

2022 3rd International Conference on Computer Science and Management Technology (ICCSMT 2022)

**Shanghai, China
18 – 20 November 2022**



**IEEE Catalog Number: CFP22Z40-POD
ISBN: 979-8-3503-2041-1**

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

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

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

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

IEEE Catalog Number:	CFP22Z40-POD
ISBN (Print-On-Demand):	979-8-3503-2041-1
ISBN (Online):	979-8-3503-2040-4

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

2022 3rd International Conference on Computer Science and Management Technology (ICCSMT) **ICCSMT 2022**

Table of Contents

Preface	xviii
Conference Committee	xix

Software Development and Social Media Management

Customer Churn Research Based on LightGBM	1
<i>Yingying Mei (Anhui Sanlian University, China; National University)</i> <i>and Yuanyuan Wang (Guizhou University of traditional Chinese Medicine;</i> <i>National University)</i>	
Design of Human Resource Management System Based on Java EE	6
<i>Yawen Mi (National University of Defense Technology, China) and Enduo</i> <i>Gao (Central South University, China)</i>	
Design of Food Safety Management Information System for Western Restaurant	10
<i>Siyun He (Wuhan business University, China)</i>	
FreeRTOS Software System Based on Chinese Micro-Control Unit	15
<i>Kai Wang (Wuhan University of Science and Technology, China)</i>	
Research on Enterprises' Response to Emergencies Based on Machine Learning	19
<i>Xiaonan Fan (Dalian University of Technology, China), Sainan Ren</i> <i>(Dalian University of Technology, China), Xiaona Bao (Dalian</i> <i>University of Technology, China), and Xinyuan Lu (Dalian University of</i> <i>Technology, China)</i>	

Design and Application of Crop Variety Recommendation and Production Decision System in Agricultural Production	23
<i>Jie Zhang (Institute of Agricultural Economics and Information, Henan Academy of Agricultural Sciences, China; Henan Technology Innovation Strategic Alliance for Intelligence Agriculture Industry, China; Henan Engineering and Technology Research Center for Intelligent Agriculture, China), Qing Zhao (Institute of Agricultural Economics and Information, Henan Academy of Agricultural Sciences, China; Henan Technology Innovation Strategic Alliance for Intelligence Agriculture Industry, China; Henan Engineering and Technology Research Center for Intelligent Agriculture, China), Xiaohong Li (Institute of Agricultural Economics and Information, Henan Academy of Agricultural Sciences, China), Hecang Zang (Institute of Agricultural Economics and Information, Henan Academy of Agricultural Sciences, China; Henan Technology Innovation Strategic Alliance for Intelligence Agriculture Industry, China; Henan Engineering and Technology Research Center for Intelligent Agriculture, China), Feng Hu (Institute of Agricultural Economics and Information, Henan Academy of Agricultural Sciences, China; Henan Technology Innovation Strategic Alliance for Intelligence Agriculture Industry, China), Guoqiang Li (Institute of Agricultural Economics and Information, Henan Academy of Agricultural Sciences, China; Henan Technology Innovation Strategic Alliance for Intelligence Agriculture Industry, China; Henan Engineering and Technology Research Center for Intelligent Agriculture, China), and Guoqing Zheng (Institute of Agricultural Economics and Information, Henan Academy of Agricultural Sciences, China; Henan Technology Innovation Strategic Alliance for Intelligence Agriculture Industry, China; Henan Engineering and Technology Research Center for Intelligent Agriculture, China)</i>	
Research on Network Structure Analysis of English Learning in Social Media	29
<i>Bing Zhang (Lanzhou University of Finance and Economics, China) and YeTong Wang (Northwest Minzu University, China)</i>	
Research on the Prediction of E-Commerce Platform User Churn Based on Random Forest Model ...	34
<i>Mengyuan Li (Shantou University)</i>	
Gazetteer Enhanced Named Entity Recognition for Musical User-Generated Content	40
<i>Wenjia Xu (Shanghai University, China) and Yangyang Qi (Shanghai University, China)</i>	
An Application Study of Stochastic Service Systems Based on Operations Search	44
<i>Kexin Jia (Beijing Union University, China), Zhixin He (Shanghai University of Technology, China), and Yingying Zhang (Xi'an University of Science and Technology, China)</i>	
Research on Prediction of Per Capita Disposable Income of Rural Residents in Shandong Province Based on GM (1,1) Model	48
<i>Zhen Xu (Shandong Light Industry Collective, China) and Mei Xue (Shandong Light Industry Collective, China)</i>	
Risk Early Warning and Response of PPP Projects in Characteristic Towns Based on Fuzzy Group Decision-Making and Matter-Element Model	52
<i>Shulian Wu (Zhejiang Sci-Tech University, China)</i>	

