
| TC038 | <b>Research on the Application of Human Resources Information Management System under Computer Big Data Technology</b>                                     |
|       | <i>Lina Zhang</i>  |
| TC060 | <b>A new method of grid image perspective rectification</b>  |
|       | <i>Jiajie Yao, Junjun Tao, Ye Tao</i>  |
| TC070 | <b>Research on the Teaching Mode of Information Visualization Course for Visual Communication Design Major Based on Artificial Intelligence Technology</b> |
|       | <i>Xiaohuan Liu</i>  |
| TC082 | <b>Research on Intelligent System of Composite Resonant Pulse Battery Repair Equipment</b>   |
|       | <i>Xiaoqing Tang, Yaolin Zhao, Zhoufang Zhao</i>   |
| TC092 | <b>Consensus in Multi-agent Systems and its Application in Platooning</b>  |
|       | <i>Xia Pan, Bo Yu, Yunzhi Wang, Zengxi Wang</i>  |
| TC115 | <b>Neural Network Simulation and LSTM-based Study of Expected Return</b>   |
|       | <i>Miaorun Lin</i>   |
| TC121 | <b>Visual aided training of billiards based on depth estimation</b>  |
|       | <i>Jiyuan Fu, Weining Wang, Lechang Chang</i>  |

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| TC139 | <b>Site planning of mobile communication network based on heuristic algorithm and K-means clustering analysis</b> |
|       | <i>Cheng Huang, Jia Zhao, Sinan Peng, Jin Xu</i>  |
| TC145 | <b>A Data-Driven Soft Sensor Based on CVA-DTR Model for Tennessee-Eastman Process</b>                             |
|       | <i>Yubo Dong, Zichen Zhang, Weixun Liu</i>  |
| TC162 | <b>Evaluation of fire detectors based on the topsis method</b>  |
|       | <i>Yulin Lu, Yan Xiao</i>   |
| TC172 | <b>Research on Different Levels of Early Warning Systems for Power Internet Application Business</b>              |
|       | <i>Xusheng Liu, Yintie Zhang, Yongbo Ma, Ling Wang, Yifan Liu, Guangming Fan, Xin Chen, Jiajia Zhu</i>            |
| TC186 | <b>Speech noise reduction system based on combined filter</b>   |
|       | <i>Ruoting Liu</i>  |

## Poster Session 2

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| TC192 | <b>Lesion region recognition of lung cancer pathology based on the Inception-V4 model</b>   |
|       | <i>Hao Peng, Yuming Qin, Ruxiao Xing</i>  |
| TC211 | <b>Closed-loop control design of intermediate frequency modulated lower limb rehabilitation electrical stimulation system based on NARMAX model</b> |
|       | <i>Jingwen Yang, Fenghua Shu</i>  |
| TC238 | <b>Application of Deep Learning Algorithm Based on Neural Network</b>   |
|       | <i>Bo Wang, Xianglin Miao, Mingyang Jiang, Chengyu Yin, Chunxin Pu</i>  |
| TC244 | <b>Digital Marketing Technology Based on Electricity User Portrait and K-means Clustering Algorithm</b>   |
|       | <i>Rui Fan, Zhixin Jing, Dehua Guo</i>  |
| TC261 | <b>Intelligent System of Lightning Monitoring and Defense Based on Intelligent Algorithm</b>  |
|       | <i>Zhaoyang Deng, Haihua Liu</i>  |
| TC269 | <b>Design of High Dynamic Composite Detector Based on Rotating Stable Projectile</b>  |
|       | <i>Zhang Hang, Yin Ximei, Xue Song, Wu Hao</i>  |

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| TC270 | <b>Intelligent Dosing Method for Water Treatment Based on Data Mining Combined with Image Recognition and Self-Learning</b>           |
|       | <i>Xuewen Xiao, Shuyang Pang, Fenghua Tong, Shangwei Mao, Yujia Liu, Bing Tang, Hongsheng Jia, Hao Wang, Yijie Du</i>                 |
| TC286 | <b>A review of motion control methods and bionic control theory for quadruped robots</b>  |
|       | <i>Liang Zhaoxi</i>   |
| TC293 | <b>Research on Computer Image Recognition and Intelligent Analysis Technology of Water and Land Painting Clothing</b>                 |
|       | <i>Niu Meng, Tan Tianyu, Zhang Mingming</i>   |
| TC306 | <b>Shape adjustment of "fast" reflector based on dimension reduction and Monte Carlo simulation</b>                                   |
|       | <i>Zhiwen Mao, Zeling Ma, Bingxuan Yu, Yingtao Chen</i>   |
| TC311 | <b>Particle swarm algorithm-based analysis of signal base station siting and signal coverage problems</b>                             |
|       | <i>Jisheng Li, Xun Luo</i>  |
| TC312 | <b>Research on the Shape Adjustment Strategy of FAST Active Reflector Based on Physical Mathematical Methods</b>                      |
|       | <i>Xingchen Liu, Yuzhi Li, Pengfei Luo</i>  |
| TC328 | <b>Study on the effect of bubble motion characteristics on insulation performance of transformer oil based on COMSOL Multiphysics</b> |
|       | <i>Qu Chen, Shuang Tang, Kaikai Liu</i>   |
| TC335 | <b>Analysis of Fire Line Vibration and Realization on Motion Prediction Gate</b>  |
|       | <i>Liu Jinsuo, Tian Xingke, Qin Shumin, Yang Shuo, Zhang Guangxiang</i>   |
| TC343 | <b>A baas platform for cross-chain cloud management service system of consortium blockchain</b>                                       |
|       | <i>Ran Chen, Junwei Bao, Xiaoping Qiao, Yongchao Fu, Huifen Li, Senlin Guo</i>  |
| TC354 | <b>The Research on Material Properties Database System Based on Network Sharing</b>   |
|       | <i>Cuifang Zheng, Jiaju Wu, Linggang Kong, Shijia Kang, Zheng Cheng, Bin Luo</i>  |

