

Preface

Yanovsky, Felix; Ye, Z. W.

DOI

[10.3233/ATDE57](https://doi.org/10.3233/ATDE57)

Publication date

2024

Document Version

Final published version

Published in

Advances in Transdisciplinary Engineering

Citation (APA)

Yanovsky, F., & Ye, Z. W. (2024). Preface. *Advances in Transdisciplinary Engineering*, 48, v.
<https://doi.org/10.3233/ATDE57>

Important note

To cite this publication, please use the final published version (if applicable).
Please check the document version above.

Copyright

Other than for strictly personal use, it is not permitted to download, forward or distribute the text or part of it, without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license such as Creative Commons.

Takedown policy

Please contact us and provide details if you believe this document breaches copyrights.
We will remove access to the work immediately and investigate your claim.

IMAGE PROCESSING, ELECTRONICS AND
COMPUTERS

Advances in Transdisciplinary Engineering

Transdisciplinary engineering is the exchange of knowledge about product, process, organization, or social environment in the context of innovation. The ATDE book series aims to explore the evolution of engineering, and promote transdisciplinary practices, in which the exchange of different types of knowledge from a diverse range of disciplines is fundamental. The series focuses on international collaboration and providing high-level contributions to the internationally available literature on the theme of the conference.

Editor-in-Chief

Josip Stjepandić, PROSTEP AG, Darmstadt, Germany

Advisory Board

Cees Bil, RMIT University, Australia
Milton Borsato, Federal University of Technology – Parana, Brazil
Shuo-Yan Chou, Taiwan Tech, Taiwan, China
Fredrik Elgh, Jönköping University, Sweden
Kazuo Hiekata, University of Tokyo, Japan
John Mo, RMIT University, Australia
Essam Shehab, Cranfield University, UK
Loon Ching Tang, National University of Singapore, Singapore
Amy Trappey, NTUT, Taiwan, China
Wim J.C. Verhagen, TU Delft, The Netherlands

Volume 57

Recently published in this series

- Vol. 56. S. Patnaik (Ed.), Disruptive Human Resource Management – Proceedings of the 1st International Conference (ICDHRM 2024), Bhubaneswar, India, 13–14 January 2024
- Vol. 55. V. Mezhyuev, C.B. Westphall, L. Uden, O. Wolfson and S.S. Agaian (Eds.), Intelligent Transportation and Smart Cities – Proceedings of the 1st International Conference (ICITSC 2024), Wuhan, China, 7–8 March 2024
- Vol. 54. M. Deng (Ed.), Power, Energy and Electrical Engineering – Proceedings of the 14th International Conference (CPEEE 2024), Tokyo, Japan, 24–26 February 2024
- Vol. 53. Q. Zhang (Ed.), Intelligent Equipment and Special Robots – Proceedings of the 2nd International Conference (ICIESR 2023), Qingdao, China, 20–22 October 2023
- Vol. 52. J. Andersson, S. Joshi, L. Malmsköld and F. Hanning (Eds.), Sustainable Production through Advanced Manufacturing, Intelligent Automation and Work Integrated Learning – Proceedings of the 11th Swedish Production Symposium (SPS2024)
- Vol. 51. G. Izat Rashed (Ed.), Electronic Engineering and Informatics – Proceedings of the 5th International Conference on Electronic Engineering and Informatics (EEI 2023), Wuhan, China, 23–25 June 2023

ISSN 2352-751X (print)

ISSN 2352-7528 (online)

Image Processing, Electronics and Computers

Proceedings of the 5th Asia-Pacific Conference (IPEC 2024),
Dalian, China, 12–14 April 2024

Edited by

Ljiljana Trajković

Simon Fraser University, Canada

Sos S. Agaian

City University of New York, USA

Yu-Dong Zhang

University of Leicester, UK

Danilo Pelusi

Università degli Studi di Teramo, Italy

Qingsheng Feng

Dalian Jiaotong University, China

and

Jingsha He

Beijing University of Technology, China



IOS Press

Amsterdam • Washington, DC

© 2024 The Authors.

This book is published online with Open Access and distributed under the terms of the Creative Commons Attribution Non-Commercial License 4.0 (CC BY-NC 4.0).

