

9th International Conference on Information Science and Technology

ICIST2019 Final Program



Sponsors/Organizers



Inner Mongolia University



Hulunbuir University

Co-sponsors/Co-organizers



Dalian University of Technology



City University of Hong Kong

Technical Co-sponsor



IEEE Systems, Man and Cybernetics Society

Welcome Messages

On behalf of the Organizing Committee, we sincerely welcome you to join us at the 9th International Conference on Information Science and Technology (ICIST2019) being held in Hulunbuir (Hulunbeier), Inner Mongolia, China, during August 2-5, 2019. Through this conference, we intend to enhance the sharing and inspiring of individual experience and expertise in information science and technology on both theories and practical insights. The conference features plenary speeches given by world renowned scholars and regular sessions with broad coverage and special topics.

ICIST2019 attracted over one hundred submissions, addressing the state-of-the-art development and research covering topics related to computer networks, computer vision, computer graphics, computational intelligence, autonomous systems, linear and nonlinear control, robust control, learning and adaptive control, signal processing, neural signal processing, component analysis, rehabilitation engineering, neural engineering, biomedical signal analysis and modeling, hardware, etc. Based on rigorous peer reviews by the Program Committee members and reviewers, 85 papers (less than 71% acceptance rate) were selected to be presented in the conference and included in the conference proceedings.

The conference program is highlighted with three plenary talks. We would like to express our sincere appreciation and acknowledgement to the distinguished plenary speakers: Professor Kay Chen Tan (IEEE Fellow, City University of Hong Kong, Hong Kong), Professor Dacheng Tao (IEEE Fellow, The University of Sydney, Australia), and Professor Xinghuo Yu (IEEE Fellow, RMIT University, Melbourne, Australia). Plenary talks are focused on Artificial Intelligence methods and Cyber-Physical Systems.

Several organizations and many volunteers made great contributions toward the success of this conference. We would like to express our sincere gratitude to the Inner Mongolia University and Hulunbuir University for their sponsorship, Dalian University of Technology and City University of Hong Kong for their co-sponsorship, and IEEE Systems, Man and Cybernetics Society for its technical co-sponsorship. Special thanks are extended to Program Committee Chairs and members for their thorough review of all the submissions, and to Organizing Committee and volunteers for their warm, thoughtful service to all participants. We also would like to express our high appreciation and gratitude to all of the authors and participants. Without the contributions of the authors, the conference will be impossible.

We wish you to enjoy the conference and stay in Hulunbuir both academically and socially!

Fengshan Bai, Inner Mongolia University
Jun Wang, City University of Hong Kong
Min Han, Dalian University of Technology
Yang Liu, Inner Mongolia University
Minglu Jin, Dalian University of Technology
Zhaojie Ju, University of Portsmouth
Nian Zhang, University of District of Columbia
And other chairs

Organizing Committee

General Chairs

Fengshan Bai, Inner Mongolia University, Hohhot, China

Jun Wang, City University of Hong Kong, Hong Kong

Organizing Chairs

Min Han, Dalian University of Technology, Dalian, China

Yang Liu, Inner Mongolia University, Hohhot, China

Program Chairs

Minglu Jin, Dalian University of Technology, Dalian, China

Zhaojie Ju, University of Portsmouth, Portsmouth, UK

Nian Zhang, University of District of Columbia, Washington, USA

Special Sessions Chairs

Jianbin Qiu, Harbin, Institute of Technology, Harbin, China

Dongbin Zhao, Institute of Automation, Chinese Academy of Sciences, Beijing, China