Design and Realization of an Online Examination System Based on Maven Framework	56
<i>Ling-yu Kong (Beijing Institute of Graphic Communication, China), Qing-tao Zeng (Beijing Institute of Graphic Communication, China), Xiao-feng Zhu (Beijing Institute of Graphic Communication, China), and Li-kun Lu (Beijing Institute of Graphic Communication, China)</i>	
Novel Cattle Farm Management System Based on IoT and RFID	60
<i>Feng Hu (Henan Academy of Agricultural Sciences, China), Meng Zhou (Henan Academy of Agricultural Sciences, China), Yilang Qin (Henan Academy of Agricultural Sciences, China), Qin Zhao (Henan Academy of Agricultural Sciences, China), Yinping Xin (Henan Academy of Agricultural Sciences, China), and Guoqiang Li (Henan Academy of Agricultural Sciences, China)</i>	
Design and Implementation of Dynamic Interactive E-Book System	64
<i>Lei Min (Jiangnan University, China)</i>	
Optimization Method for Cloud Service Composition of Machine Tools Under Multiple Constraints	68
<i>Xiaorong Gong (Chongqing University of Technology, China), Xianyu Yu (Chongqing University of Technology, China), Qin Yin (Chongqing University of Technology, China), and Qin Xia (Chongqing CEPREI Industrial Technology Institute Co. Ltd., China)</i>	
Text Classification of Electricity Policy Information Based on BERT-Optimized TextRNN	76
<i>Zhiyong Liu (Southeast University)</i>	
Application of Environmental Monitoring and Control System in Agricultural Production	80
<i>Yuhang Gu (Tianjin University of Technology, China), Yun Hao (Tianjin University of Technology, China), and Jiwei Liu (Tianjin University of Technology, China)</i>	
Design and Implementation of Warehouse Management System Based on Vuetify 3.0 Framework ..	84
<i>Chao Li (Shipbome Equipment Research and Test Center, China), WenYun Wang (Shipbome Equipment Research and Test Center, China), Xue Ma (Shipbome Equipment Research and Test Center, China), and ShuaiShuai Yang (Shipbome Equipment Research and Test Center, China)</i>	

Information Security and Data Visualization

Research and Implementation of Image Dehazing Application with Controllable Haze Density Based on Dark Channel	90
<i>Xueling Long (Wuhan Business University, China) and Xin Dai (Wuhan Business University, China)</i>	
Multi-Target Tracking Random Finite Set Model Based on Signal Parameter Correlation	94
<i>Tao Xu (National University of Defense Technology), Xi Li (National University of Defense Technology), and Fucheng Guo (National University of Defense Technology)</i>	
GPU Resource Scheduling Management System Based on Work Order	98
<i>Haokai Yu (Beijing Information Science & Technology University), Zhihao Zhang (Beijing Information Science & Technology University), Zigao Huang (Beijing Information Science & Technology University), and Yunan Luo (Beijing Information Science & Technology University)</i>	

