# **2020 13th International Symposium on Computational Intelligence and Design** (ISCID 2020)

Hangzhou, China 12-13 December 2020



IEEE Catalog Number: CFP2060E-POD **ISBN:** 

978-1-7281-8447-0

## 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:	CFP2060E-POD
ISBN (Print-On-Demand):	978-1-7281-8447-0
ISBN (Online):	978-1-7281-8446-3

#### 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 13th International Symposium on Computational Intelligence and Design (ISCID) **ISCID 2020**

### **Table of Contents**

Preface xviii
Sponsors and Committee Members xix
Reviewers xxi

## 2020 13th International Symposium on Computational Intelligence and Design (ISCID)

A Sine Cosine Algorithm Enhanced Spherical Evolution for Continuous Optimization Problems .1 Pengxing Cai (University of Toyama), Haichuan Yang (University of Toyama), Yu Zhang (University of Toyama), Yuki Todo (Kanazawa University), Zheng Tang (University of Toyama), and Shangce Gao (University of Toyama)
Differential Evolution-Based Wingsuit Flying Search for Optimization .7 Linfeng Du (University of Toyama), Yu Zhang (University of Toyama), Syuhei Sato (University of Toyama), Yuki Todo (Kanazawa University), Zheng Tang (University of Toyama), and Shangce Gao (University of Toyama)
Research on Optimization of Object Detection Technology Based on Convolutional Neural Network .13 Xue Yang (University of Electronic Science and Technology of China), Wanjun Huang (University of Electronic Science and Technology of China), and Hongyang Yu (University of Electronic Science and Technology of China)
Incremental SFM 3D Reconstruction Based on Monocular .17 Hengyu Yin (University of Electronic Science and Technology of China) and Hongyang Yu (University of Electronic Science and Technology of China)
The Implementation of an Improved ARED Congestion Control Algorithm .22 Li Xue (Hubei University of Automotive Technology)
Comparison of Black Fabric Indexes Based on Computer Color Measurement and Color Matching Technology .26 Jingying Xu (Zhejiang Sci-Tech University), Qiubao Zhou (Zhejiang Sci-Tech University), and Zimin Jin (Zhejiang Sci-Tech University)

Research on the Seamless Knitted Fabric Comfortability of Coffee Carbon and Graphene Far-Infrared Polyamide Fibers 30 Jiaxue Chen (Zhejiang Sci-Tech University, Hangzhou), Zimin Jin (Zhejiang Sci-Tech University, Hangzhou), Mingtao Zhao (Zhejiang Bangjie Holding Group Co., Ltd, Yiwu), Yuanyuan Wang (Zhejiang Sci-Tech University, Hangzhou), and Jianwei Tao (Zhejiang Bangjie Holding Group Co., Ltd, Yiwu)
Research on the Electric Heating Performance of Heating Materials for Electric Heating Sheet .34 Lu Wang (Zhejiang Sci-Tech University) and Xiaohong Zhou (Zhejiang Sci-Tech University)
A Parallel Change Detection Method for Spatiotemporally Multi-temporal SAR Image Based On Enhance Learning and Wavelet .38 Jinxi Peng (Xi'an JiaoTong University), Yuanqi Su (Xi'an JiaoTong University), Xiaorong Xue (Liaoning University of Technology (LUT); Anyang Normal University), Yi Li (South China Institute of Software Engineering), Bin Liu (Intelligent and Connected Vehicles (Beijin) Research Institute Co., Ltd, China), and Xiaoyong Xue (The Middle School of Luonan County, Shaanxi)
A Hybrid Spherical Search and Whale Optimization Algorithm .44 Jiarui Shi (University of Toyama), Jia Yu (University of Toyama), Chiyan Lee (University of Toyama), Yuki Todo (Kanazawa University), and Shangce Gao (University of Toyama)
<ul> <li>Implementation and Application of the Health Management Expert System for Community Residents 50</li></ul>
Investigating Determinants of the CNY-CNH Exchange Rate Spread Using Extended GARCH Model .