Publicity Chairs

Jinde Cao, Southeast University, Nanjing, China

Xiaofeng Liao, Chongqing University, Chongqing, China

Zhigang Zeng, Huazhong University of Science and Technology, Wuhan, China

Jun Zhang, Victoria University, Melbourne, Australia

Publications Chairs

Xinyi Le, Shanghai Jiao Tong University, Shanghai, China

Xitai Na, Inner Mongolia University, Hohhot, China

Sitian Qin, Harbin Institute of Technology, Weihai, China

Registration Chairs

Huhe Dai, Inner Mongolia University, Hohhot, China

Shenshen Gu, Shanghai University, Shanghai, China

Ying Qu, Dalian University of Technology, Dalian, China

Local Arrangements Chairs

Tegen Ao and Mingbo Lu, Hulunbuir University, Hulunbuir, China

Program Committee

Atta Badii	Hongyi Li	Qiankun Song
Ran Bi	Gongfa Li	Norikazu Takahashi
Haibin Cai	Tieshan Li	Yufei Tang
Yunfei Chen	Jing Li	Peng Wang
Long Cheng	Miqing Li	Jian Wang
Zhaohong Deng	Jie Lian	Xiaoping Wang
Mingcong Deng	Kai Lin	Jun Wang
Jianchao Fan	Qihua Lin	Jiasen Wang
Yinfeng Fang	Sheng Liu	Dianhui Wang
Wai-Keung Fung	Yang Liu	Hongwei Wang
Farong Gao	Xiaoyang Liu	Bo Wei
Dongxu Gao	Jinguo Liu	Guanghui Wen
Shangce Gao	Bangli Liu	Hongjun Xu
Yue-Jiao Gong	Mingqian Liu	Yaxu Xue
Shenshen Gu	Qian Liu	Qinmin Yang
Ping Guo	Meiqin Liu	Shaofu Yang
Zhenyuan Guo	Wenlian Lu	Longzhi Yang
Chengan Guo	Jianping Luo	Yingjie Yang
Zhishan Guo	Qianli Ma	Zhiwen Yu
Edmond S. L. Ho	Zhen Ni	Nian Zhang
Bill Howell	Gaoxiang Ouyang	Shun Zhang
Jin Hu	Zhouhua Peng	Weile Zhang
Xiaolin Hu	Charles Phiri	Jie Zhang
He Huang	Amir Pourabdollah	Dongbin Zhao
Danchi Jiang	Qu Qiang	Tiesong Zhao

Program at a Glance

August 2, 2019 (Friday)		
14:00-17:00	On-site Registration @Lobby	
August 3, 2019 (Saturday)		
9:00-9:10	Opening ceremony Meeting Room 5, 15 th floor	
9:10-10:00	Plenary speech I, Prof. Xinghuo Yu	
10:00-10:20	Coffee break	
10:20-11:10	Plenary speech II, Prof. Dacheng Tao	
11:10-12:00	Plenary speech III, Prof. Kay Chen Tan	
12:00-13:30	Lunch Multi-functional Room, 1 st floor	
Oral Sessions		
13:30-15:30	Meeting Room 4, 15 th floor Oral Session 1 Control and Automation I	Meeting Room 5, 15 th floor Oral Session 2 Computer Science and Engineering I
15:30-15:50	Coffee break	
15:50-17:50	Oral Session 3 Control and Automation II	Oral Session 4 Computer Science and Engineering II
18:00-19:30	Banquet Multi-functional Room, 1 st floor	
August 4, 2019 (Sunday)		
Oral Sessions		
8:00-10:00	Meeting Room 1, 4 th floor Oral Session 5 Control and Automation III	Meeting Room 3, 4 th floor Oral Session 6 Signal Processing and Telecommunications I
10:00-10:20	Coffee break	
10:20-12:00	Oral Session 7 Control and Automation IV	Oral Session 8 Signal Processing and Telecommunications II
12:00-13:30	Lunch Multi-functional Room, 1 st floor	
13:30-15:30	Meeting Room 1, 4 th floor Oral Session 9 Computer Science and Engineering III	Meeting Room 3, 4 th floor Oral Session 10 Signal Processing and Telecommunications III
August 5, 2019 (Monday)		
9:00-12:00	Poster Sessions	
Adjournment		

Plenary Speech I

Title: Information Science and Technology vs Smart Grids: *Interplay and Interaction*

Professor Xinghuo Yu, RMIT University, Melbourne, Australia
IEEE Fellow and President of IEEE Industrial Electronics Society

Abstract: Information Science and Technology (IST) are playing a more and more important role in today's industry and society, which enable critical information needed to be acquired, processed, used and applied fast and effectively. On the other hand, Smart Grids (SGs) as a typical Cyber-Physical System represent electric networks that can intelligently integrate the actions of all users (e.g. generators and prosumers) in order to efficiently deliver sustainable, economic and secure electricity supplies. The recent fast advances in IST have provided a powerful methodology for SG to deal with demand for deeper control, increased cross connectivity, embedded generation, smart metering and using wires as carriers for information transmission. On the other hand, SGs present technical challenges that IST need to address.

