2020 International Conference on Computer Information and Big Data Applications (CIBDA 2020)

Guiyang, China
17 – 19 April 2020

IEEE Catalog Number: CFP20X98-POD
ISBN: 978-1-7281-9838-5

Copyright © 2020 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: CFP20X98-POD
ISBN (Print-On-Demand): 978-1-7281-9838-5
ISBN (Online): 978-1-7281-9837-8

Additional Copies of This Publication Are Available From:

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

2020 International Conference on Computer Information and Big Data Applications (CIBDA)

CIBDA 2020

Table of Contents

Preface xv
Committee Members xvi
Reviewers xviii

Big Data Analysis and Application

Marketing Strategy of Modern Enterprise under the Background of Big Data 1
Luyao Peng (School of Economics Ocean University of China) and Xueqi Duan (Harbin Institute of Technology)

Research and Application of Operation and Maintenance 5D-BIM Data Integration and Sharing System Based on IFC 4
Xuedong Xu (Changchun Institute of Technology)

Big Data Analysis of Intelligent Electric Meters' Faults 8
Qian Li (State Grid Hebei Electric Power Research Institute), Bo Feng (State Grid Hebei Electric Power Research Institute), Hongming Ma (State Grid Hebei Electric Power Research Institute), Zhi Zhang (State Grid Hebei Electric Power Research Institute), Xiaotian Ma (State Grid Hebei Electric Power Research Institute), and Yi Wang (State Grid Hebei Electric Power Research Institute)

Topic Mining Based on Online Shopping Users' Reviews 11
Ying Wang (Shandong Normal University) and Manqi Jiang (Shandong Normal University)

SWOT Analysis of "Internet Plus Social Organization" 15
Li Li (Wuhan University of Science and Technology) and Yike Yang (Wuhan University of Science and Technology)

Research on Network Information Security Protection Technology Based on Big Data 19
Yunrao Guo (The Third Research Institute of Ministry of Public Security), Baofu Zhang (The Third Research Institute of Ministry of Public Security), and Weichao Miao (The Third Research Institute of Ministry of Public Security)

A Dynamic Updating Method for Release of Privacy Protected Data Based on Privacy Differences in Relational Data .23
Yihan Yu (Naval University of Engineering), Hongcheng Li (National Defence University), Yu Fu (Naval University of Engineering), and Xiaoping Wu (Naval University of Engineering)

Estimation of Material Capital Stock and Total Factor Productivity in Shaanxi Province under the Belt and Road Initiative .28
Hongqiao Song (Xi'an Fanyi University) and Lumin Shen (Zhejiang Sci-Tech University)

Analysis on Electronic Warehouse Receipt of Bulk Commodity in Supply Chain Finance Practice .33
Lei Su (CITIC Phoenix Harbor Supply Chain Management Co., Ltd) and Haiying Wang (CITIC Phoenix Harbor Supply Chain Management Co., Ltd)

Traffic Jam Prediction Based on Analysis of Residents Spatial Activities .37
Zhijin Lv (Jilin University), Hao Fu (Jilin University), Wei Tang (Jilin University), and Xiaoxu Chen (Jilin University)

The Washback Effect of English Tests on Language Learning Strategies - a Comparative Case Study Based on the Data Analysis of the English and Non-English Majors in China .41
Honglei Fan (Xi'an International Studies University) and Min Yang (Xi'an International Studies University)

Application Research of Big Data Statistics in the Field of Economic Management .48
Yizheng Xu (University of Malaya)

Research on Application of Distributed Server Architecture for Virtual Reality Scenarios in Big Data Environment .52
Baiqiang Gan (Guangzhou Nanyang Polytechnic) and Chi Zhang (Nanfang College of Sun Yat-sen University)

Impact of Metal Fences on V2V Channel in Suburban Intersection at 5.9 GHz .56
Hanyi Zou (Wuhan University of Technology), Changzhen Li (Wuhan University of Technology), Junyi Yu (Wuhan University of Technology), Wei Chen (Wuhan University of Technology), Fuxing Chang (Wuhan University of Technology), and Kun Yang (Super Radio AS)