Using Function Call Sequence for Browser Fingerprinting Detection	104
<i>Duoshi Cheng (Nanjing University of Aeronautics and Astronautics, China)</i>	
A Two-Stage Strategy for Skin Cancer Classification Based on Dermoscopic Images	110
<i>Xiaoyu Kang (Shanghai Jiao Tong University, China), Heng Li (Shanghai Jiao Tong University, China), Jianpin Chen (Shanghai Jiao Tong University, China), and Xinyu Chai (Shanghai Jiao Tong University, China)</i>	
Design and Application of Distributed Real-Time Database System for Massive Data	114
<i>Peng Liu (China Electric Power Research Institute, China), Chunyu Deng (China Electric Power Research Institute, China), and Dazhong Wang (China Electric Power Research Institute, China)</i>	
Privacy Preserving Approach to Communication Data Mining Based on Federated Learning	118
<i>Zhiqiang Ru (China Mobile Information Technology Company Limited, China), Xinru Liang (China Mobile Information Technology Company Limited, China), Lingyun Feng (China Mobile Information Technology Company Limited, China), Ruokuan Liu (China Mobile Information Technology Company Limited, China), and Yu He (China Mobile Information Technology Company Limited, China)</i>	
Research on the Policy of Transportation Data Management Based on PMC Index	122
<i>Yuanyuan Shi (Transport Planning and Research Institute, China), Feng Jian (Transport Planning and Research Institute, China), and Mingchen Gu (Transport Planning and Research Institute, China)</i>	
Federated Learning Optimization for Balancing Communication Cost and Model Accuracy Under Data Heterogeneity	127
<i>Junke Lin (Henan University) and Xiangjun Wu (Henan University)</i>	
Research on the Design of Enterprise Cost Warning System Based on Data Mining	133
<i>Li Jiao (Shandong Institute of Commerce & Technology, China) and Hui Li (Shandong Institute of Commerce & Technology, China)</i>	
Private Data Sharing in EMU Maintenance: A Method Study Based on Federated Learning	137
<i>Jiaying Yang (Beijing Jiaotong University), Lei Huang (Beijing Jiaotong University), and Ying Wang (Beijing Jiaotong University)</i>	
Research on Digital Innovation Configuration Path of New Energy Vehicle Enterprises Based on Big Data Analysis — —Qualitative Comparative Analysis Based on fsQCA	144
<i>Yingnan Liu (Automotive Data of China (TianJin) Co., Ltd., China Automotive Technology and Research Center Co., Ltd, China), Xueyu Xie (Automotive Data of China (TianJin) Co., Ltd., China Automotive Technology and Research Center Co., Ltd, China), Xu Zhu (Automotive Data of China (TianJin) Co., Ltd., China Automotive Technology and Research Center Co., Ltd, China), and Bin Xu (Automotive Data of China (TianJin) Co., Ltd., China Automotive Technology and Research Center Co., Ltd, China)</i>	
Personalized Course Recommendation Model Based on User’s Interests and Feature Information..	148
<i>Wei Xiong (Wuhan Foreign Language School, China) and Jiayi Wu (Wuhan Business University, China)</i>	
Personalized Federated Learning with Data Heterogeneity Constraints	152
<i>Junke Lin (Henan University, China) and Xiangjun Wu (Henan University, China)</i>	

Service Decomposition Method for Multimodal Data Exchange Scenarios	156
<i>Deyou Jiang (Beijing Jiaotong University, China), Lei Huang (Beijing Jiaotong University, China), Hanyu Tian (National Engineering Laboratory of Comprehensive Transportation Big Data Application Technology, Beijing Jingwei Information Technologies limited company, China), Yujie Xie (Institute of Computing Technologies, China Academy of Railway Sciences, China), and Xiaoming Li (National Engineering Laboratory of Comprehensive Transportation Big Data Application Technology, Beijing Jingwei Information Technologies limited company, China)</i>	
Extrinsic Parameter Calibration and Dynamic Objects Coping Strategy for Multi-Camera SLAM ...	162
<i>Yunlong Dong (Harbin Institute of Technology, China), Wei Guo (Harbin Institute of Technology, China), Fusheng Zha (Harbin Institute of Technology, China), and Pengfei Wang (Harbin Institute of Technology, China)</i>	
Functional Logic Verification Method Based on Probabilistic Model Checking	169
<i>Qiming Chen (China Aerospace Academy of Systems Science and Engineering, China), Yinxuan Mao (China Aerospace Academy of Systems Science and Engineering, China), Zhiang Lu (China Aerospace Academy of Systems Science and Engineering, China), and Longxi Zhang (China Aerospace Academy of Systems Science and Engineering, China)</i>	
On-Line Detection for Laser Additive Manufacturing Based on Temperature Field Characteristics	173
<i>Qunxing Fu (Pingdingshan Institute of Technology, China)</i>	
Research on Sales Forecast of Automobile Spare Parts Based on LightGBM and Feature Engineering	178
<i>Peng Zhang (China Automotive Technology and Research Center Co., Ltd., China), Maoying Li (China Automotive Technology and Research Center Co., Ltd., China), Yaodong Wang (China Automotive Technology and Research Center Co., Ltd., China), Yuehua Yin (China Automotive Technology and Research Center Co., Ltd., China), Chen Wang (China Automotive Technology and Research Center Co., Ltd., China), and Zhongze Zhang (China Automotive Technology and Research Center Co., Ltd., China)</i>	
GOSGAN: An Adaptive Atomic Force Microscope Imaging Repair Model for Cell Scanning	182
<i>Jingxin Li (Changchun University of Science and Technology, China), Hongmei Xu (Changchun University of Science and Technology, China), Haobo Cui (Changchun University of Science and Technology, China), and Lixin Yuan (Changchun University of Science and Technology, China)</i>	
Statistical Analysis Method of Spare Parts Allocation for Power Communication Network Based on Dig Data	188
<i>Yangyang Liang (State Grid Corporation of China, P. R. China), Pengfei Xie (State Grid Corporation of China, P. R. China), Han Zhang (State Grid Corporation of China, P. R. China), Zhuo Chen (State Grid Corporation of China, P. R. China), and Yingxu Wang (State Grid Corporation of China, P. R. China)</i>	