ISBN 978-1-64368-524-3 (online)
doi: 10.3233/ATDE57

Publisher

IOS Press BV
Nieuwe Hemweg 6B
1013 BG Amsterdam
Netherlands
e-mail: order@iospress.nl

For book sales in the USA and Canada:

IOS Press, Inc.
6751 Tepper Drive
Clifton, VA 20124
USA
Tel.: +1 703 830 6300
Fax: +1 703 830 2300
sales@iospress.com

LEGAL NOTICE

The publisher is not responsible for the use which might be made of the following information.

Preface

Welcome to the Proceedings of the 2024 5th Asia-Pacific Conference on Image Processing, Electronics and Computers (IPEC2024). As one of the premier academic events in the Asia-Pacific region, the aim of IPEC2024 is to facilitate exchange and collaboration between academia and industry, driving interdisciplinary integration and innovative development in image processing, electronics, and computer engineering. The conference has established a highly diverse organizing committee, technical committee, and a list of speakers featuring 39 experts and scholars from 15 countries, including the United States, the United Kingdom, Canada, Italy, China, Spain, Poland, India, and Malaysia.

The proceedings encompasses a wide range of topics, spanning the boundaries of traditional disciplines and embracing interdisciplinary approaches. These include, but are not limited to, graphics, computer vision, signal and information processing, distributed systems, software information engineering, computer science, electrical engineering, and automation and control engineering. The diversity and depth of the papers presented here reflect the multidisciplinary nature of the conference, and highlight the interconnectedness of image processing, electronics, and computers.

The conference received a total of 207 full paper submissions. All papers were evaluated on the basis of their significance, novelty, and technical quality, and after careful review, the program committee selected 61 papers for inclusion in the conference. We would like to extend our heartfelt gratitude to those authors who contributed their valuable research to these proceedings. Their dedication, expertise, and passion have enriched scholarly discourse within our community. We would also like to express our sincere appreciation to the reviewers for their meticulous evaluation and insightful feedback, which ensured the high standard and scientific rigor of the papers included in this volume.

We hope that the conference proceedings will serve as a valuable resource for researchers, practitioners, and enthusiasts alike, inspiring further advancements and breakthroughs in the field of image processing, electronics, and computers. May this collection of papers ignite new ideas, foster innovation, and contribute to the betterment of our society.

With warm regards,
Conference Chair
Prof. Ljiljana Trajković, Simon Fraser University, Canada

About the Conference

Conference Committees

General Chair:

Ljiljana Trajković, Simon Fraser University, Canada

Co-Chairs:

Sos S. Agaian, City University of New York, USA

Yu-Dong Zhang, University of Leicester, UK

Danilo Pelusi, Università degli Studi di Teramo, Italy

Qingsheng Feng, Dalian Jiaotong University, China

Organizing Committee Chair:

Xuxiu Zhang, Dalian Jiaotong University, China

Publication Chair:

Jingsha He, Beijing University of Technology, China

Technical Program Committee:

Amine Khald, Université Kasdi Merbah-Ouargla, Algeria

Anand Nayyar, Duy Tan University, VietNam

Boris Andrievsky, Saint Petersburg State University, Russia

Chinmay Chakraborty, Birla Institute of Technology, India

Danilo Avola, Sapienza University of Rome, Italy

George K. Adam, University of Thessaly, Greece

Hao Ying, Wayne State University, USA

Harish Kumar Sahoo, Govt. University, India

Hironori Washizaki, Waseda University, Japan

Javier Gozalvez, Universidad Miguel Hernandez de Elche, Spain

Jiashu (Jessie) Zhao, Wilfrid Laurier University, Canada

K. Vasudevan, Indian Institute of Technology Kanpur, India

Kamran Iqbal, University of Arkansas at Little Rock, USA

Kuan Yew Wong, Universiti Teknologi Malaysia, Malaysia

Kuo-Hui Yeh, National Dong Hwa University, Taiwan, China

Lin Wang, Dalian Jiaotong University, China

Nakul Pandey, Salesforce Inc., USA

Nancy R. Mead, Carnegie Mellon University, USA

Pasquale Coscia, The University of Milan, Italy

Phill Kyu Rhee, Inha University, Korea

Pooja Singh, Department of Mathematics, VJTI, Mumbai, India

Przemyslaw Falkowski-Gilski, Gdansk University of Technology, Poland

Rajdeep Chakraborty, Chandigarh University, India

Ravipudi Venkata Rao, S. V. National Institute of Technology, India

Shashikant Patil, Atlas SkillTech University, India
 Shyam Singh Rajput, National Institute of Technology Patna, India
 Siddhartha Bhattacharyya, RCC Institute of Information Technology, India
 Sulayman K. Sowe, National Institute of Information and Communications Technology,
 Japan
 Vincenzo Piuri, The University of Milan, Italy
 Witold Pedrycz, University of Alberta, Canada
 Xu E, Bohai University, China