In this talk, we will first discuss some recent developments in both SG and IST and then examine potential issues associated with interplay and interaction between them to bring out the best of both fields. We will also touch on potential new thinking paradigms such as Artificial Intelligence to deal with complexity arising from these systems, speculating potential methodologies inspired by the Nature as future smart technologies. A number of real-world cases, including some of our own research projects, will be used as case studies. Finally, we will lay out the potential issues and challenges for future developments.



Xinghuo Yu is an Associate Deputy Vice-Chancellor and Distinguished Professor at RMIT University (Royal Melbourne Institute of Technology), Melbourne, Australia. He chairs RMIT Professorial Academy. He is the President of IEEE Industrial Electronics Society, and a Non-Executive Director of Oceania Cyber Security Centre Limited. He received BEng and MEng degrees from the University of Science and Technology of China, Hefei, China, in 1982 and 1984, and PhD degree from Southeast University, Nanjing, China in 1988, respectively. He started his professional career in 1989 as a Postdoctoral Fellow with the University of Adelaide, Adelaide, Australia. In 1991, he joined Central Queensland University, Rockhampton, Australia, where, before he left in 2002, he was Chair Professor of Intelligent Systems and Associate Dean (Research) of Faculty of Informatics & Communication. Since 2002, he has been with RMIT University, where he held various positions such as Associate Dean and Research Institute Director.

His main research areas include control systems engineering, intelligent and complex systems, and smart grids and energy systems. He received many awards and honours for his contributions, including the prestigious 2018 M. A. Sargent Medal from Engineers Australia, the 2018 Australasian AI Distinguished Research Contribution Award from the Australian Computer Society, and the 2013 Dr.-Ing. Eugene Mittelmann Achievement Award from IEEE Industrial Electronics Society. He was named a Highly Cited Researcher in Engineering by Clarivate Analytics (formerly Thomson Reuters) in 2015-2018. He is a Fellow of the IEEE, Engineers Australia, Australian Computer Society, and Australian Institute of Company Directors.

Plenary Speech II

Title: AI at Dawn: Opportunities and Challenges

Professor Dacheng Tao, The University of Sydney, Australia
IEEE Fellow, Australian Research Council Laureate Fellow, and Fellow of Australian Academy of Science

Abstract: Since the concept of Turing machine has been first proposed in 1936, the capability of machines to perform intelligent tasks went on growing exponentially. Artificial Intelligence (AI), as an essential accelerator, pursues the target of making machines as intelligent as human beings. It has already reformed how we live, work, learning, discover and communicate. In this talk, I will review our recent progress on AI by introducing some representative advancements from algorithms to applications, and illustrate the stairs for its realization from perceiving to learning, reasoning and behaving. To push AI from the narrow to the general, many challenges lie ahead. I will bring some examples out into the open, and shed lights on our future target. Today, we teach machines how to be intelligent as ourselves. Tomorrow, they will be our partners to get into our daily life.



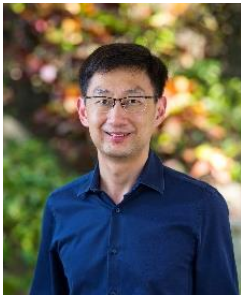
Dacheng Tao is an Australian Laureate Fellow and the Inaugural Director of the UBTECH Sydney Artificial Intelligence Centre at the University of Sydney. His research results in AI have expounded in one monograph and 500+ publications at leading journals and conferences, including T-PAMI, IJCV, JMLR, AAI, IJCAI, CVPR, ICCV, ECCV, NIPS, ICML, ICDM; and ACM SIGKDD, with best paper awards, e.g. the 2018 IJCAI distinguished paper award, the 2014 ICDM 10-year highest-impact paper award, and the 2017 IEEE Signal Processing Society Best Paper Award. He is a highly-cited researcher in both engineering and computer science, and has an H-index 100. He received the 2015 Australian Scopus-Eureka Prize and the 2018 IEEE ICDM Research Contributions Award. He is a Fellow of the Australian Academy of Science and a Fellow of the IEEE, AAAS, IAPR and OSA.