The Effects of AIr Quality and Weather Conditions on Weather Sensitive Diseases .60
Ling Ma (Capital Normal University), Cheng-An Zhao (Capital Normal University), Tingxian Wu (Capital Normal University), Yingying Guo (Capital Normal University), and Ziru Zhao (Capital Normal University)

Application Research of Clustering Algorithm Based on K-Means in Data Mining .66
Huijuan Shen (University of Gansu Radio and TV) and Zhenjiang Duan (University of Gansu Radio and TV)

Implementation of Water Quality Management Platform for Aquaculture Based on Big Data .70
Zhibin Peng (Guangdong Ocean University), Yuefeng Chen (Guangdong Ocean University), Zehong Zhang (Guangdong Ocean University), Queling Qiu (Guangdong Ocean University), and Xiaoqiang Han (Guangdong Ocean University)

Removal of Scattered Noise Based on Data of the Cranial Point Cloud of the Zokor Head .75
Tong Yang (Inner Mongolia Agricultural University) and Heru Xue (Inner Mongolia Agricultural University)

Intelligent Management System of Computer Room Based on Internet of Things Technology in Big Data Center .79
Chengyong Yang (Guilin University of Technology), Canhua Peng (Institute of Information Technology of GUET), and Qiuyan Li (Institute of Information Technology of GUET)

On Citizen Journalism and Traditional Media in the Network Public Opinion .85
Weiwei Wu (Anhui Xinhua University)

Research on the Perspective Attribute and Value of New Media for Resource Integration in International Disputes .89
Kan Li (Dalian Naval Academy)

A Corpus-Based Study on the Evaluation of Integrated College English Textbooks Vocabulary .93
Fan Jia (Southwest Jiaotong University), Ranran Duan (Southwest Jiaotong University), and Donghong Li (Northwestern Polytechnical University)

Application of Group Cognitive Kansei Information Acquisition Based on Big Data .99
Zhuen Guo (Guizhou University) and Li Lin (Guizhou University)

Analysis on the Impact of Information Network on the Sustainability of Poverty Alleviation in Ethnic Minority Areas in the Era of Big Data .103
Zeyu Liu (Tianjin University of Technology)

Analysis on the Strategies of Cultivating Students' Pronunciation and Intonation Awareness in English Teaching in Higher Vocational Colleges in the Era of Big Data .107
Lian Cheng (Yibin Vocational and Technical College) and Ming Luo (Yibin Vocational and Technical College)

Study on Construction Engineering Management Based on BIM from the Perspective of Big Data .111
Xia Xiao (Shandong Transport Vocational College), Jinchao Liu (Shandong Transport Vocational College), and Lixuan Ren (Shandong Transport Vocational College)

Research on the Problems and Countermeasures of Intelligent Logistics System in China .116
Yan Qi (Sichuan Agricultural University) and Chong Wang (Sichuan Agricultural University)

Computer Network Application and Wireless Communication

Face Gender Classification Based on Convolutional Neural Networks .120
Zebin Jiang (Zhengzhou University)

The Design and Research of Front-End Framework for Microservice Environment .124
Kunying Li (PetroChina Research Institute of Petroleum Exploration & Development), Yu Ding (PetroChina Research Institute of Petroleum Exploration & Development), Duanming Shen (PetroChina Research Institute of Petroleum Exploration & Development), Qing Li (PetroChina Research Institute of Petroleum Exploration & Development), and Zebing Zhen (PetroChina Research Institute of Petroleum Exploration & Development)

Preliminary Study on Application of Artificial Intelligence Technology in Electrical Automation Control .128
Zichen Zhang (Hubei University of Technology), Shuo Xu (University of Edinburgh), and Hawking Yan (Hong Kong Polytechnic University)