Peer Reviewers:

Daswin De Silva, La Trobe University, Australia
 Mo-Yuen Chow, North Carolina State University, USA
 Ren C. Luo, National Taiwan University, China
 Yang Xiang, Swinburne University of Technology, Australia
 Yi Huang, University of Liverpool, UK
 Daryoush Habibi, Edith Cowan University, Australia
 Thomas D. Lagkas, International Hellenic University, Greece
 Ali Emadi, McMaster University, Canada
 Salil Kanhere, The University of New South Wales, Australia
 Jun Yang, Loughborough University, UK
 Bradley J. Nelson, ETH Zurich, Switzerland
 Paolo Dario, The BioRobotics Institute, Italy
 Mario Rotea, University of Texas at Dallas, USA
 Guangjun Liu, Ryerson University, Canada
 Huosheng Hu, University of Essex, UK
 Shugen Ma, Ritsumeikan University, Japan
 Cezary Zieliński, Warsaw University of Technology, Poland
 Michael Devetsikiotis, University of New Mexico, USA
 Saad Mekhilef, Swinburne University of Technology, Australia
 Lipo WANG, Nanyang Technological University, Singapore
 Anand Paul, Kyungpook National University, South Korea
 A. Bicchi, Istituto Italiano di Tecnologia, Italy
 Syed Hassan Ahmed, Xi'an University of Technology, China
 Kaushik Roy, North Carolina Agricultural & Technical State University, USA
 David Waltz, Columbia University, USA
 Michael J. Ryan, University of New South Wales, Australia
 Bernhard Rinner, University of Klagenfurt, Austria
 Simo Särkkä, Aalto University, Finland
 Dong In Kim, Sungkyunkwan University, South Korea
 Ying-Chang Liang, University of Electronic Science and Technology of China, China
 Ping Wang, York University, Canada
 Dinh Thai Hoang, University of Technology, Australia
 Qingqing WU, University of Macau, China
 Wei Yu, Towson University, USA
 C. L. Philip Chen, South China University of Technology, China
 F. Richard Yu, Carleton University, Canada
 Andrea Zanella, University of Padova, Italy
 Dario Floreano, Ecole Polytechnique Federale de Lausanne, Switzerland
 Jonathon A. Chambers, University of Leicester, UK