54

Yonghong Zhong (South China University of Technology, Guangzhou, Guangdong, China) and Yadi Shang (Guangzhou Development Group Incorporated, Guangzhou, Guangdong, China)

Research on the Appearance Performance of Mosquito-Proof Wormwood Polyester Seamless Knitted Fabric .58
Liumeng Mao (Zhejiang Sci-tech University), Zimin Jin (Zhejiang Sci-tech University), Mingtao Zhao (Zhejiang Bangjie Holding Group Co. Ltd, Yiwu, China), Jianwei Tao (Zhejiang Bangjie Holding Group Co. Ltd, Yiwu, China), and Yingjie Zheng (Excellent Fashion Garment (Hangzhou) Co., Ltd, Hangzhou, China)
Spherical Evolution Enhanced with Salp Swarm Algorithm .62 Zhen Li (University of Toyama), Haichuan Yang (University of Toyama), Zhiming Zhang (University of Toyama), Yuki Todo (Kanazawa University), and Shangce Gao (University of Toyama)
Using Grey Wolf Hunting Mechanism to Improve Spherical Search .67 Sicheng Liu (University of Toyama), Sichen Tao (University of Toyama), Haichuan Yang (University of Toyama), Lin Jiang (University of Toyama), Yuki Todo (Kanazawa University), and Shangce Gao (University of Toyama)
<ul> <li>Study on the Appearance Performance of Coffee Carbon and Graphene Nylon Far-Infrared</li> <li>Seamless Knitted Fabric .72.</li> <li>Liping Zhu (Zhejiang Sci-tech University), Zimin Jin (Zhejiang</li> <li>Sci-tech University), Mingtao Zhao (Zhejiang Bangjie Holding Group Co.</li> <li>Ltd, Yiwu, China), Jianwei Tao (Zhejiang Bangjie Holding Group Co.</li> <li>Ltd, Yiwu, China), and Yingjie Zheng (Excellent Fashion Garment</li> <li>(Hangzhou) Co., Ltd. Hangzhou, China)</li> </ul>
Plan for the Tilt Angles of the Tilt Rotor Unmanned Aerial Vehicle Based on Gauss Pseudospectral Method .76 Chao Chen (Space Engineering University), Nuan Wang (Shanghai Zhuanxin Yiteng Information Technology Co., Ltd), Jiyang Zhang (National University of Defense Technology), Guan He (National University of Defense Technology), and Yiyong Li (Space Engineering University)
Emotion Recognition Measurement Based on Physiological Signals .81 Xiaoli Fan (Unmanned Systems Research Center, National Innovation Institute of Defense Technology, Academy of Military Sciences China, Beijing, China), Ye Yan (Unmanned Systems Research Center, National Innovation Institute of Defense Technology, Academy of Military Sciences China, Beijing, China), Xiaomin Wang (Tianjin Artificial Intelligence Innovation Center (TAIIC), Tianjin, China), Huijiong Yan (Tianjin Artificial Intelligence Innovation Center (TAIIC), Tianjin, China), You Li (China Astronaut Research and Training Center, Beijing, China), Liang Xie (Unmanned Systems Research Center, National Innovation Institute of Defense Technology, Academy of Military Sciences China, Beijing, China), and Erwei Yin (Unmanned Systems Research Center, National Innovation Institute of Defense Technology, Academy of Military Sciences China, Beijing, China)
Combining Tensor Decomposition and Word Embedding for Asymmetrical Relationship Prediction in Knowledge Graphs .87 Yuxuan Zou (Huazhong University of Science and Technology) and Dehong Qiu (Huazhong University of Science and Technology)

A Novel Optimization Algorithm Inherited from Gravitational and Spherical Search Dynamics .91.. Zhentao Tang (University of Toyama), Kaiyu Wang (University of Toyama), Jiarui Shi (University of Toyama), Sichen Tao (University of Toyama), Yuki Todo (Kanazawa University), and Shangce Gao (University of Toyama)

Research and Implementation of Parkinson's Dyskinesia Monitoring Service System .97...... Jianguo Wang (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China; University of Science and Technology of China, China), Zhiming Yao (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China), Bochen Li (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China; University of Science and Technology of China, China), Shaonan Wang (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China; University of Science and Technology of China, China), Qi Wu (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China; Institution of Physical Science and Information Technology, Anhui University, China), and Peng Wang (Hefei Institutes of Physical Science, Chines of Physical Science, Chinese of Physical Science, Chinese Academy of Sciences, China; Institution of Physical Science and Information Technology, Anhui University, China), and Peng Wang (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China; University of Science and Technology of China, China)

Estimating the Contribution of Intelligent Transportation to Urban Economic Growth .101..... Shuqi Guan (Jianghan University) and Qinkang Zhang (Wuhan Business University)

Design of Data Acquisition and Monitoring System for Welding Machine .106...... *Qingfeng Yang (Changzhou College of Information Technology, Changzhou; Changzhou Industrial Internet Industry Technology Research Institute, Changzhou), Chonghao Zhang (Changzhou Industrial Internet Industry Technology Research Institute, Changzhou; Changzhou Industrial Internet Research Institute Co., Ltd. Changzhou), Chunfen Hu (Changzhou College of Information Technology, Changzhou), Haifei Zhou (Changzhou College of Information Technology, Changzhou; Changzhou Industrial Internet Industry Technology Research Institute, Changzhou, and Jianmei Zhou (Changzhou College of Information Technology, Changzhou, Technology, Changzhou), Technology, Changzhou)*

Research on Forecast of Passenger Flow of High Speed Railway in Competitive Market Based

on XGBoost Model .110.....