### Poster Session 3

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| TC360 | <b>Research on Academic Early Warning Model Based on Improved SVM Algorithm</b>                              |
|       | <i>Jing Dong, Xinsheng Liu, Zhanglong Wang, Long Chen, Fan Wang, Jiaying Tang</i>                            |
| TC364 | <b>Research on intelligent control technology of the hot in-place recycling of asphalt pavement</b>          |
|       | <i>Mingyue Zhang, Wei An, Kuhang Cheng, Peng Zhang, Shasha Chen</i>  |
| TC372 | <b>Design of Height and Weight Measuring Instrument Based on STM32</b>                                       |
|       | <i>Nie Xiaojing, Zheng Yuqing, Zheng Zhongjun</i>  |
| TC377 | <b>Research on Remote Sensing Image Target Detection Algorithm Based on Optical Measurement Information</b>  |
|       | <i>Yuhan Wang</i>  |
| TC383 | <b>Model of Pollution Information Based on Collaborative Filtering Algorithm</b>                             |
|       | <i>Lina Wang, Qiuyue Zhang, Qingyi Li, Chuan Geng, Yitong Wang, Yongqiang Pan</i>                            |
| TC395 | <b>Pivot-based Unsupervised Domain Adaptation for Pre-trained Language Model</b>                             |
|       | <i>Zhang Pengyu, Zhang Wenkang, Xing Zhiqiang</i>  |
| TC400 | <b>Fuzzy C-means Clustering Algorithm and Its Application in Mental Health Intelligent Evaluation System</b> |
|       | <i>Shan Hu</i>   |
| TC407 | <b>Research on College Counselor Training System Based on Computer Virtual Reality Technology</b>            |
|       | <i>Xin Zeng, Lin Deng</i>  |
| TC413 | <b>Study on Expansion Potential User Identification Method Based on Data Mining</b>                          |
|       | <i>Yongjun Feng, Xinlei Huang, Guanlong Li, Xiaoyun Chen, Min Zhu</i>  |
| TC424 | <b>Research on Designing Outdoor Microphone Protection Structure</b>   |
|       | <i>Lu Ling, Wan Tao, Zhou Zhou, Cao Hao, Hu Sheng, Chen Wei, Zhou Weihua</i>                                 |
| TC433 | <b>Research on a non-stop replacement technology of electric energy meter connected with standard meter</b>  |
|       | <i>Yu Xing, Yanling Sun, Xianguang Dong, Xiaohui Zhai, Kai Sun</i>   |

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| TC449 | <b>Deep Neural Networks for Fake News Detection</b>  |
|       | <i>Xun Xu</i>  |
| TC452 | <b>An advanced algorithm for discrimination prevention in data mining</b>  |
|       | <i>Shuoyu Wang, Jie Ren, Hao Fang, Jun Pan, Xin Hu, Tingyun Zhao</i>   |
| TC466 | <b>Design and Research of Intelligent Bluetooth Circuit Breaker Detection Device</b>                                   |
|       | <i>Hua Shen, Lei Yu, Haohan Zhen, Tao Tong, Shengfei Tang, Dongjun Han, Hailiang Yu</i>                                |
| TC472 | <b>A Measurement Method of Broken Cable Detection in Packing Station Based on YoloV5-Oriented</b>                      |
|       | <i>Xuewen Xiao, Jiaming Song, Ling Tan, Jingsheng Liu, Shuyang Pang, Xiaohui Zhang</i>                                 |
| TC489 | <b>Research on the Application of Computer Vision Image Enhancement Technology in Wetland Landscape Display System</b> |
|       | <i>Muwen Li, Sirong Liu</i>  |