Bin He, Carnegie Mellon University, USA
Christopher A. Kitts, Santa Clara University, USA
Mubashir Husain Rehmani, Munster Technological University, Ireland
Weiming Shen, University of Western Ontario, Canada
Pascual Campoy, Technical University of Madrid (UPM), Spain
Jonathan P. How, MIT, USA
Ibrar Yaqoob, Khalifa University of Science and Technology, United Arab Emirates
Abdullah Bin Gani, Universiti Malaysia Sabah, Malaysia
Vinay Chamola, BITS-Pilani, India
Wei Xiang, La Trobe University, Australia
Lei Shu, University of Lincoln, UK
Henry Hong-Ning Dai, Hong Kong Baptist University, China
Zibin Zheng, Zhongshan University, China
Yan Zhang, University of Oslo, Norway
Ben Shneiderman, University of Maryland, USA
Victor M. Becerra, University of Portsmouth, UK
Alin Albu-Schäffer, Technical University of Munich, Germany
Alessandro De Luca, Sapienza University of Rome, Italy
Farshad Arvin, University of Manchester, UK
Barry Lennox, The University of Manchester, UK
Ian F. Akyildiz, University of Iceland, Iceland
Kaushik Chowdhury, Northeastern University, USA
Hamid Reza Karimi, Politecnico di Milano, Italy
Johan Löfberg, Linköping University, Sweden
Danda B. Rawat, Howard University, USA
Amine Khald, Université Kasdi Merbah-Ouargla, Algeria
Anand Nayyar, Duy Tan University, VietNam
Boris Andrievsky, Saint Petersburg State University, Russia
Chinmay Chakraborty, Birla Institute of Technology, India
Danilo Avola, Sapienza University of Rome, Italy
George K. Adam, University of Thessaly, Greece
Hao Ying, Wayne State University, USA
Harish Kumar Sahoo, Govt. University, India
Hironori Washizaki, Waseda University, Japan
Javier Gozalvez, Universidad Miguel Hernandez de Elche, Spain
Jiashu (Jessie) Zhao, Wilfrid Laurier University, Canada
K. Vasudevan, Indian Institute of Technology Kanpur, India
Kamran Iqbal, University of Arkansas at Little Rock, USA
Kuan Yew Wong, Universiti Teknologi Malaysia, Malaysia
Kuo-Hui Yeh, National Dong Hwa University, Taiwan, China
Nakul Pandey, Salesforce Inc., USA
Nancy R. Mead, Carnegie Mellon University, USA
Pasquale Coscia, The University of Milan, Italy
Phill Kyu Rhee, Inha University, Korea
Pooja Singh, Department of Mathematics, VJTI, Mumbai, India
Przemyslaw Falkowski-Gilski, Gdansk University of Technology, Poland
Rajdeep Chakraborty, Chandigarh University, India
Ravipudi Venkata Rao, S. V. National Institute of Technology, India
Shashikant Patil, Atlas SkillTech University, India

Shyam Singh Rajput, National Institute of Technology Patna, India
 Siddhartha Bhattacharyya, RCC Institute of Information Technology, India
 Sulayman K. Sowe, National Institute of Information and Communications Technology,
 Japan
 Vincenzo Piuri, The University of Milan, Italy
 Witold Pedrycz, University of Alberta, Canada
 Xu E, Bohai University, China

Organizer:

Beijing University of Technology

Co-organizer:

Dalian Jiaotong University

Details on the peer review process:

IPEC 2024 has developed strict peer review procedures and invited relevant experts to serve as reviewers in order to control the quality of the papers. The reviewers were composed of Technical Committee Members and externally invited experts in related fields. These experts have the same or similar fields, have associate professor/assistant professor/professor titles, have experience in reviewing manuscripts, and understand and accept the publication conflict of interest policy.

The review process is as follows:

(1) All submissions should comply with the submission guidelines stated on the conference website.

(2) The paper review process will be completed by the Academic Committee members and international reviewers. All articles will be subjected to peer review administered by the Program Chairs (PC).

Step 1. To keep scientific integrity, the PC will conduct a plagiarism rate review of each new submission to identify possible plagiarism issues with the paper. Papers that fail the plagiarism check will be rejected immediately.

Step 2. PC conducts a preliminary review of papers that pass the plagiarism check to determine whether to enter the peer review process.

Step 3. Each of selected papers will be anonymously reviewed by at least three independent reviewers with related research background mainly on originality, validity, quality and readability. They have been requested to provide unbiased and constructive comments aimed, whenever possible, at improving the work.

Step 4. Review reports received from the three reviewers will be judged by the Conference Co-Chair and PC with international scientific standards. If logical, then review reports will be sent to authors to modify the manuscript accordingly. If not logical, then the editor will assign a new reviewer and make a final decision considering all three review reports. All the editors will take all reasonable steps to ensure the quality of the materials they publish and their decision to accept or reject a paper for publication will be based only on the merits of the work and the relevance to the conference theme.

(3) The following criteria will be considered by the editors and referees in their evaluation:

A. Suitability of Topic

- Is the subject matter within the scope of the conference?
- Does the topic fit within the scope of the ATDE series?

B. Contents

- Is the coverage of the topic sufficiently comprehensive and balanced?
- The technical depth of the paper
- The technical novelty of the paper
- The overall organization of the paper
- Are the title and abstract satisfactory?
- Is the length of the paper appropriate? If not, recommend how the length of the paper should be amended, including a possible target length for the final manuscript.
- Are symbols, terms, and concepts adequately defined?
- The English usage
- The "literary" presentation of the paper (Proper citation and referencing of internationally available literature)
- Does the paper contain enough original results to warrant publication?
- Are the illustrations of adequate quality, relevant and understandable?
- Is the work clearly and concisely presented? Is it well organized?