Han Huiting (Institute of Computing Technology China Academy of Railway Sciences), Zhang Junfeng (Institute of Computing Technology China Academy of Railway Sciences), Meng Ge (Institute of Computing Technology China Academy of Railway Sciences), Wang Hongye (Institute of Computing Technology China Academy of Railway Sciences), and Shan Xinghua (Institute of Computing Technology China Academy of Railway Sciences)

- Item-Based Collaborative Filtering Algorithm Based on Group Weighted Rating .114..... Cong Li (Sichuan Normal University, China) and Li Ma (Sichuan Normal University, China)
- An Aircraft Fuel Flow Model of Cruise Phase Based on LSTM and QAR Data .118..... Weizhen Luo (Digital Committee, Xiamen Airlines, Xiamen, China), Zixuan Wu (Digital Committee, Xiamen Airlines, Xiamen, China), and Cong Chen (Digital Committee, Xiamen Airlines, Xiamen, China)

A User-Defined Gesture Set for Natural Interaction in a Smart Kitchen Environment .122 Zhifan He (Hunan University), Ruifo Zhang (Hunan University), Zheng Liu (Design Intelligence Innovation Center, China Academy of Art; Zhejiang Provincial Key Laboratory of Integration of Healthy Smart Kitchen System), and Zhengyu Tan (Hunan University)	••
Comprehensive Evaluation Method of Sensitization Model Based on Intuitionistic Fuzzy Cross-Entropy .126 Lingmei Li (Luoyang Normal University, China), Caikun Zhang (Luoyang Electronic Equipment Test Center, China), and Guanyu Qiao (National University of Defense Technology, China)	
Performance of UV Spread Spectrum Communication System Based on LDPC Codes .131 Yiwei Peng (University of Electronic Science and Technology of China) and Dong Zhou (University of Electronic Science and Technology of China)	•••
Affective Design in Children Products: A Case Study of Toy Storage Product .136 Xi Cheng (Beijing University of Posts and Telecommunication), Wenjun Hou (Beijing University of Posts and Telecommunication), and Qing Sheng (Beijing University of Posts and Telecommunication)	
Transaction Community Identification in Bitcoin .140 Yuhang Zhang (Beihang University), Jun Wang (Beihang University), and Fei Zhao (SKLSDE, Beihang University)	
A Novel Design Research Based on Fuzzy Kano-TOPSIS Exploring the Local Culture on Innovative Campus Product .145 Mengjun Huang (Xinyu University)	
Study on Core Prescription of Traditional Chinese Medicine for Prevention of Viral Respiratory Infectious Diseases Based on Complex Network .149 Shen Zheng (Beihang University), Zhiqiang Wang (Shandong University of Science and Technology), Fei Liu (Shandong University of Technology), and Shun Jia (Shandong University of Science and Technology)	
On the Locality of Some Optimal Ternary Codes with Dimension 6 .155 Qiang Fu (Air Force Engineering University), Luobin Guo (Air Force Engineering University), Ruihu Li (Air Force Engineering University), and Xiuzhen Zhan (Air Force Engineering University)	
Noise Reduction Technique for Raman Spectrum using Deep Learning Network .159 Liangrui Pan (Prince of Songkla University), Pronthep Pipitsunthonsan (Prince of Songkla University), Peng Zhang (Prince of Songkla University), Chalongrat Daengngam (Prince of Songkla University), Apidach Booranawong (Prince of Songkla University), and Mitchai Chongcheawchamnan (Prince of Songkla University)	
Multi-camera Based Full-Field 3D Displacement Measurement using Digital Image Correlation .1 Tianci Hu (Southeast University), Lei Ma (Shanghai Institute of Spacecraft Equipment), Dong Jiang (Nanjing Forest University), and Qingguo Fei (Southeast University)	.64