Plenary Speech III

Title: Applications of Computational Intelligence to Condition-Based Maintenance

Professor Kay Chen Tan, City University of Hong Kong, Hong Kong
IEEE Fellow and Editor-in-Chief of IEEE Evolutionary Computation

Abstract: Condition-based maintenance (CBM) is known as an important tool for running a plant or factory in an optimal manner. Although developments in recent years have allowed some types of equipment to be observed by measuring simple values such as temperature, pressure etc., it is often not trivial to turn this measured data into actionable knowledge about the health of the equipment. This talk will discuss various challenges to the use of CBM and present our recent work on applying data-driven based computational intelligence technologies to CBM without the need of relying on physical domain knowledge. Experimental results obtained from a few case studies, such as robust prognostic, tool condition monitoring and automated surface inspection, will also be analyzed and discussed.



Kay Chen TAN (SM'08-F'14) received the B.Eng. (First Class Hons.) degree in electronics and electrical engineering and the Ph.D. degree from the University of Glasgow, Glasgow, U.K., in 1994 and 1997, respectively. He is a Full Professor with the Department of Computer Science, City University of Hong Kong, Hong Kong. He has published over 200 refereed articles and six books. Dr. Tan is the Editor-in-Chief of the IEEE Transactions on Evolutionary Computation, was the Editor-in-Chief of the IEEE Computational Intelligence Magazine from 2010 to 2013, and currently serves as the Editorial Board Member of over 10 journals. He is currently an elected member of IEEE CIS AdCom and a Changjiang Chair Professor in China.

Plenary Sessions
August 3, morning
Meeting Room 5, 15th floor

9:00 – 9:10
Opening ceremony

9:10 – 10:00
Professor Xinghuo Yu, IEEE Fellow and President of IEEE Industrial Electronics Society
RMIT University, Melbourne, Australia
Information Science and Technology vs Smart Grids: Interplay and Interaction

10:00 – 10:20
Coffee break

10:20 – 11:10
Professor Dacheng Tao, IEEE Fellow, Australian Research Council Laureate Fellow,
and Fellow of Australian Academy of Science
The University of Sydney, Australia
AI at Dawn: Opportunities and Challenges

11:10 – 12:00
Professor Kay Chen Tan, IEEE Fellow and Editor-in-Chief of IEEE Evolutionary
Computation
City University of Hong Kong, Hong Kong
Applications of Computational Intelligence to Condition-Based Maintenance

12:00-13:30
Lunch @ Multi-functional Room, 1st floor

Parallel Session 1: Control and Automation I
August 3, early afternoon; Meeting Room 4, 15th floor
Chair/co-chair: Jianbin Qiu/Sitian Qin

13:30 – 13:50
Yongwei Zhang, Mingduo Lin, Derong Liu, Yuwen Qin and Bo Zhao. Data-based Optimal Control for Discrete-time Systems via Deep Deterministic Policy Gradient Adaptive Dynamic Programming

13:50 – 14:10
Mingduo Lin, Derong Liu, Bo Zhao, Qionghai Dai and Yi Dong. A Combined Policy Gradient and Q-learning Method for Data-driven Optimal Control Problems

14:10 – 14:30
Quangduy Nguyen, Tieshan Li, Qihe Shan, Philip Chen, Yang Xiao and Min Han. Nonlinear Model Predictive Control for Fin Stabilizer System of Marine Vessels Based on Recurrent Neural Network

14:30 – 14:50
Min Ma, Tong Wang, Kangkang Sun and Jianbin Qiu. Adaptive Fuzzy Decentralized Fault-Tolerant Control for Switched Large-Scale Interconnected Nonlinear Systems with Input Saturation

14:50 – 15:10

Jinping Jia, Hao Dai, Jing Li and Xiaoli Yang. Global Stabilization By Means of a New Sampled-Data Control Scheme for a Class of Nonlinear Time-Delay Systems

15:10 – 15:30

Xingnan Wen, Sitian Qin, Jiqiang Feng, Guocheng Li and Ping Guo. A Delayed Neural Network for Solving a Class of Constrained Pseudoconvex Optimizations