Accident Analysis: A Text Mining and Complex Networks Framework for Safety Incident Prevention	192
<i>Zhiyuan Chen (University of South China, China) and Tieli Wang (University of South China, China)</i>	
Bus Stop Information Data Collection and Analysis Technology Based on Web Crawler Technology	197
<i>RuiQi Luo (North China Municipal Engineering Design & Research Institute CO.LTD, China) and Yan Liu (Tianjin Municipal Engineering Design & Research Institute)</i>	
Invading Deep Neural Information Management Systems by Adaptive Multi-Gradient Based Method	201
<i>Pian Wang (Guangdong Innovative Technical College, China), Yatie Xiao (Guangzhou University, China), and Jingyu Jiang (Guangzhou University, China)</i>	
VR-Based Image Training Sample Generation System for Substation Inspection	205
<i>Hongxi Yu (Institute of Technology and International Standards (Beijing) Co., Ltd, China), Lu Yang (Institute of Technology and International Standards (Beijing) Co., Ltd, China), Dongqi Li (Institute of Technology and International Standards (Beijing) Co., Ltd, China), Ke Xu (State Grid Heze Power Supply Company, China), and Rui Guo (State Grid Intelligence Technology Co., Ltd, China)</i>	
Research on Digital Detection Method Based on Edge Point Extraction	210
<i>Jiahao Chen (Shanghai DianJi University, China), Yunxia Chen (Shanghai DianJi University, China), and Honggang Yang (Shanghai DianJi University, China)</i>	
Design and Implementation of a Face Recognition Classroom Attendance System Based on the Django Framework	215
<i>Qianyao Zhao (Beijing Institute of Graphic Communication, China), Fei Wang (Beijing Institute of Graphic Communication, China), Jiyuan Li (Beijing Institute of Graphic Communication, China), Yunhao Wu (Beijing Institute of Graphic Communication, China), and Yiming Tian (Beijing Institute of Graphic Communication, China)</i>	
Knowledge Graph Question Answering System Based on Code Defect	220
<i>Yang He (Chengdu University of Information Technology, China) and Le Wei (Automatic Software Generation & Intelligence Service Key Laboratory of Sichuan Province, China)</i>	
Software Design for Recording and Playback of Multi-Source Heterogeneous Data	225
<i>YaQiao Cheng (Hangzhou Applied Acoustics Research Institute, China), Bin Xu (Hangzhou Applied Acoustics Research Institute, China), Kun Liu (Hangzhou Applied Acoustics Research Institute, China), and YueFan Liu (Hangzhou Applied Acoustics Research Institute, China)</i>	
Text Retrieval Method Integrating Scientific Knowledge and Pre-Trained Model	229
<i>Wencong Yuan (Wuyi University, China) and Guohui He (Wuyi University, China)</i>	

Research on the Influence of Crowdsourcing Participants' Reputation on Trading Performance Based on Data Mining	235
<i>Yanrong Huang (Zhejiang University of Water Resource and Electric Power, China) and Qiuqi Yu (Zhejiang University of Water Resource and Electric Power, China)</i>	

Advanced Algorithm and Computer Application

Implementation and Research of Vivado HLS's Function on FPGA	240
<i>Tianbi Cao (Nanjing Institute of Technology, China)</i>	
Architectural Distortion-Based Mammograms Classification Using Adaptive Contrast Enhancement and Residual Network	244
<i>Yingchang Ye (Guangdong University of Technology, China), Yuanyuan Liu (The Second Affiliated Hospital of Guangzhou University of Chinese Medicine, China), Perry Gao (Education Bridge Institute, USA), and Xiangdong Gao (Guangdong University of Technology, China)</i>	
Analysis of Character Edge Detection and Recognition Algorithm Based on Optical Flow Calculation	249
<i>Na Li (State Grid Gansu Information & Telecommunication Company, China), Xiaoqin Liu (State Grid Gansu Information & Telecommunication Company, China), Zhenwei Yang (State Grid Gansu Information & Telecommunication Company, China), and Mingkang Guo (State Grid Gansu Information & Telecommunication Company, China)</i>	
Efficient Context-Aware Edge Computing Algorithm in Mobile Cloud	253
<i>Jian Chang (State Grid Sichuan information&communication company, China), Muchuan Yang (State Grid Sichuan information&communication company, China), Yan Gong (State Grid Sichuan information&communication company, China), Jiayu Liu (State Grid Sichuan information&communication company, China), Yuan Tian (State Grid Sichuan information&communication company, China), and Qi Li (State Grid Sichuan information&communication company, China)</i>	
Research on Cost Estimation Algorithm of Battlefield Road Damage Repair	258
<i>Hui Wang (Dalian Naval Academy, China) and Tianyi Liu (Dalian Naval Academy, China)</i>	
Application of Computer-Based Support Vector Machine Technology in Power Customer Credit Rating	262
<i>Lan Xiao (State Grid Sichuan Information & Telecommunication Company, China), Yan Wu (State Grid Sichuan Information & Telecommunication Company, China), Xiao Fu (State Grid Sichuan Information & Telecommunication Company, China), Ziwen Zhang (State Grid Sichuan Information & Telecommunication Company, China), and Yuhao Xiao (State Grid Sichuan Information & Telecommunication Company, China)</i>	
Research on Named Entity Recognition Method Based on BERT-MD-RNN-CRF	266
<i>Yongqi Shi (National University of Defense Technology, China), Ruopeng Yang (National University of Defense Technology, China), Yiwei Lu (National University of Defense Technology, China), and Changsheng Yin (National University of Defense Technology, China)</i>	