The Application Research of Multi-source Heterogeneous Energy Big Data Analysis .168 Xuemin Han (State Grid Anhui Electric Power Co., Ltd.), Gaofeng Zheng (State Grid Anhui Electric Power Co., Ltd.), Pengxi Liu (State Grid Anhui Electric Power Co., Ltd.), Zhou Li (State Grid Anhui Electric Power Co., Ltd.), Junjie Ma (State Grid Anhui Electric Power Co., Ltd.), and Xi Chen (Beijing SGITG-Accenture Information Technology Co., Ltd.)
Glove Detection System Based on VGG-16 Network 172 Miao Jin (China Electric Power Research Institute, Wuhan, China), Xiwen Chen (China Electric Power Research Institute, Wuhan, China), Guoshu Lai (Marketing Service Center of State Grid Fujian Electric Power Co., Ltd., Fuzhou, China), Zhiwei Guo (Marketing Service Center of State Grid Fujian Electric Power Co., Ltd., Fuzhou, China), Tianfu Huang (Marketing Service Center of State Grid Fujian Electric Power Co., Ltd., Fuzhou, China), Zhuo Chen (China Electric Power Research Institute, Wuhan, China), Quan Wang (China Electric Power Research Institute, Wuhan, China), Jiniang Fu (China Electric Power Research Institute, Wuhan, China), Gaoning Nie (China Electric Power Research Institute, Wuhan, China), and Jun Zhang (China Electric Power Research Institute, Wuhan, China), and Jun Zhang (China Electric Power Research Institute, Wuhan, China), And Jun Zhang (China Electric Power Research Institute, Wuhan, China), And Jun Zhang (China Electric Power Research Institute, Wuhan, China), And Jun Zhang (China Electric Power Research Institute, Wuhan, China), And Jun Zhang (China Electric Power Research Institute, Wuhan, China)
A Method of Relation Extraction Using Pre-Training Models 176 Yu Wang (Institute of Intelligent Machines, Hefei Institutes of Physical Sciences, Chinese Academy of Sciences), Yining Sun (Institute of Intelligent Machines, Hefei Institutes of Physical Sciences, Chinese Academy of Sciences), Zuchang Ma (Institute of Intelligent Machines, Hefei Institutes of Physical Sciences, Chinese Academy of Sciences), Lisheng Gao (Institute of Intelligent Machines, Hefei Institutes of Physical Sciences, Chinese Academy of Sciences), Yang Xu (Institute of Intelligent Machines, Hefei Institutes of Physical Sciences, Chinese Academy of Sciences), and Yichen Wu (Institute of Intelligent Machines, Hefei Institutes of Physical Sciences, Chinese Academy of Sciences), Chinese Academy of Sciences)
Design of Intelligent Waste Recycling System Based on Kano Model .180 Huiqian He (Department of Information Technology Industry Shaoguan Technician Institute), Ruiqiu Zhang (South China University of Technology), and Wei Sun (South China University of Technology)
The Monitoring System of Aquaculture Environment .184 Chunxia Jin (Huaiyin Institute of Technology) and Qiuchan Bai (Huaiyin Institute of Technology)
Motion Flow Feature Algorithm for Action Recognition in Videos .188 Run Ye (University of Electronic Science and Technology of China), Bin Yan (University of Electronic Science and Technology of China), Shiyou Hou (University of Electronic Science and Technology of China), and Xiaokang Jing (University of Electronic Science and Technology of China)
Research on Work Passion and Work Pressure Based on Social Network Analysis .194 Yingchun Zhang (Beijing Information Science and Technology University) and Ganli Liao (Beijing Information Science and Technology University)