MapReduce-Based BP Neural Network Classification of Aquaculture Water Quality .132
Yan Wen (Chengdu Agricultural College), Min Li (Chengdu Agricultural College), and Yu Ye (Chengdu Agricultural College)

Analysis and Simulation of the Influence Factors of Shortwave Radio Short Distance Communication .136
Yong Guo (National University of Defense Technology), Huan Ma (National University of Defense Technology), Gang Wang (National University of Defense Technology), and Xian Li (National University of Defense Technology)

A Splitting Method for Speedy Composite Network Reliability Evaluation .140
Dai Zhang (State Grid Hubei Communication and Information Company), Shan Yang (State Grid Hubei Communication and Information Company), and Jingjiao Li (Nanjing Institute of Technology)

An Accurate Financially-Challenged College Student Identification Model Based on Rough Set-BP Neural Networks and Its Application .144
Zhaohui Chu (Hefei University) and Yajie Zhang (Hefei University)

Design of Capacitive Touch Array Hand Function Rehabilitation Training and Evaluation System .151
Qi Zheng (University of Science and Technology of China), Mingliang Zhang (University of Science and Technology of China), Liquan Guo (University of Science and Technology of China), Ying Xu (The Affiliated Suzhou Hospital of Nanjing Medical University), Xiaowen Ju (The Affiliated Suzhou Hospital of Nanjing Medical University), and Ying Hou (The Affiliated Suzhou Hospital of Nanjing Medical University)

An Attribute Reduction Method Based on Improved Particle Swarm Optimization Algorithm .155
Yifan Yang (Civil Aviation University of China) and Dandan Hu (Civil Aviation University of China)

Design and Implementation of Simulation Model for Shortwave Communication Network Organization .160
Yan Zhou (National University of Defense Technology), Guo-Bin Fu (National University of Defense Technology), Bin Li (National University of Defense Technology), Ying-Guang Luo (National University of Defense Technology), Jia Hu (National University of Defense Technology), and Xiao Li (National University of Defense Technology)

A Lightweight Fully Convolutional Network for Cardiac MRI Segmentation .168
Wenjie Yang (Beijing University of Posts and Telecommunications) and Shufang Li (Beijing University of Posts and Telecommunications)

Research on Combat Motivation of Army Action Entity Based on Genetic Algorithm .172
Chuanhua Wen (Army Command College), Shoulin Shen (Army Command College), Guoning Zhang (Army Command College), Chengsen Bai (Army Command College), and Jiang Zhu (Army Command College)

Research on Design of Intelligent Commercial Super System Based on Internet of Things .176
Xiaojun Wang (Weifang Vocational College) and Yonghui Xie (Weifang Vocational College)

3D Reconstruction Based on Cyclic Multi-View Stereo Network .180
Fangli Jia (Liaoning ShiHua University), Bin Pan (Liaoning ShiHua University), Yongheng Tang (Liaoning ShiHua University), Jiangxue Han (Liaoning ShiHua University), Heng Liu (Liaoning ShiHua University), and Wenhai Zhu (Guangzhou Xinfeng Technology)

Quality Management of Crowd Sensing Data Based on Machine Learning .185
Zhongxian Bai (Communication University of Zhejiang) and Rongqing Zhuo (Communication University of Zhejiang)

The Research on Transformer Fault Early Warning Model Based on Internet of Things .189
Jinliang Liu (Cangzhou Power Supply Company), Fang Wu (Tianjin Agricultural College), Wenle Song (Cangzhou Power Supply Company), and Guoping Li (Cangzhou Power Supply Company)

A Collaborative Filtering Framework Based on Variational Autoencoders and Generative Adversarial Networks .193
Shao Xu (Shandong University) and Jun Ma (Shandong University)