Parallel Session 2: Computer Science and Engineering I

August 3, early afternoon; Meeting Room 5, 15th floor

Chair/co-chair: Rushi Lan/Xiangguang Dai

13:30 – 13:50

Kun Xu, Chenwei Tang, Jiancheng Lv and Zhenan He. Exaggerated Portrait Caricatures Generation Based On Seq2Seq

13:50 – 14:10

Bing Chen, Jiang Xiong, Xiangguang Dai and Yingyin Tao. A Novel Non-negative Matrix Factorization Algorithm Based on Estimate Sequence Methods

14:10 – 14:30

Yunong Zhang, Ruifeng Wang, Jianrong Chen, Yihong Ling and Yuan Xu. Predicting Future Years of USPE Conflicts via ASF (Addition-Subtraction Frequency) Method with Different Types, Different Input Numbers, and Consistency Analysis Twice

14:30 – 14:50

Husen Shi and Zengfu Wang. Improved Stacked Hourglass Network with Offset Learning for Robust Facial Landmark Detection

14:50 – 15:10

Dan Yang, Ke Chen, Yanlin Qian, Dingding Cai, Song Yan and Joni-Kristian Kämäräinen. Visibility-Aware Part Coding for Vehicle Viewing Angle Estimation

15:10 – 15:30

Bonan Yu, Tianlong Gu, Liang Chang, Li Li, Rushi Lan and Peng Sun. A Multi-Objective Evolutionary Algorithm Based on Adaptive Grid

15:30 – 15:50

Coffee break

Parallel Session 3: Control and Automation II

August 3, late afternoon; Meeting Room 4, 15th floor

Chair/co-chair: Yunong Zhang/Xinyi Le

15:50 – 16:10

Xiaomeng Fang and Xinyi Le. Distributed Neurodynamic Optimization for Coordination of Redundant Robots

16:10 – 16:30

Yunong Zhang, Nini Shi, Jinjin Guo, Min Yang and Yihong Ling. Extra ZD Aid to Output Tracking Control of Time-Varying Nonlinear Scalar Systems with Original Crash Solved

16:30 – 16:50

Xiaoli Yang, Jing Li, Jinping Jia and Fei Gao. Attitude Sampling Tracking Control for a Rigid Spacecraft via Backstepping

16:50 – 17:10

Kangkang Sun, Min Ma and Jianbin Qiu. Quantized Output Feedback Control for a Class of Strict-Feedback Nonlinear Systems

17:10 – 17:30

Tao Shen, Cheng Song and Yuan Fan. Finite-time Circle Formation Control of Multi-Agent Systems

17:30 – 17:50

Peilin He, Lin Zuo, Changhua Zhang and Zhehan Zhang. A Value Recognition Algorithm for Pointer Meter Based on Improved Mask-RCNN

Parallel Session 4: Computer Science and Engineering II

August 3, late afternoon; Meeting Room 5, 15th floor

Chair/co-chair: Min Han/Hangjun Che

15:50 – 16:10

Hangjun Che and Jun Wang. Sparse Nonnegative Matrix Factorization Based on Collaborative Neurodynamic Optimization

16:10 – 16:30

Yunong Zhang, Canhui Chen, Zhiyuan Qi, Ruifeng Wang and Yingbiao Ling. Year Prediction of Next Shifting of World's Scientific Center Based on Yuasa Phenomenon and Data via ASF Method

16:30 – 16:50

Tao Liu, Shifeng Zhao, Qingjun Wang, Yang Xu, Xiaoying Huang and Yun Tian. Vascular Cross-Section Extraction Algorithm Based on Centerline

16:50 – 17:10

Junchao Guo, Lu Liu and Lei Lei Shi. Node Degree and Neighbourhood Tightness based Link Prediction in Social Networks

17:10 – 17:30

Huijuan Wu and Daoerji Fan. Feature Selection for DNN-HMM Based Mongolian Offline Handwriting Recognition

17:30 – 17:50

Kai Zhong, Jinbing Li, Jun Wang and Min Han. Fault Detection for Marine Diesel Engine Using Semi-supervised Principal Component Analysis