Application of SPCA-LSSVM Model in Soft Measurement of Gasoline Dry Point .200 Liying Guo (Liaoning Shihua University) and Yu Zhang (Liaoning Shihua University)
Prediction of Shanghai Air Quality Index Based on BP Neural Network Optimized by Genetic Algorithm .205 Ruijun Yang (Shang Hai Institute of Technology Department of Computer Science and Information Engineering, China), Xueqi Hu (Shang Hai Institute of Technology Department of Computer Science and Information Engineering, China), and Lijun He (Shang Hai Institute of Technology Department of Computer Science and Information Engineering, China)
Dog Breed Classification Based on Deep Learning 209 Changqing Wang (Henan Normal University), Jiaxiang Wang (Henan Normal University), Quancheng Du (Henan Normal University), and Xiangyu Yang (Henan Normal University)
Research on the Safety of Sea Crab Based on Machine Olfactory .213 Yunxiang Liu (Shanghai Institute of Technology), Chunya Wang (Shanghai Institute of Technology), Xinxin Yuan (Shanghai Institute of Technology), and Tingting Xiong (Shanghai Institute of Technology)
News Recommendation Based on Content Fusion of User Behavior .217 Lin Li (University of Science and Technology Liaoning) and Li Wang (University of Science and Technology Liaoning)
A Method of Establishing Evaluation Model of Online Teaching Interactive Behavior .221 Defu Bao (Art and Design Institute, Zhejiang Sci-Tech University, Hangzhou, China), Junhao Jiang (Art and Design Institute, Zhejiang Sci-Tech University, Hangzhou, China), Hangze Xiao (Art and Design Institute, Zhejiang Sci-Tech University, Hangzhou, China), and Danni Shen (Art and Design Institute, Zhejiang Sci-Tech University, Hangzhou, China)
Short Text Classification Model Based on Multi-attention .225 Yunxiang Liu (Shanghai Institute of Technology) and Qi Xu (Shanghai Institute of Technology)
Tradeoff between Episodic and Semantic Precedents in Creative Design .230 Sichun Xue (Art and Design Institute, Zhejiang Sci-Tech University), Danni Shen (Art and Design Institute, Zhejiang Sci-Tech University), Enchang Zhang (Art and Design Institute, Zhejiang Sci-Tech University), and Defu Bao (Art and Design Institute, Zhejiang Sci-Tech University)
The Water Quality Online Monitoring System Based on Wireless Sensor Network .234 Qiuchan Bai (Huaiyin Institute of Technology), Jiahao Wu (Huaiyin Institute of Technology), and Chunxia Jin (Huaiyin Institute of Technology)
<ul> <li>Facial Expression Recognition Video Analysis System Based on Facial Action Units: A</li> <li>Feasible Engineering Implementation Scheme .238</li> <li>Jun Zhu (Hangzhou Hikvision Digital Technology Co., Ltd), Baoqing Wang</li> <li>(Hangzhou Hikvision Digital Technology Co., Ltd), Weilong Sun</li> <li>(Hangzhou Hikvision Digital Technology Co., Ltd), and Jun Dai</li> <li>(Hangzhou Hikvision Digital Technology Co., Ltd)</li> </ul>

Digital Image Encryption and Decryption Algorithm Based on Optimization and Fusion Strategy .244 Nan Wan (Wannan Medical College) and Yi Zhang (Anhui Polytechnic University)	
Improving the Identification of Finger Movements using High-Density Surface Electromyography Pre-Processed with PCA .249 Dandan Yang (South-Central University for Nationalities, Wuhan, China), Xiaoying Wu (Chongqing University, Chongqing, China), Zhengyi Li (South-Central University for Nationalities, Wuhan, China), Hui Zhou (South-Central University for Nationalities, Wuhan, China), Dao Zhou (South-Central University for Nationalities, Wuhan, China), Jinan Guan (South-Central University for Nationalities, Wuhan, China), Shuiqing Xie (South-Central University for Nationalities, Wuhan, China), China), and Wensheng Hou (Chongqing University, Chongqing, China)	
<ul> <li>Kinematics Modeling and Analysis of Deep-Sea Hydraulic Manipulator .253</li></ul>	
A Real-Time and High-Efficiency Surface Defect Detection Method for Metal Sheets Based on Compact CNN 259 Xinyue Zhou (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China; University of Science and Technology of China, China), Yuman Nie (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China; University of Science and Technology of China, China), Yaoxiong Wang (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China), Pingguo Cao (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China; University of Science and Technology of China, China), Ming Ye (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China; University of Science and Technology of China, China), Ming Ye (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China; University of Science and Technology of China, China), Yuanyang Tang (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China), and Zhou Wang (Hefei Institutes of Physical Science, Chinese Academy of Sciences, China)	
Feature Selection for Intrusion Detection Systems .265 Firuz Kamalov (Canadian University Dubai), Sherif Moussa (Canadian University Dubai), Rita Zgheib (Canadian University Dubai), and Omar Mashaal (Canadian University Dubai)	

Mashaal (Canadian University Dubai)