Research on Cyber Security Test Method for GNSS of Intelligent Connected Vehicle .200
Kexun He (CATARC Automotive Test Center (Tianjin) Co., Ltd,), Kongjian Qin (CATARC Automotive Test Center (Tianjin) Co., Ltd,), Changyuan Wang (CATARC Automotive Test Center (Tianjin) Co., Ltd,), and Xiyu Fang (CATARC Automotive Test Center (Tianjin) Co., Ltd,)

Research on High Performance Computing of Power System Based on Machine Learning Algorithm… 204
Jilin Chen (China Electric Power Research Institute), Yong Chen (China Electric Power Research Institute), Zhonghua Guo (China Electric Power Research Institute), and Weijiang Qiu (China Electric Power Research Institute)

User Demand Research Based on Internet Information .208
Shuxing Du (XiDian University), Zhixin Liang (XiDian University), Guoying Wu (XiDian University), and Fan Wu (XiDian University)

Research on the Development of Cloud Computing .212
Shuai Liu (National University of Defense Technology), Jian Liu (National University of Defense Technology), Huimei Wang (National University of Defense Technology), and Ming Xian (National University of Defense Technology)

Research on 3D Scene Modeling Based on Virtual Campus .216
Chang Zhang (Huaiyin Institute of Technology), Rumeng Lv (Huaiyin Institute of Technology), Xiaobing Chen (Huaiyin Institute of Technology), and Lishun Ding (Fengxian Power Supply Branch of State Grid Jiangsu Electric Power Co., Ltd)

Bearing Fault Detection Method Based on Convolutional Neural Network .219
Kangbo Liu (Northeastern University), Jitao Xing (Northeastern University), and Menglin Ji (Northeastern University)

Application of Deep Learning Neural Network in Online Supply Chain Financial Credit Risk Assessment .224
Rong-Zhen Xu (Tianjin University of Science and Technology) and Meng-Ke He (Tianjin University of Science and Technology)

CLEMENT: Machine Learning Methods for Malware Recognition Based on Semantic Behaviours .233
Jinbo Zhang (Peking University)

Application Research Based on Machine Learning in Network Privacy Security 237
Yizheng Xu (University of Malaya)

Research on Meteorological Cloud Computing Platform Based on BP Neural Network 241
Jingyi Ma (China Meteorological Administration Meteorological Cadre Training Institute Gansu Branch)

Supply and Demand of Ai-Aided Language Education 245
Aihua Zhu (Foreign Language Department of Guangzhou College of Technology and Business)

Optimal Allocation Model of Enterprise Human Resources Based on Particle Swarm Optimization 249
Lu Xiao (Huali College Guangdong University of Technology)

Intelligent Computing Methods and Applications

Research on User Interest Model Mining Method Based on Time-Tag 254
Suqi Zhang (Tianjin University of Commerce), Xing Gao (Hebei University of Technology), and Junhua Gu (Hebei University of Technology)

Project Implementation Performance in Reward-Based Crowdfunding: An Emotion Perspective 260
Zihao Qi (Peking University), Can Liu (Southwestern University of Finance and Economics), and Liting Li (Southwestern University of Finance and Economics)

Fundus Retinal Blood Vessel Segmentation Based on Active Learning 264
Wei Li (Northeastern University), Mingquan Zhang (Northeastern University), and Dali Chen (Northeastern University)

Research on the Mapping Mathematical Model of Points in Polygon Region and Rectangle Region 269
Guangsheng Zhang (Longdong University) and Anzhao Ji (Longdong University)

Application of Schwarz Christoffel Transformation in Geological Modeling of Meandering River 273
Yufeng Wang (Longdong University) and Anzhao Ji (Longdong University)

Application of PSO Method in Schwarz Christoffel Mapping 277
Guangsheng Zhang (Longdong University), Qiong Duan (Longdong University), Xiulan Zhu (Longdong University), and Feng Cao (Longdong University)

Study on Seepage Model of the Dual-Permeability Quadruple-Media Homogeneous Reservoirs 281
Anzhao Ji (Longdong University) and Zhanjun Chen (Longdong University)