Banquet

18:00-19:30

Multi-functional Room, 1st floor

Parallel Session 5: Control and Automation III

August 4, early morning; Meeting Room 1, 4th floor

Chair/co-chair: Chao Zhang/Huayun Han

8:00 – 8:20

Linlin Li and Kaixiang Peng. Diagnostic Observer-based Fault Detection Approach for T-S Fuzzy Systems

8:20 – 8:40

Huayun Han, Ying Yang and Linlin Li. A Design Approach of Fault-Tolerant Control for T-S Fuzzy Systems

8:40 – 9:00

Chao Zhang, Quanzhong Zhan, Xing Hu, Ting He and Yi An. Visual Navigation Based on Stereo Camera for Water Conservancy UAVs

9:00 – 9:20

Li Su, Xujie Qin, Zhilin Liu and Zhi Zhang. Intelligent Collision Avoidance Decision for Single Ship Considering Ship Maneuverability

9:20 – 9:40

Fangqing Gu, Lingzhi Han, Minyi Zheng, Hai-Lin Liu and Xuesong Chen. Local Search Based Constrained Evolutionary Multiobjective Algorithm for Objective Reduction

9:40 – 10:00

Zhou Fang, Qing Cheng, Li Mou, Hongyun Qin, Houpan Zhou and Jiuwen Cao. Abnormal Electricity Consumption Detection Based on Ensemble Learning

Parallel Session 6: Signal Processing and Telecommunications I

August 4, early morning; Meeting Room 3, 4th floor

Chair/co-chair: Yunong Zhang/ Daoerji Fan

8:00 – 8:20

Han Ji, Shuang Qiao and Tian Zhang. A MISO-VLC System Based on LACO-OFDM and Superposed Constellation Demodulation

8:20 – 8:40

Licheng Zhang, Sining Zhu, Guannan Zhao, Minglu Jin and Sang-Jo Yoo. Orthogonal Matching Pursuit Algorithms Based on Double Selection Strategy

8:40 – 9:00

Yuxin Shi, Xinjin Lu, Kai Gao, Jiang Zhu and Shilian Wang. Subblock Design aided OFDM with Adaptive Subblock Lengths

9:00 – 9:20

Xinjin Lu, Wei Li, Jing Lei and Yuxin Shi. A Physical Layer Encryption Algorithm Based on Partial Frozen Bits of Polar Codes and AES Encryption

9:20 – 9:40

Huijuan Wu, Fengshan Bai, Zhaonan Zhong, Xiaodong Cheng and Daoerji Fan. Research on Cow Rumination Monitoring Based on New Activity Sensor

9:40 – 10:00

Yunong Zhang, Zhongxian Xue, Guanqun Yang, Chengxu Ye, Yingbiao Ling and

Mengling Xiao. Finding Models via MSFD to Predict Number of Wars in Which USA May Participate in Next Ten Years

10:00 – 10:20

Coffee break

Parallel Session 7: Control and Automation IV

August 4, late morning; Meeting Room 1, 4th floor

Chair/co-chair: Hsien-I Lin/Gang Bao

10:20 – 10:40

Gang Bao and Cheng Lian. Track Control of Complex-valued Recurrent Neural Networks Based on the Hanaly's Inequality

10:40 – 11:00

Ruige Li, Xiangcai Huang, Sijia Tian, Rong Hu, Dingxin He and Qiang Gu. FPGA-based Design and Implementation of Real-time Robot Motion Planning

11:00 – 11:20

Hsieni Lin and Yi-Chen Huang. Ball Trajectory Tracking and Prediction for a Ping-Pong Robot

11:20 – 11:40

Hsien-I Lin and Cyuan-Fan Syu. Simulation for Ball Landing Control of a Robotic Ping-Pong System

11:40 – 12:00

Zhendong Li, Ying Wang and Yuanfei Liu. Efficient Resource Allocation in UAV-BS Dual Connectivity Heterogeneous Networks

Parallel Session 8: Signal Processing and Telecommunications II

August 4, late morning; Meeting Room 3, 4th floor

Chair/co-chair: Yunong Zhang/Ningyu He

10:20 – 10:40

Yunong Zhang, Zhicheng Yang, Jianrong Chen, Zhiyuan Qi and Guanqun Yang. Presentation, Derivation and Numerical Experiments of a Group of Extrapolation Formulas