PRAGCN: Personalized Recommendation Algorithm Based on Graph Convolutional Network Technology	270
<i>Zheng Xie (Changchun University of Chinese Medicine, China) and Biao Zhang (Changchun University of Chinese Medicine, China)</i>	
An Access Control Scheme Based on Decentralized Identifiers and Verifiable Credentials in IoT	279
<i>Yunliang Li (Xi'an Technological University, China), Yanfang Fu (Xi'an Technological University, China), Zhiqiang Du (Xi'an Technological University, China), and Zhipeng Cai (North Automatic Control Technology Institute, China)</i>	
Research and Improvement of K-Means Clustering Analysis Algorithm in the Information Warfare	284
<i>Jiang Dan (The Basic Department of the PLA Dalian Naval Academy, China)</i>	
An Artificial Hummingbird Optimization Algorithm Incorporating Adaptive Search and Levy Flight	288
<i>Yongkang He (Shanghai University of Engineering Science, China) and Xufang Li (Shanghai University of Engineering Science, China)</i>	
Online Face Recognition System Based on Convolutional Neural Network (CNN)	292
<i>Jinhui Zhang (Chongqing Aerospace Polytechnic College, China)</i>	
Research on the Segmentation of Pension Market Based on K-Means Clustering Algorithm	296
<i>Xinyu Wei (Shanghai University of Engineering Science, China) and Xufang Li (Shanghai University of Engineering Science, China)</i>	
Research on Cross-Project Defect Prediction Based on Instance Migration Method	300
<i>Wenlan Wang (Guangdong University of Science and Technology, China), Yu Li (Zhuhai College of Science and Technology, China), Shiyang Song (Zhuhai College of Science and Technology, China), Jiadong Lu (Zhuhai College of Science and Technology, China), Baiyu Chen (Zhuhai College of Science and Technology, China), and Baoping Wang (Guangdong University of Science and Technology, China)</i>	
Identification of Microservices Through Processed Dynamic Traces and Static Calls	304
<i>Sijie Wu (Anhui University; Nanjing University, China) and Cheng Zhang (Anhui University; Nanjing University, China)</i>	
Analysis of Real-Time Image Target Detection and Recognition Algorithm Based on Video Stream	309
<i>Haiping Zhao (State Grid Gansu Information & Telecommunication Company, China), Yongli Jia (State Grid Gansu Information & Telecommunication Company, China), Yu Qiu (State Grid Gansu Information & Telecommunication Company, China), and Fazheng Luo (State Grid Gansu Information & Telecommunication Company, China)</i>	
Optimization of Power Transmission and Transformation Site Construction Network Based on Edge Computing	313
<i>Lin Ba (State Grid Liaoning Electric Power Co., Ltd., China), Li Jiang (State Grid Liaoning Electric Power Co., Ltd., China), Qi Zhang (State Grid Liaoning Electric Power Co., Ltd., China), Hongbo Ma (State Grid Liaoning Electric Power Supply Co., Ltd., China), Jitao Zhu (State Grid Liaoning Electric Power Supply Co., Ltd., China), and Junda Tong (State Grid Liaoning Electric Power Co., Ltd., China)</i>	