Research on the Effect of Shift Work System on Rail Transit Drivers' Sleep and Fatigue .270 Shoufang Dong (SinoRail Network Technology Research Institute, Beijing, China; China Railway Information Technology Group Co., Ltd., Beijing, China), Tingting Zhang (Shenzhen Metro Operation Group Co., Ltd., Shenzhen, China), Haiyan Zhu (Shanghai University of Engineering Science, Shanghai, China), Kai Li (Shenzhen Metro Operation Group Co., Ltd., Shenzhen, China), and Aili Wang (SinoRail Network Technology Research Institute, Beijing, China; China Railway Information Technology Group Co., Ltd., Beijing, China)
Correlation Analysis of Causes of Railway Accidents Based on Improved Apriori Algorithm .27.4 Jianping Shi (China Academy of Railway Sciences), Yakun Wang (Beijing Jiaotong University), and Wei Zheng (Beijing Jiaotong University)
Research on Pet Dog Species Identification Based on Convolution Neural Network .278 Yanmei Liu (Wuhan Institute of Design and Sciences) and Yuda Chen (Wuhan Center of Geological Survey, China Geological Survey)
A Document Processing Scheme for Journal Submissions Based on Locality Sensitive Hashing and Scale-Invariant Feature Transform .282 Dezhi Wu (Tianjin University of Technology), Peng Shi (Luoyang Institute of Electro-Optical Equipment), Liang Xu (Tianjin University of Technology), and Hao Wang (Tianjin University of Technology)
Deep Interaction Network Based CTR Prediction Model .286 Wenqiang Zhang (University of Science and Technology Liaoning) and Li Wang (University of Science and Technology Liaoning)
A Hierarchical Bidirectional LSTM Sequence Model for Extractive Text Summarization in Electric Power Systems 290 Wei Jiang (State Grid Corporation of China), Yunfeng Zou (Marketing Service Center of State Grid Jiangsu Electric Power Co., Ltd), Ting Zhao (Global Energy Interconnection Research Institute Co. Ltd.), Qiang Zhang (Global Energy Interconnection Research Institute Co. Ltd.), and Yinglong Ma (North China Electric Power University)
Improvement of Genetic Algorithm and the Application in Computer Simulation Model of O2O Delivery Strategies .295 Yonglin Li (Dalian University of Technology) and Guangyu Zou (Dalian University of Technology)
<ul> <li>Feature Fusion Based Efficient Convolution Network for Real-Time Table Tennis Ball</li> <li>Detection .300</li> <li>Luo Yang (Shanghai Jiao Tong University , Shanghai Pongbot Technology</li> <li>Co., Ltd), Xinjun Sheng (Shanghai Jiao Tong University), Xiangyang Zhu</li> <li>(Shanghai Jiao Tong University), and Haibo Zhang (Shanghai Pongbot</li> <li>Technology Co., Ltd)</li> </ul>
Research on Partner Selection in the Construction of Cloud Ecosystem .306 Guohua Deng (Jianghan University) and Donglin Chen (Wuhan University of Technology)
Eye Movement Experiment Research on Users' Aesthetic Preferences of Car Seats .310 Yanan Huang (Central South University of Forestry and Technology), Weilin Ma (Central South University of Forestry and Technology), and Yuan Yang (Hunan University of Science and Technology)

Science and of Computer	College of Computer and Software Engineering, University of Fechnology Liaoning, Anshan, China) and Li Wang (College and Software Engineering, University of Science and iaoning Anshan, China)
Yongjing Lii University o Yu (Research	Method of Intelligent Plastering Robot Head .318(Research Institute Electronic Science and Technology,Electronic Science and Technology of China) and HongyangInstitute Electronic Science and Technology, UniversityScience and Technology of China)
Chuyi Zhou Hangzhou, ( University ( Industrial D Jinlei Shi (M Hangzhou, (	ormance Following Exposure to Music .322 (Modern Industrial Design Institute, Zhejiang University, hina; School of Artistic Design & Creation, Zhejiang ity College, Hangzhou, China), Chunlei Chai (Modern esign Institute, Zhejiang University, Hangzhou, China), odern Industrial Design Institute, Zhejiang University, hina), and Jing Liao (Modern Industrial Design Institute, iversity, Hangzhou, China)
Bochen Li (H Sciences; Un (Hefei Institu Jianguo War Sciences; Un (Hefei Institu University o Institutes of Institution o University), Academy of	htar Pressure Image Based on Flexible Force-Sensitive Sensor Array .326 efei Institutes of Physical Science, Chinese Academy of iversity of Science and Technology of China), Zhiming Yao etes of Physical Science, Chinese Academy of Sciences), g (Hefei Institutes of Physical Science, Chinese Academy of iversity of Science and Technology of China), Shaonan Wang etes of Physical Science, Chinese Academy of Sciences; E Science and Technology of China), Qi Wu (Hefei Physical Science, Chinese Academy of Sciences; Physical Science, Chinese Academy of Sciences; Physical Science and Information Technology, Anhui Peng Wang (Hefei Institutes of Physical Science, Chinese Sciences; University of Science and Technology of China), Yang (Hefei Institutes of Physical Science, Chinese Sciences)
from 2010 to 20	nalysis for Articles Published in the Journal of Medical Education Online 19 Based on Citespace .330 titute of Education, Nanjing University)
Mao Zhang	f LRCs with Availability Based on Iterative Matrix .334 Department of Basic Sciences, Air Force Engineering nd Ruihu Li (Department of Basic Sciences, Air Force University)
	ecognition Based on Spatio-Temporal Feature Pyramid Module .338 g (Jiangnan University) and Ying Chen (Jiangnan University)
	e Application of Semantic Segmentation of Driverless Vehicles in Park Scene .342. eijing Union University) and Yuansheng Liu (Beijing Union