Application of Computer Technology in Mechanical Control System 286
Jiaxuan Dong (Shandong University), Zhenhan Hu (Shandong University), and Jiachun Lin (Shantou University)

Extra Connectivity and Extra Edge-Connectivity of Balanced Hypercube 289
Nianpeng Zhang (Xidian University) and Qiang Zhu (Xidian University)

Tongue Identification for Small Samples Based on Meta Learning 295
Tong Qiu (Tsinghua University)

Realization of Data Exchange for Groundwater Dynamic Monitoring .300
Xiaoxia Ren (China Institute of Geological Environment Monitoring), Shuyun Yang (China Institute of Geological Environment Monitoring), Mengliang Yu (China Institute of Geological Environment Monitoring), Fei Yang (China Institute of Geological Environment Monitoring), and Zhibin Huo (Chinese Academy of Geology Sciences)

Research on Shanghai Copper Futures Price Forecast Based on X12-ARIMA-GARCH Family Models .. 304
Lun Wang (University of Science and Technology Beijing) and Zhigang Zhang (University of Science and Technology Beijing)

Chinese Micro-Blog Sentiment Classification Based on Emotion Dictionary and Semantic Rules.309
Keliang Jia (Shandong University of Finance and Economics) and Zhinuo Li (Shandong University of Finance and Economics)

DeepMal: A CNN-LSTM Model for Malware Detection Based on Dynamic Semantic Behaviours .313
Jinbo Zhang (Peking University)

Docker Container Log Collection and Analysis System Based on ELK .317
Lei Chen (National University of Defense Technology), Jian Liu (National University of Defense Technology), Ming Xian (National University of Defense Technology), and Huimei Wang (National University of Defense Technology)

An Improved Channel Estimation Algorithm Based on DFT in OFDM System .321
Feng Mingming (Guilin University of Technology) and Hong Jin (Guangxi Key Laboratory of Embedded Technology and Intelligent System)

Property Study on Pressed Camellia Oleifera Seeds .326
Jian Zhou (Centre South University of Forestry and Technology), Zijian Qin (Centre South University of Forestry and Technology), Chi Xu (Centre South University of Forestry and Technology), and Changxin Zhou (Hunan University of Chinese Medicine)

Research on Service Matching Technology of Fourth-Party Service Platform Based on Web Service-A Review .331
Xiaotian Tang (Beijing Information Science and Technology University) and Ying Wang (Beijing Information Science and Technology University)

Design of Automatic Scoring Device for Soccer Goal Based on Computer Vision .336
Dan Qiao (China University of Geosciences (Beijing)), Gang Du (China University of Geosciences (Beijing)), Wenhui Zhang (China University of Geosciences (Beijing)), and Yumeng Dai (China University of Geosciences (Beijing))

Research on Construction and Management of Intelligent Agriculture Cloud Platform .340
Yan Wang (Xi'an Peihua University)

Chinese Keyword Extraction Method Based on Context and Word Classification .344
Xinyun Wang (Tianjin University of Technology) and Hongyun Ning (Tianjin University of Technology)

Monitoring the Level of Regional Economic Vitality: A Case Study of Guangdong .348
Ying Wang (Shandong Normal University) and Ji Bian (Shandong Normal University)

The Study of Tourism Poverty Alleviation Effect under the Perspective of New Media: Taking the Internet Celebrity Attractions of Tik Tok Libo as an Example .352
Xiaomin Zhan (Guangdong University of Foreign Studies), Zixiao Liu (Guangdong University of Foreign Studies), Enxi Ou (Guangdong University of Foreign Studies), Qinhong Ma (Guangdong University of Foreign Studies), and Wenchao Pan (Guangdong University of Foreign Studies)

Research on Gesture Recognition Method Based on Computer Vision Technology .358
Hongjian Cui (Northeastern University) and Yixuan Wang (Beijing University of Posts and Telecommunications)