Cloud Offloading Technique Based on an Optimized Ant Colony Algorithm	317
<i>Jian Chang (State Grid Sichuan information&communication company, China), Cheng Liu (State Grid Sichuan information&communication company, China), Muchuan Yang (State Grid Sichuan information&communication company, China), Yan Gong (State Grid Sichuan information&communication company, China), Lin Huang (State Grid Sichuan information&communication company, China), and Kunling Liu (State Grid Sichuan information&communication company, China)</i>	
Design and Research of Intra Cluster Routing Protocol for Vehicle Ad Hoc Networks	322
<i>Guangling Zhong (Nantong university, China) and Xiang Gu (Nantong university, China)</i>	
Energy-Efficient Optimization Strategy for Simulation Task Scheduling Based on Supercomputing Platform	326
<i>Rundong Gan (Information Center of Guizhou Power Grid Co., Ltd., China), Xun Li (Information Center of Guizhou Power Grid Co., Ltd., China), Yujiang Long (Information Center of Guizhou Power Grid Co., Ltd., China), Haibin Su (Fangxin Technology Co., Ltd., China), and Bin Liu (Fangxin Technology Co., Ltd., China)</i>	
Research on Multi-Satellite Mission Planning Based on Improved Genetic Algorithm	331
<i>Yang Yang (Space Engineering University, China) and Desheng Liu (Space Engineering University, China)</i>	
Combining i* and Service Blueprint for Service Design: A Case Study of Fliggy	336
<i>Zhengli Liu (Wuhan Donghu University, China)</i>	
Fusion Recommendation Algorithm Based on DeepWalk and Item-Based Collaborative Filtering ..	340
<i>Yicheng Yu (Qinghai Normal University, China), Rongbin Li (Qinghai Normal University, China), and Jun Yin (Qinghai Normal University, China; The State Key Laboratory of Tibetan Intelligent Information Processing and Application, China)</i>	
Study on the Applicability of Cross-Border E-Commerce Platform System Based on MATLAB	345
<i>Jing Yang (Xian Fanyi University, China)</i>	
Application of Deep Learning in Monitoring and Warning of Network Public Opinion in Universities	349
<i>Menggang Li (Wuhan University of Science and Technology, China)</i>	
Research on a Simulation Algorithm for Artillery Firepower Assignment According to Region	353
<i>Yong Sun (China Research and Development Academy of Machinery Equipment, China), Shaopan Zhang (China Research and Development Academy of Machinery Equipment, China), Guangzhao Lu (China Research and Development Academy of Machinery Equipment, China), Jinqing Zhao (China Research and Development Academy of Machinery Equipment, China), Jianhui Tian (China Research and Development Academy of Machinery Equipment, China), and Jirong Xue (China Research and Development Academy of Machinery Equipment, China)</i>	
A New Double Scrambling Color Image Encryption Algorithm Based on Multi Chaotic Systems and Image Segmentation	357
<i>Junfeng Tian (Henan University, PR China), Ke Wang (Henan University, PR China), and Cheng Liu (Henan University, PR China)</i>	

Compare the Application of Different Algorithms in Landslide Displacement Quantity Prediction	363
<i>Hongyang Liu (Chongqing Three Gorges College, China), Kangdi Chen (Chongqing Three Gorges College, China), and Xiaoling Tan (Chongqing Three Gorges College, China)</i>	
Action Recognition Based on Multidimensional Palm Action Features	367
<i>NengSheng Bao (Shantou University, China), YongYi Zhang (Shantou University, China), and JunLi Liu (Shantou University, China)</i>	
Face Clustering Algorithm Based on Domain Structural Similarity	375
<i>Yuning Liu (South China Normal University, China) and BingBing Fan (South China Normal University, China)</i>	
Cloud-Edge-Device Integration Based on Edge Computing	381
<i>Ying Tong (China Telecom Corporation Limited Research Institute Beijing, China), Xiang Jia (China Telecom Corporation Limited Research Institute Beijing, China), Hongming Qiao (China Telecom Corporation Limited Research Institute Beijing, China), and XiaoZhen Chen (China Telecom Corporation Limited Research Institute Beijing, China)</i>	
Aspect-Level Sentiment Analysis Based on Attention-Directed Graph Convolutional Networks	386
<i>Shaoguo Cui (Chongqing Normal University, China), Yaohuan Luo (Chongqing Normal University, China), Guangping Hu (Chongqing Normal University, China), and Aodi Wang (Chongqing Normal University, China)</i>	
A Sentence Semantic Matching Model Based on Cross-Attention Mechanism	391
<i>Ling Gan (Chongqing University of Posts and Telecommunications) and MengZhu Li (Chongqing University of Posts and Telecommunications)</i>	
Restructuring Hospital Payment Systems Using Middle Platform Technology	395
<i>Haoyu Wang (The 900th Hospital of Joint Logistic Support Force, China), Rong Xu (The 900th Hospital of Joint Logistic Support Force, China), Ya Song (The 900th Hospital of Joint Logistic Support Force, China), LiNa Fan (Fujian Medical University, China), Yong Sun (The 900th Hospital of Joint Logistic Support Force, China), and Yang Xiao (Fujian Medical University, China)</i>	
Defense Strategy of Adversarial Attack	400
<i>Qingyi Xiang (Oshkosh University, United States)</i>	
InSAR Monitoring and Spatial-Temporal Analysis of Surface Subsidence in Liaocheng	404
<i>Longhui Yang (Shandong University of Science and Technology, China), Shu Cheng (Shandong University of Science and Technology, China), Tinghui Zhang (Shandong University of Science and Technology, China), and Ang Sun (Shandong University of Science and Technology, China)</i>	
A Lightweight Sound Diagnosis Model for Transformer Discharge Fault Based on Knowledge Distillation with Supercomputing	408
<i>Yujiang Long (Information Center of Guizhou Power Grid Co., Ltd., China), Wei Wei (Information Center of Guizhou Power Grid Co., Ltd., China), and Ce Wang (Information Center of Guizhou Power Grid Co., Ltd., China)</i>	