Nondestructive Detection of Masson Pine Seedlings Morphological Indexes Based on 3D-Reconstruction and SVR .346 Yurong Li (Nanjing Forestry University), Ying Liu (Nanjing Forestry University), Chao Ni (Nanjing Forestry University), and Yeqi Fei (Nanjing Forestry University)
<ul> <li>Exploiting the Emotional Preference of Music for Music Recommendation in Daily Activities .350</li> <li>Hui Zhang (Laboratory of CAD, CG, Zhejiang University), Kejun Zhang</li> <li>(Laboratory of CAD, CG, Zhejiang University), and Nick Bryan-Kinns</li> <li>(School of Electronic Engineering and Computer Science, Queen Mary</li> <li>University of London)</li> </ul>
<ul> <li>Artificial Intelligence Augmented Design Iteration Support .354</li> <li>Chuyi Zhou (Modern Industrial Design Institute, Zhejiang University, Hangzhou, China; School of Artistic Design &amp; Creation, zhejiang University City College, Hangzhou, China), Chunlei Chai (Modern Industrial Design Institute, Zhejiang University, Hangzhou, China), Jing Liao (Modern Industrial Design Institute, Zhejiang University, Hangzhou, China), Zitong Chen (Modern Industrial Design Institute, Zhejiang University, Hangzhou, China), and Jinlei Shi (Modern Industrial Design Institute, Zhejiang University, Hangzhou, China)</li> </ul>
Robust Single-Object Visual Tracking Framework via Fully Convolutional Siamese Network with Correlation Filter .359 Jiashu Dai (School of Computer and InformationAnhui Polytechnic University) and Nan Yan (School of Computer and InformationAnhui Polytechnic University)
Influence of Hand Representation Design on Presence and Embodiment in Virtual Environment .364 Jingjing Zhang (Design School, Xi'an Jiaotong-Liverpool University, Suzhou, China), Mengjie Huang (Design School, Xi'an Jiaotong-Liverpool University, Suzhou, China), Lixiang Zhao (School of Advanced Technology, Xi'an Jiaotong-Liverpool University, Suzhou, China), Rui Yang (School of Advanced Technology, Xi'an Jiaotong-Liverpool University, Suzhou, China), Hai-Ning Liang (School of Advanced Technology, Xi'an Jiaotong-Liverpool University, Suzhou, China), Ji Han (Department of Civil Engineering and Industrial Design, University of Liverpool, Liverpool, The United Kingdom), Liu Wang (Design School, Xi'an Jiaotong-Liverpool University, Suzhou, China), and Wenxin Sun (Design School, Xi'an Jiaotong-Liverpool University, Suzhou, China)
War Chess as Hierarchical Learning Environment .368 Shang Jiang (NUDT), Wenxia Wei (NUDT), Yanlin Wu (NUDT), Rui Tang (NUDT), Qingquan Feng (NUDT), and Daogang Ji (NUDT)
<ul> <li>Vibration Characteristics of Plate Structure Based on Simulation System .372</li> <li>Minghui Zhao (China Coal Technology &amp; Engineering Group Shanghai Co.,</li> <li>Ltd), Qijun Chen (School of Electronic and Information Engineering,</li> <li>Tongji University), and Shihong Zhang (China Coal Technology &amp;</li> <li>Engineering Group Shanghai Co., Ltd)</li> </ul>