Number of submitted papers and accepted papers:

Number of submitted papers: 207

Number of accepted papers: 61

Additional Information

Content relevance:

The topics of IPEC 2024 cover relevant content from a variety of disciplines including, but not limited to, Graphics, Computer Vision, Electrical Engineering, Automation and Control Engineering, Signal and Information Processing, Computer Science, Distributed Systems, and Software Information Engineering. All the papers will be considered for whether they fit the scope of the conference and ATDE in the peer review process. The 61 papers accepted mainly involve cross-research in fields of information engineering, imaging processing, electronics and automation, robotics, traffic engineering, management engineering, agriculture and plant, control systems.

Adherence to community standards:

This conference follows the guidelines of the Committee on Publication Ethics (COPE), in particular COPE's Principles of Transparency and Best Practice in Scholarly Publishing.

Author distribution:

IPEC 2024 received a total 207 papers which have been submitted by authors from more than 10 countries, including USA, Canada, Russia, China, Korea, Philippines, India, Malaysia, Turkey, Brunei and Serbia.

Among the 61 accepted papers, 1 paper from USA, 1 paper from Canada, 1 paper from Russia, 1 paper from Turkey, 1 paper from Serbia, 1 paper from Munich, 1 paper from Egypt, 1 paper from Norway, 1 paper from UAE, 2 papers from Malaysia, 2 papers from Libya, 4 papers from India, and others are from China.

Contents

Preface	v
<i>Ljiljana Trajković</i>	
About the Conference	vi
Image Processing	
Evaluation of the Camouflage Effect of Decorative Pieces on Camouflage Net Highly Fused with Background Based on Image Processing	2
<i>Bingqing Xu, Ji Yue and Qi Jia</i>	
Research on the Using Methods of Decorative Pieces on Camouflage Net Highly Fused with Background Based on Computer Vision	9
<i>Qi Jia, Ji Yue and Liyan Zhu</i>	
Application of Image Security Transmission Encryption Algorithm Based on Chaos Algorithm in Networking Systems of Artificial Intelligence	21
<i>Hongmei Tian, Zhijie Yuan, Jiao Zhou and Rui He</i>	
Image Style Transfer Algorithm Based on Variational Autoencoder	32
<i>Guishan Xiang, Jianhao Ding, Dongjing Liu, Huaizhong Lin and Lixia Chen</i>	
Research on Image Enhancement Algorithm of Low Light Tea Disease Based on FPAGAN Model	44
<i>Rong Ye, Tong Li, Guoqi Shao and Quan Gao</i>	
Single Image Super-Resolution Based on Large Convolution Kernel	59
<i>Weizhang Xu, Tong Liu and Hongjie Yuan</i>	
Research on Hand Motion Recognition Algorithm Based on STS-GCN	68
<i>Ruimin Zhang, Xiaodi Wei, Jianjun Hai and Shuqiang Du</i>	
Fractional-Order Total Variation Image Restoration Based on Alternating Direction Method of Multiplier Algorithm	81
<i>Fangfang Chen, Huashu Hu and Xingzhen Tang</i>	
Research on Fast Extraction of Soccer Robot Movement Trajectories Based on Improved Low-Rank Trajectory Recovery	97
<i>Meiheng Zhang</i>	
Prediction of Table Tennis Trajectory Based on Optimized Unscented Kalman Filter Algorithm	110
<i>Kun Yan</i>	
A Review of Behavior Recognition Research Based on Mobile Vision Devices	124
<i>Yaqian Wang, Yuan Chao, Zhen Cao, Huaiyang Zhu, Shuaishuai Du, Hengyu Lu and Yijun Zhang</i>	