Intelligent Communication and Blockchain Technology

An Ensemble Learning-Based HPC Multi-Resource Demand Prediction Model for Hybrid Clusters 413

Yang Bai (Qilu University of Technology, China; Shandong Computer Science Center(National Supercomputer Center in Jinan), China; Shandong Provincial Key Laboratory of Computer Networks, China), Ying Guo (Qilu University of Technology, China; Shandong Computer Science Center(National Supercomputer Center in Jinan), China; Shandong Provincial Key Laboratory of Computer Networks, China), Hu Zhang (Qilu University of Technology, China; Shandong Computer Science Center(National Supercomputer Center in Jinan), China; Shandong Provincial Key Laboratory of Computer Networks, China), Jibin Wang (Qilu University of Technology, China; Shandong Computer Science Center(National Supercomputer Center in Jinan), China; Shandong Provincial Key Laboratory of Computer Networks, China), and Jing Chen (Qilu University of Technology, China; Shandong Computer Science Center(National Supercomputer Center in Jinan), China; Shandong Provincial Key Laboratory of Computer Networks, China)

Design and Implementation of a Traditional Martial Arts Follow-up Training System Based on Virtual Reality Technology 421

Feng Tian (Shanghai University, China), Jiahui Zou (Shanghai University, China), and Yuzhi Li (Shanghai University, China)

Analysis of Power Business User Value Mining Based on Data Intelligence 426

Xinsheng Zhang (State Grid Energy Research Institute Co., Ltd., China), Jianfei Lu (State Grid Energy Research Institute Co., Ltd., China), and Liyu Xia (State Grid Energy Research Institute Co., Ltd., China)

A Blockchain and Multi Factor Fusion Based Electronic Identity Registration and Verification System 431

Zhida Zhang (Aisino Corporation, China), Yongwen Sun (Aisino Corporation, China), Peng Huang (Aisino Corporation, China), and Cui Wang (Aisino Corporation, China)

Optimisation of Existing Marketing Strategies for Cross-Border E-Commerce ERP Products Based on Big Data Statistical Foundation 436

Ruilin Lyu (The university of sydney, Australia)

Key Technology and Realization Route of Structured Emergency Plan 440

Chao Liu (State Grid Corporation of China, China), Hongbin Li (State Grid Corporation of China, China), Yong Li (Shanghai Jiulong Enterprise Management Consultancy Co., Ltd., China), and Huilan Zeng (Shanghai Jiulong Enterprise Management Consultancy Co., Ltd., China)

An Ensemble Approach: Combining Wisdom from Truth Discovery Methods 445

Xiu Fang (Donghua University, China), Kang Wang (Donghua University, China), Guohao Sun (Donghua University, China), Yating Tang (Donghua University, China), and Chenlin Shen (Donghua University, China)

Multi-Center Federated Learning with Model Decoupling 450

Bingyue Wang (Donghua University, China), Ting Lu (Donghua University; Ministry of Education, China), Wenjing Guo (Donghua University, China), Shan Chang (Donghua University, China), GuoHua Liu (Donghua University, China), QiuBo Huang (Donghua University, China), and Puquan Yang (Donghua University, China)