<ul> <li>Fault Diagnosis for Rotating Machinery Gearbox Based on 1DCNN-RF .376</li> <li><i>Zhimin Li (Shandong University of Science and Technology), Qi Han</i></li> <li><i>(Shandong University of Science and Technology), Rui Yang (Xi'an</i></li> <li><i>Jiaotong-Liverpool University), Xianghua Wang (Shandong University of</i></li> <li><i>Science and Technology), and Mengjie Huang (Xi'an Jiaotong-Liverpool</i></li> <li><i>University)</i></li> </ul>
Based on ArcGIS Interpolation Method of Drawing Peak Acceleration Zoning Map .380 Jiqing Fu (Yunnan Electric Power Technology Co. LTD), Rontai Wang (Yunnan Electric Power Technology Co. LTD), and Qigao Zhou (Harbin Institute of Technology)
Neural Network-Based Passenger Flow Prediction: Take a Campus for Example .384 Lijuan Yao (Information Center, Chengdu Textile College, Chengdu, China), Shuang Zhang (Information Center, Chengdu Textile College, Chengdu, China), and Guocai Li (College of Electrical Engineering Sichuan University Chengdu, China)
Optimized Road Status Level Grading Method in Driving Style Evaluation for Pay-How-You-Drive Commercial Vehicle Insurance .388 Wei Nai (Tongji Zhejiang College), Cong Sheng (Tongji Zhejiang College), Yuhan Liu (Tongji Zhejiang College), Yidan Xing (Tongji Zhejiang College), and Zan Yang (Tongji Zhejiang College)
Hybrid Dimension Reduction Method Based on Isomap and t-SNE with Beetle Antennae Search         Algorithm .392         Erkai Jin (Tongji Zhejiang College), Miao Li (Tongji Zhejiang         College), Xiaopu Feng (Tongji Zhejiang College), Zan Yang (Tongji         Zhejiang College), and Wei Nai (Tongji Zhejiang College)
Micro-Expression Recognition Convolutional Network Based on Dual-Stream Temporal-Domain Information Interaction .396 Weijie Zhu (Key Laboratory of Advanced Process Control for Light Industry (Ministry of Education), Jiangnan University) and Ying Chen (Key Laboratory of Advanced Process Control for Light Industry (Ministry of Education), Jiangnan University)
Patent-Based Predictive Price-to-Earnings Ratio on Increasing Investment Performance of China Stock Market .401 ZhaoHui Li (Shenzhen GongBiao Intellectual Property Judicial Appraisal Center), GuangYun Deng (Shenzhen GongBiao Intellectual Property Judicial Appraisal Center), and HuiChung Che (Shenzhen TekGlory Intellectual Property Data Technologies, Ltd.)
Design and Realization of Non-Radix-2 FFT Prime Factor Processor for 5G Broadcasting in Release 16 .406 Jingxin Dai (State Key Laboratory of Media Convergence and Communication, Communication University of China) and Hang Yin (State Key Laboratory of Media Convergence and Communication, Communication University of China)

Hardware Trojan Detection Method Based on the Frequency Domain Characteristics of Power Consumption 410
Nan Tang (University of Electronic Science and Technology of China, Chengdu, China), Wanting Zhou (University of Electronic Science and Technology of China, Chengdu, China), Lei Li (University of Electronic Science and Technology of China, Chengdu, China), Ji Yang (Unit 78102 of the Chinese People's Liberation Army, Chengdu, China), Rui Li (Shandong Kerui Machinery Manufacturing Co., Ltd, Shandong, China), and Yuanhang He (Science and Technology on Communication Security Laboratory, Institute of Southwest Communication, Chengdu, China)
Design of Device and Method for Non-Intrusive Anti-Braking Cable Monitoring .414 Xin Tang (State Grid Jiaxing Power Supply Company)
IR-Drop Calibration for Hardware Trojan Detection .418 Zitong Zeng (University of Electronic Science and Technology of China), Lei Li (University of Electronic Science and Technology of China), Wanting Zhou (University of Electronic Science and Technology of China), Ji Yang (Unit 78102 of the Chinese People's Liberation Army), and Yuanhang He (Institute of Southwest Communication Science and Technology on Communication Security Laboratory)
Forecasting with Deep Learning: S&P 500 Index .422 Firuz Kamalov (Canadian University Dubai), Linda Smail (Zayed University), and Ikhlaas Gurrib (Canadian University Dubai)
A Multi-target Edge Service Approach to Real-time Image Object Detection .426 Tinglin Xin (State Grid Jibei Information & Telecommunication Company, China), Shuo Li (State Grid Jibei Information & Telecommunication Company, China), Ting Zhao (Global Energy Interconnection Research Institute Co. Ltd., China), Weishang Xia (Global Energy Interconnection Research Institute Co. Ltd., China), and Lijiao Zhao (Global Energy Interconnection Research Institute Co. Ltd., China)

Author Index 433.	
-------------------	--