10:40 – 11:00

Chengcheng Si, Bo Peng and Xiang Li. Adaptive Waveform Selection for Optimizing Radar Practical Resolution Based on Euclidean Distance

11:00 – 11:20

Dezhen Xu, Zan Li, Lei Huang and Xiaosheng Xin. Downlink Noise Determination of Deep Space Transponder Using an Experimental Approach

11:20 – 11:40

Yuhong Na and Masood Ahmad. A Fault Detection Scheme for Switched Systems With Noise Under Asynchronous Switching

11:40 – 12:00

Ningyu He and Jie Zhu. Deep Learning Approach for Audio Signal Classification and Its Application in Fiber Optic Sensor Security System

12:00-13:30

Lunch @ Multi-functional Room, 1st floor

Parallel Session 9: Computer Science and Engineering III

August 4, early afternoon; Meeting Room 1, 4th floor

Chair/co-chair: Wei-Neng Chen/Guoyong Cai

13:30 – 13:50

Guoyong Cai and Nannan Chen. Recommendation Based on Multimodal Information of User-Item Interactions

13:50 – 14:10

Feng-Feng Wei, Wei-Neng Chen, Xiao-Min Hu and Jun Zhang. An Empirical Study on Evolutionary Algorithms for Traveling Salesman Problem

14:10 – 14:30

Hao Su, Yaran Chen, Shiwen Tong and Dongbin Zhao. Real-time Multiple Object Tracking Based on Optical Flow

14:30 – 14:50

Xu Zhang, Ding Han, Fengshan Bai and Ziyin Ma. Flower Recognition Based on Convolutional Neural Network

14:50 – 15:10

Shufang Zhang, He Huang and Ziyang Han. An Efficient Hybrid Incremental Algorithm for Complex-valued Feedforward Neural Networks

15:10 – 15:30

Yaxu Xue and Zhaojie Ju. SEMG based Intention Identification of Complex Hand Motion using Nonlinear Time Series Analysis

Parallel Session 10: Signal Processing and Telecommunications III

August 4, early afternoon; Meeting Room 3, 4th floor

Chair/co-chair: Zhaojie Ju/Jianchao Fan

13:30 – 13:50

Jinrun Wu, Ronghui Li, Xinyu Chu and Tieshan Li. Design of Ship Heading Autopilot with Input Time-Delay

13:50 – 14:10

Nini Shi, Min Yang, Huanchang Huang, Ning Tan and Yunong Zhang. Discrete-Time ODE Solutions Generated by TZD and ZeaD4Ig2_Y Formulas: Numerical Results

14:10 – 14:30

Wenjia Jiao and Huhe Dai. Atrial Activity Signal Reconstruction Based on Two-sided AR model

14:30 – 14:50

Jianchao Fan, Xiaoxin Liu, Jianhua Zhao, Xiu Su, Xiang Wang and Xinxin Wang. Reclamation Aquaculture Detection Based on VHR UAV Aerial Images

14:50 – 15:10

Du Jiang, Gongfa Li, Guozhang Jiang, Disi Chen and Zhaojie Ju. Force Estimation Based on sEMG using Wavelet Analysis and Neural Network

15:10 – 15:30

Yuan Liu, Feng Zhao, Qihua Wu, Xiaobin Liu and Shunping Xiao. A Study on the Effects of the Non-ideal Signal on Pulse Radar Target Measurement in RFS