A Multi-Classification Model of Industry Based on Multi-Task Learning	456
<i>Jiaqi Liu (Beijing university of posts and telecommunications, China)</i>	
Design and Implementation of Text Classifier Based on Convolutional Neural Network	460
<i>Nana Xie (Chongqing Aerospace Polytechnic, China)</i>	
AQI Prediction Model of Shijiazhuang City Based on Multivariate Time Series Analysis	465
<i>Xuemin Zhu (Shanghai University of Engineering Science, China), Sheng Liu (Shanghai University of Engineering Science, China), and Xuelin Zhu (Beijing University of International Business and Economics, China)</i>	
Belief Entropy-Based Uncertainty Analysis	471
<i>Zhihui Wang (Army Academy of Artillery and Air Defense, China; Academy of Military Science, China), Jianwen Hu (Academy of Military Science, China), Zhining Xiang (Army Academy of Artillery and Air Defense, China), Jiaming Zhang (Army Academy of Artillery and Air Defense, China), Zaian Ren (Army Academy of Artillery and Air Defense, China), and Shaochi Cheng (Academy of Military Science, China)</i>	
The Multi-Cycle Production Routing Collaborative Scheduling Problem with Time Optimization Under Uncertain Environment	476
<i>Chenyin Wang (Guangzhou Xinhua University, China), Zhiheng Wang (South China University of Technology, China), Zemin Qiu (Guangzhou Xinhua University, China), Danyu Li (Guangzhou Xinhua University, China), and Meixia Dong (Guangzhou Xinhua University, China)</i>	
A Study on the Scale Development of User Perceived Life Experience in the Human-Computer Interaction	482
<i>Xia Liao (Guangzhou College of Technology and Business, China), Jiawei Shao (Guangzhou College of Technology and Business, China), and Xianmei Yu (Guangzhou College of Technology and Business, China)</i>	
Research on Machine Translation (MT) System Based on Deep Reinforcement Learning	487
<i>Junchen He (Fuzhou University of International Studies and Trade, China; University of Perpetual Help System DALTA)</i>	
Multi-Agent Transaction Method Based on Blockchain	491
<i>Fei Li (Marketing service center of State Grid Hebei Electric Power Co., Ltd, China), Lun Shi (Marketing service center of State Grid Hebei Electric Power Co., Ltd, China), Linhao Zhang (Marketing service center of State Grid Hebei Electric Power Co., Ltd, China), Zhengang Shi (Marketing service center of State Grid Hebei Electric Power Co., Ltd, China), Peng Tao (Marketing service center of State Grid Hebei Electric Power Co., Ltd, China), and Hongxi Wang (Marketing service center of State Grid Hebei Electric Power Co., Ltd, China)</i>	
Research on the Virtual Currency Payment System Based on Blockchain Technology	495
<i>Sihan Niu (Nanjing University of Information Science and Technology, China)</i>	

Research on the Technical Framework of Intelligent and Efficient Analysis and Mining of Big Data in Electric Power	500
<i>ZhengXiong Mao (Information center of Yunnan Power Grid Co., Ltd, China), Hang Zhang (Information center of Yunnan Power Grid Co., Ltd, China), Hui Li (Information center of Yunnan Power Grid Co., Ltd, China), ZuYuan Huang (Information center of Yunnan Power Grid Co., Ltd, China), Yuan Tian (Information center of Yunnan Power Grid Co., Ltd, China), and XiaoPing Zhao (Information center of Yunnan Power Grid Co., Ltd, China)</i>	
Research on Chinese Word Sense Disambiguation Based on Prompt Learning	504
<i>Ling Gan (Chongqing University of Posts and Telecommunications, China) and Xinrui Du (Chongqing University of Posts and Telecommunications, China)</i>	
Study on MRI Brain Tumor Segmentation Based on Improved Transfuse Network Model	508
<i>Xuesong Wang (Wuhan Textile University, China) and Yu Li (Wuhan Textile University, China)</i>	
Progressive Order Insertion Dynamic Scheduling Method Considering Production Capacity	512
<i>Jiahuan Huang (Beijing Institute of Technology, China), Aimin Wang (Beijing Institute of Technology, China), and Tao Ding (Southwest Institution of Electronical Equipment, China)</i>	
A Method for Building Chinese Domain Lexicon Based on New Words Recommendation	516
<i>Jinjian Duan (Beihang University, China), Meiqing Wang (Beihang University, China), Yibo Guan (Beijing Aerocim Technology Co., Ltd, China), and Qiu Lin (Beijing Institute of Control and Electronic Technology, China)</i>	
Interaction-Enhanced Textual Similarity Matching Distance Measurement – Exploration on Chinese	523
<i>Yijia Zhang (The Hong Kong University of Science and Technology, China), Jiyao Wang (The Hong Kong University of Science and Technology, China), and Dan Xiong (GF securities CO.LTD, China)</i>	
Multidimensional Market Unstructured Information Quantification and Feature Extraction	527
<i>Zhuqing Pu (Kean University, USA)</i>	
Author Index	531