A Review of Low Altitude Aircraft Detection <i>Yue Wang, Yiming Wang, Yao Zhang, Xu Zhang and Shaonan Liu</i>	140
Research on Medical Ultrasound Image Information Extraction Model Based on Riesz Transform <i>Pengju Lv</i>	149
Non-Line-of-Sight Target Localization Based on Multipath Exploitation <i>Kai Wen, Yishuo Wu and Khalid Yahya</i>	161
Toward Moire-Free Video: A Multi-Scale Feature Alignment and Removal Network <i>Huhu Lin, Qian Liu and Siwen Liu</i>	171
Anime Avatar Generation Based on Generative Adversarial Networks <i>Wanxin Sun and Shijie Jia</i>	181
Research on the Application of CNN Face Recognition Technology in the Airport <i>Libin Xiao, Xiaoyu Li, Yang Luo, Lei Ni and Jiaqi Wang</i>	190
Swin Transformer Based on Image Enhancement Algorithm <i>Liwei Chen, Gulinazi Ailimujiang and Zhichuang Zhao</i>	200
Image Defogging Based on Improved AOD-Net Network Modeling <i>Zi Guo, Xuxiu Zhang and Siyuan Yu</i>	211
Optimization and FPGA Implementation of RANSAC Algorithm Based on HLS <i>Chenglong Lian, Yanbing Xue, Xiaojie Li, Panshi Hu and Chong Feng</i>	223
POD-YOLO: YOLOX-Based Object Detection Model for Panoramic Image <i>Mingxuan Zhang, Hua Li, Qi Li, Mingming Zheng and Iullia Dvinianina</i>	236
Virtual Roots: Multiple View Dataset Designed by Unity 3D <i>Peiliang Qin, Rongjing Hong and Saru Kumari</i>	251
Detection of Image Tampering Using Multiscale Fusion and Anomalously Assessment <i>Yichen Wang, Lijuan Liu and Tingting Huang</i>	260

Electronics and Automation

Star-Land Collaborative Network Access Algorithm Based on Power Grid and Deep Learning <i>Zhiguo Zhan, Bo Li and Jianxin Gao</i>	272
Design and Research on Visual Recognition System for Fruit Sorting Collaborative Robot <i>Yingchen Ma, Hanan Zhu, Hongli Jia, Chunlai Guo, Jiaqi Li, Zhe Li and Omer Kalaf</i>	286
Research on Trajectory Planning of Industrial Robot Based on MATLAB <i>Chenxu Duan, Yifan Wang and Saru Kumari</i>	295
Design of Mobile Robot Automatic Navigation System Based on ROS <i>Chenxu Duan, Ling Xue and Sachin Kumar</i>	312

- Improve DBO Optimization Algorithm to Realize the Maximum Power Point Tracking of the Photovoltaic System 326
Ning Wang and Weiguang Dong
- Fault Diagnosis and Static Analysis of Micro-Short Circuit in Lithium-Ion Batteries 337
Chao Yang, Zhihao Ye, Xin Xiong, Zerun Wang and Chang Su
- Interactive Design of Transformer Model for Voice Recognition in Smart Home Voice Control 347
Meng Wang, Xiduo Chao and Yeh-Cheng Chen
- A High-Speed Gate Driver IC with High-Voltage Logic Input Level and Fast Level Shifting for Intelligent and Data-Driven Systems 358
Jingcheng Xiao
- Design of Control System for Simulation Training Device of Urban Rail Trains 367
Xiaoxia Chen, Xu Xue, Lin Wang and Shehzad Ashraf Chaudhry
- Research on Harmonic Suppression Strategy for Output of Photovoltaic Power Inverter 378
Linzhao Hao, Huahai Li, Shaowen Peng, Junwei Liang and Yujun Huang
- Active Early Warning Model of Electricity Bill Recovery Risk Based on Frequent Item Sets and Big Data 390
Xiaoyan Yang, Weiting Liao, Fang Zhi, Lu Chen and Sisi Wei
- Quantitative Analysis and Simulation of Electricity Bill Recovery Risk Project Performance Based on Machine Learning Algorithm 401
Weiting Liao, Xiaoyan Yang, Hongyu Su, Qiongrong Yao and Xiaohong Xie
- Battery State of Charge Estimation Utilizing Time Serialized Convolutional Neural Networks in Complicated Working Conditions 413
Haogeng Lu, Xiaoqiang Wang and Jianhua Li
- Battery State of Charge Estimation Utilizing Gated Recurrent Unit Recurrent Neural Network with Self-Attention Mechanism Under Low Power 423
Xiaojing Liu, Xuesen Zhang and Jianhua Li
- Economic Dispatch Optimization Method of Virtual Power Plant Based on Improved Genetic Algorithm 433
Yaodong Wu, Xiaomeng Yu, Yikang Zhang, Jin Ma, Jia Zhang, Jiajun Wei, Ruixin Hu, Zhengpeng Gong and Yaqi Fu
- User Load Prediction Combining Micro Meteorological Monitoring and Long Short-Term Memory Networks 444
Kangyi Li, Xiaofen Yang, Shousheng Zhao, Zeshi Xu, Daiming Zhou and Qiang Fan