MOOC Student Success Prediction Using Knowledge Distillation .363
Tingting Kang (Ocean University of China), Zhengang Wei (Ocean University of China), Jianxiong Huang (Zhejiang University), and Zhaoliang Yao (Nanjing University of Science and Technology)

Application of Employment Quality Analysis Model Based on Professional Competence System .368
Huadong Wang (Qingdao University of Science & Technology), Zhaoling Li (Qingdao University of Science & Technology), and Zhi Cao (Qingdao University of Science & Technology)

Application Research of Computer Vision Technology in Automation .374
Yang Li (Jinan University) and Yuhang Zhang (Harbin Institute of Technology)

Research on Distrubuted Optimization Control of Multi-Agent System .378
Lu Gao (JiangXi Normal University) and Yingen Yang (JiangXi Normal University)

The Design of Nutrition Ordering System without Queuing in the College Canteen .381
Zixuan Xu (Tongji University), Xuhao Zhao (Tongji University), Zhiyu Tian (Tongji University), Zhenhua Zhuang (Tongji University), and Jiaqi Wang (Tongji University)

Pressed Mechanism Study on Camellia Seeds .387
Jian Zhou (Centre South University of Forestry and Technology), Tongke Cui (Centre South University of Forestry and Technology), and Hao Wang (South China University of Technology)

Study on the Combination of Morphology and Technology of Pressed Camellia Seed Aided by Polymer Material .391
Jian Zhou (Centre South University of Forestry and Technology), Xiangdong Wu (Centre South University of Forestry and Technology), Qingyong Ma (Centre South University of Forestry and Technology), and Changxin Zhou (Hunan University of Chinese Medicine)

Research on Correlation of Physical Examination Results Based on Improved Apriori Algorithm .395
Chengxiang Shi (Chongqing University of Education) and Liu Yang (Chongqing University of Education)

Application of Virtual Reality Technology in Clinical Psychology .400
Tian Liu (University of North Carolina at Chapel Hill) and Zhenhang Tang (Shantou University Medical College)

Application of College English Listening Online Examination Platform Based on Streaming Media Technology .403
Qiuyan Li (Institute of Information Technology of GUET) and Chengyong Yang (Guilin University of Technology)

Design and Application of 3D Path Planning Model of Agricultural Automatic Robot .408
Fang Wu (Tianjin Agricultural College), Liying Cao (Tianjin Agricultural College), Shiyi Guo (Tianjin Agricultural College), and Jingjing Zhang (Tianjin Agricultural College)

Application of Subspace Predictive Control Method in Hammerstein-Wiener System .412
Xiaosuo Luo (Chongqing College of Electronic Engineering)

Memory-Augmented Dialogue State Tracker in Task-Oriented Dialogue System .416
Qian Li (National University of Defense Technology) and Xinmeng Li (National University of Defense Technology)

Numerical Calculation Method for the Boundary of Closed Polygon and Rectangle Region .421
Yufeng Wang (Longdong University), Biyang Feng (Longdong University), Qiong Duan (Longdong University), and Feng Cao (Longdong University)

Ship Target Detection Based on LightGBM Algorithm .425
Zisen Zhong (Dalian Maritime University), Ying Li (Dalian Maritime University), Zhouzhou Han (Dalian Maritime University), and Zhenliu Yang (Dalian Maritime University)

Multi-Step Ahead Ultra-Short-Term Wind Power Forecasting Based on Time Series Analysis .430
Shiyi Lu (Xiamen University Malaysia)

Whole Process Tracing Model of Pigeon Quality in Block Chain Environment .435
Xinghua Lu (Huali College Guangdong University of Technology), Peihao Liu (Huali College Guangdong University of Technology), Weidong Nie (Huali College Guangdong University of Technology), and Hao Zhang (Huali College Guangdong University of Technology)

Research on the Integration of Computer Technology and Physical Education and Training Integrating Computer Algorithms .440
Qi Lang (The City College of Jilin Jianzhu University)