Poster Session

August 5, 9:00-12:00

1. Juan Ramirez Rochac, Nian Zhang, Lara Thompson, and Timothy Oladunni. A Data Augmentation-Assisted Deep Learning Model for High Dimensional and Highly Imbalanced Hyperspectral Imaging Data
2. Pengfei Jia, Huaisheng Cao, Xinyan Shen and Siqi Qiao. A Novel Feature Fusion and Reprocessing Technique of Brain-Computer Interface for Motion Imagination
3. Jianping Luo, Jiqiang Feng and Ruofan Jin. A New Approach to Building the Gaussian Process Model for Expensive Multi-objective Optimization
4. Jiejie Chen, Boshan Chen, Tingwen Huang, Zhigang Zeng and Ping Jiang. Containment Control of Linear Multi-Agent Systems With Self-Feedback via Aperiodic Sampling
5. Yu Zhang, Shousheng Xie, Litong Ren and Lei Wang. RBF Neural Network Based Fast Converging Terminal Global Sliding Mode Control of Aeroengine
6. Zhihui Wang, Sachula Meng, Lili Sun, Huixia Ding, Sai Wu, Delong Yang, Liang Li, Xue Wang and Linhan Xi. Slice Management Mechanism Based on Dynamic Weights for Service Guarantees in Smart Grid
7. Jingwen Xu, Xuling Zheng and Ming Jiang. Gene Mutation Classification Using CNN and BiGRU Network
8. Juan F. Ramirez Rochac, Nian Zhang, Jiang Xiong, Jing Zhong, and Timothy Oladunni. Data Augmentation for Mixed Spectral Signatures Coupled with Convolutional Neural Networks
9. Cheng Han, Wen Liu, Longbin Jin, Shan Jiang and Hua Li. Adaptive Weight Based Sparse Block Aggregation Algorithm for Stereo Matching
10. Jing Nie, Chunlei Zhang, Chang Tang and Fei Xia. Saliency Detection via Recurrently Aggregating and Refining Cross-layer Residual Features
11. Xing-Chen Chen, Ting-Rui Wei, Jun-Hao Guo, Wen-Xiu Zhou, An Song, Wei-Neng Chen and Jun Zhang. Multiobjective Evolutionary Algorithm with Double-Level Archives for Nutritional Dietary Decision Problem
12. Jianzhe Zhao, Qingyu Song and Guangwei Lei. An Energy-aware Routing Mechanism based on MBOA for Data Center Network
13. Zigui Kang, Juntao Pan, Weiwei Zhang and Bai Zhang. A Glucose Control Approach for Type-1 Diabetes via Takagi-Sugeno Fuzzy Models

14. Farrukh Makhmudov and Hongwei Ge. Saliency Detection in Images with Complex Background by End-to-End Sparse Maxout CNN
15. Yue Zou, Shuang Qiao and Tian Zhang. Multivariate Regression Transform for Hybrid Optical OFDM in Visible Light Communications
16. Qu Qiang, Huang Yi-Han and Chen Xue-Bo. Forecasting Yield Strength of IF Steel based on ANFIS
17. Yanrui Guo, Xiaocan Zhang and Ning An. Monitoring Neck Posture with Flex Sensors
18. Huahui Yang, Chen Meng, Cheng Wang and Yunzhi Yao. SDR: A Novel Similarity Measure Using Curve Fitting Method for Time Series Data Clustering
19. Qiuyun Hao, Xiaoming Wu, Sen Zhang, Peng Zhang, Xiaofeng Ma and Jingsai Jiang. Research on Offline Handwritten Chinese Character Recognition Based on Deep Learning
20. Yi Liu, Bo Li and Teng Ma. Statistical Assessment of MIMO Cooperative Networks with Selective OFDMA Relaying
21. Yihui Lei, Bolin Liao and Jialiang Chen. Limited-Time Convergent ZNN for Computing Time-Dependent Complex-Valued Matrix Pseudoinverse
22. Weijun Zhu and Yichen Liu. If Air-Gap Attacks Encounter the Mimic Defense
23. Yong Piao, Ansheng Chen and Zhendong Shang. Housing Price Prediction Based on CNN
24. Zhenlun Yang, Kunquan Shi, Meiling Qiu and Angus Wu. A Quantum-behaved Particle Swarm Optimization Algorithm with Extended Elitist Breeding
25. Gang Liu, Chenglin Yang, Fuqiang Duan and Weiyang Lin. A Sliding Mode Controller for Pneumatic System Based on Neural Network Minimum Parameter Learning Method
26. Gang He, Wen-Qing Wu, Li Nie, Jun Wen, Cheng Yang and Wenxin Yu. An Improved Image Multi-Dimensional Chaos Encryption Algorithm Based on CUDA
27. Dongqi Wang, Xuanyue Shuai, Guoming Zhao and Li Zhu. Thickness Optimization Design of Heat-Protective Clothing Based on LMNNSA Method