Computer Application

- Research on Efficient Information Retrieval Method Based on Recurrent Neural Network 457
Yanlin Zeng

Multi-Resource-Aware GPU Shared Dynamic Resource Scheduling <i>Ying Zhang, Qian Wang, Ting Lyu and Haitao Xu</i>	466
Ultrasonic Material Recognition of Surrounding Objects for Robot Based on CNN-LSTM-GRU Method <i>Tao Geng, Jing Pu, Bo Zhu, Jinpeng Zhang, Xialun Yun, Xiaodong Wang and Jia Zhang</i>	483
Optimizing Computing Efficiency and Performance Fairness in Federated Learning <i>Di Liao</i>	495
Research on the Application of Artificial Intelligence Technology in UAV Trajectory Prediction Algorithm <i>Shaogang Liu, Lingyan Zhang, Chaowu Qin and Omer Kalaf</i>	507
Genetic Algorithm with Quality of Population Evolution for Mobile Robot Path Planning Problem <i>Chao Xu, Jianjun Tan, Jie Jiao, Yang Long and Mahmoud S. Abouomar</i>	517
Performance Investigating of Several Classical Edge Detection Operator for Segmentation <i>Lei Sun and Shariar Shakhor</i>	530
A Comparative Study on Deep Learning Models for Stock Price Prediction <i>Zhexin He, Huan Zhang and Lip Yee Por</i>	540
Designing an Interpretable Question Answering System for Vertical Domains Based on Large Language Model and Knowledge Graph <i>Xiaobin Huang and Chin Soon Ku</i>	552
Research on High-Accuracy Polyphonic Music Recognition Algorithm Based on Long Short-Term Memory <i>Shubo Zhan</i>	562
Research on Network Crime Prediction Based on Improved PSO-BP Neural Network Algorithm <i>Dawei Song</i>	577
Research on Communication Network Security of Unmanned Surface Vehicle Based on Block Chain <i>Shan Jiang and Hengbo Zhang</i>	589
Research on Painting Style Transfer Algorithm Based on Non-Negative Matrix Factorization <i>Xupeng Yuan</i>	597
Dynamic Monitoring and Analysis of Learning Behavior Based on YOLOv5 <i>Min Wang and Fangwei Zhang</i>	609
A Scene-Aware Augmented Reality Recommendation System <i>Hua Li, Xutian Liu and Salim Suedi Rashidi</i>	619

Adaptive Navigation Message Authentication Scheme for BeiDou-III Navigation System	631
<i>Wenhao Dong and Chunpeng Liu</i>	
GPER-DDPG-Based Offloading Optimization for UAV-Assisted Mobile Edge Computing	643
<i>Siyuan Yu, Xuxiu Zhang and Zi Guo</i>	
Vehicle Detection Algorithm for Foggy Roads at Night Based on Improved Gated Context Attention Network	655
<i>Liyang Zhang, Jianing Zhao, Liu Fang and Zhengang Lang</i>	
Multimodal Trajectory Prediction Based on Sustainable Learning from Memory Networks	666
<i>Wenxu Zhang and Xuxiu Zhang</i>	
Personalized Privacy Protection Mechanism Integrating Spatiotemporal Correlation	678
<i>Yanmei Shen, Rui Hua, Hui Wang, Zihao Shen and Peiqian Liu</i>	
Design and Implementation of User Authentication Mechanism for Vehicle-to-Everything Based on FPGA	689
<i>Changrong Yu and Xuxiu Zhang</i>	
Detection of Plant Leaf Diseases Using Internet of Things and Machine Learning Based Drone System	703
<i>Swapna Choudhary, Nitin Dhote and Mohan Lal Kolhe</i>	
Author Index	713