Image Processing, Pattern Recognition and Information Technology

Location of Optic Disk in the Fundus Image Based on Visual Attention .446
Min Liang (Shanxi University of Finance and Economics), Yao Zhang (Shanxi University of Finance and Economics), Haorong Wang (Shanxi University of Finance and Economics), and Jie Li (Shanxi University of Finance and Economics)

Graph Signal Sampling with Deep Q-Learning .450
Menghao Wu (Harbin Engineering University), Qiang Zhang (Harbin Engineering University), Yanbin Gao (Harbin Engineering University), and Ningbo Li (Harbin Engineering University)

Research on Recognition Technology of Transformer Oil Leakage Based on Improved YOLOv3 .454
Liang Chen (Nari Technology Co. Ltd), Wei Xiong (Nari Technology Co. Ltd), Sha Yang (Nari Technology Co. Ltd), and Zhao Zhang (Nari Technology Co. Ltd)

Application of Adaptive Length Morphological Filtering in Gearbox Bearing Fault Recognition in Quantum Domain ..459
Congbing Wu (West Anhui University)

Speech Recognition of Command Words Based on Convolutional Neural Network ..465
Xuebin Yang (Northwest Minzu University), Hongzhi Yu (Northwest Minzu University), and Lei Jia (Changzhi University)

Face Recognition System Based on CNN ..470
Di Wang (Northwest Minzu University), Hongzhi Yu (Northwest Minzu University), Ding Wang (Northwest Minzu University), and Guanyu Li (Northwest Minzu University)

The Application of Information System in the Management of University's Repair Project ..474
Feifei Hu (Beijing Jiaotong University)

The Optimization-Design of 2DPCA Image Feature Extraction Algorithm Based on Convex Optimization ..478
Yan Chen (Guiyang University) and Yalin Chen (Nanjing University of Finance and Economics)

A Hybrid Feature Extraction Network for Intrusion Detection Based on Global Attention Mechanism ..481
Wenjie Chen (Zhengzhou University), Haizhou Cao (Zhengzhou University), Xiaoyang Lv (Zhengzhou University), and Yangjie Cao (Zhengzhou University)

DOA Estimation of Underwater Acoustic Signals Based on PCA-kNN Algorithm ..486
Yuji Liu (Jiangsu University of Science and Technology), Huixiu Chen (Jiangsu University of Science and Technology), and Biao Wang (Jiangsu University of Science and Technology)

Target Image Detection Method Based on EAST Optimization Algorithm ..491
Hanwen Huang (Xi'an Jiaotong University), Yang Yu (Beihang University), Yuluo Lin (Chengdu University of Technology), Yan Zhang (Zhengzhou University), Yijia Cai (IData Research Lab), Jinze Li (Shenyang Aerospace University), and Dingsheng Deng (Sichuan University Nationalities)

Duffing Oscillator Weak Signal Detection Method Based on EMD Signal Processing ..495
Lin-Fang Liu (Signal and Information Processing Provincial Key Laboratory in Shandong), Guo-Sheng Rui (Signal and Information Processing Provincial Key Laboratory in Shandong), and Yang Zhang (Signal and Information Processing Provincial Key Laboratory in Shandong)

Exploring Consensus Mechanisms in Distributed Systems Based on Directed Graph Method ..499
Tian Zhang (National University of Defense Technology)

Research on Marketing Strategy and Update Operation in E-Commerce ..508
Xun Zhang (Hefei Technology College)

Sensitivity Analysis on a Simplified Algal Pond to Give Suggestions for Management ..511
Fang Li (Hebei University of Technology)

Expression Recognition Method of Fusion Gabor Filter and 2DPCA Algorithm ..515
Ting Gong (Zhejiang University of Science and Technology)

Complex Electromagnetic Signal Acquisition Technology Based on Radio Frequency Identification of Internet of Things 519
Qian Zhai (Huali College Guangdong University of Technology)

Author Index 525