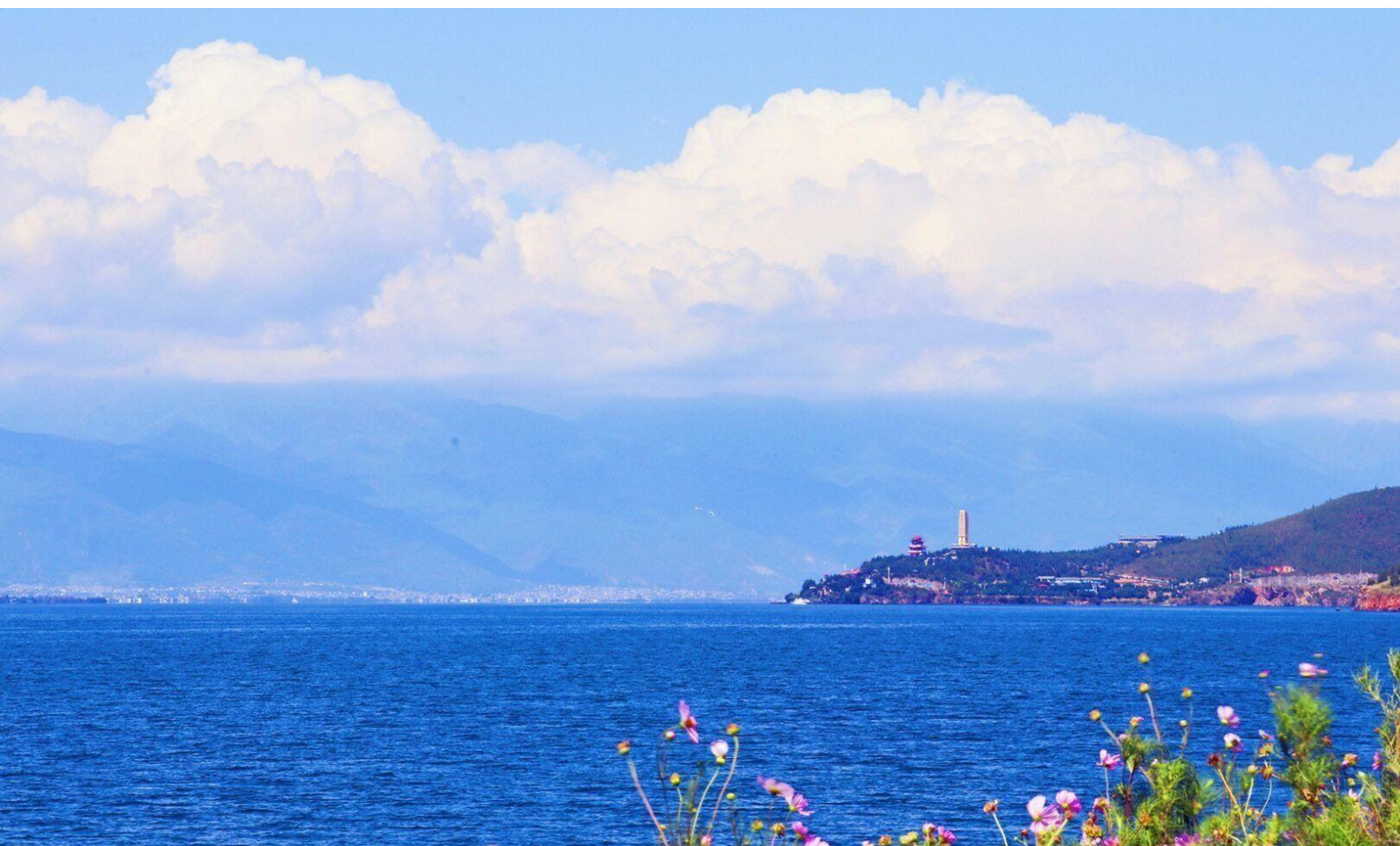


Twelfth International Conference on Advanced Computational Intelligence

August 14-16,2020

Dali, Yunnan, China



ICACI 2020 FINAL PROGRAM

Sponsor/Organizer:



Dali University



City University of Hong Kong

Technical Co-sponsor:



IEEE Systems, Man and Cybernetics Society

Welcome Messages

On behalf of the Organizing Committee of the 12th International Conference on Advanced Computational Intelligence (ICACI2020), we welcome you to attend this event taking place in Dali, Yunnan, China and over the Internet during August 14-16, 2020. This event has been postponed for exactly five months due to the COVID-19 pandemic. Following the successfully held preceding events in this series, ICACI has become a well-established series of popular and high-quality conferences on the theory and methodology of computational intelligence and their applications. ICACI2020 aims to provide a high-level international forum for scientists, engineers, and educators to present the state of the art of computational intelligence research. The conference featured plenary speeches given by world renowned scholars and regular sessions with a broad coverage.

This year, the conference received fewer submissions than previous years. Each submission was reviewed by at least three program committee members. After the rigorous peer reviews, the committee decided to accept 99 papers for publication in the proceedings. These papers cover many topics of computational intelligence including neural networks, machine learning, fuzzy systems, and evolutionary computation. In addition to the contributed papers, ICACI2020 technical program includes two plenary speeches by renowned scholars: Prof. Chin-Teng Lin (IEEE Fellow and IEEE Fuzzy Systems Pioneer Awardee, University Sydney Technology), and Shun-Feng Su, IEEE Fellow, IFSA fellow, CACS fellow and RST fellow, National Taiwan University of Science and Technology).

Many organizations and volunteers made great contributions toward the success of this conference. We would like to express our sincere gratitude to Dali University and City University of Hong Kong for their sponsorship, the IEEE Systems, Man and Cybernetics Society for its technical co-sponsorship. We would also like to sincerely thank all the committee members for their great efforts in organizing the conference. Special thanks to the Program Committee members and reviewers whose insightful reviews and timely feedback ensured the high quality of the accepted papers and the smooth flow of the conference. Finally, we would like to thank all the speakers, authors, and participants for their supports.

Jun Wang, Benhui Chen, and Min Han, General and Organizing Chairs

Weineng Chen, Xiaolin Hu, and Li-Wei Ko, Program Chairs

ICACI History

- 11th International Conference on Advanced Computational Intelligence, Guilin, China, 2019
- 10th International Conference on Advanced Computational Intelligence, Xiamen, China, 2018
- 9th International Conference on Advanced Computational Intelligence, Doha, Qatar, 2017
- 8th International Conference on Advanced Computational Intelligence, Chiang Mai, Thailand, 2016
- 7th International Conference on Advanced Computational Intelligence, Wuyi, China, 2015
- 6th International Conference on Advanced Computational Intelligence, Hangzhou, China, 2013
- 5th International Conference on Advanced Computational Intelligence, Nanjing, China, 2012
- 4th International Workshop on Advanced Computational Intelligence, Wuhan, China, 2011
- 3rd International Workshop on Advanced Computational Intelligence, Suzhou, China, 2010
- 2nd International Workshop on Advanced Computational Intelligence, Mexico City, Mexico, 2009
- 1st International Workshop on Advanced Computational Intelligence, Macau, China, 2008

ICACI 2020 Program at a Galance (August 14-16, 2020)		
Friday, August 14, 2020		
09:45-10:00	Opening Ceremony, Room 1 (ID: 738 166 055)	
10:00-11:00	Plenary Lecture 1, Room 1 (ID: 738 166 055)	
11:00-12:00	Plenary Lecture 2, Room 1 (ID: 738 166 055)	
12:00-13:30	Lunch Break	
Room	Room 1 (ID: 129 135 926)	Room 2 (ID: 470 553 582)
13:30-15:30	FriAA1: Machine Learning 1	FriAA2: Control 1
15:30-16:00	Coffee Break	
16:00-18:00	FriAB1: Machine Learning 2	FriAB2: Control 2
Saturday, August 15, 2020		
Room	Room 1 (ID: 333 209 636)	Room 2 (ID: 849 379 865)
08:00-10:00	SatMA1: Neurodynamics 1	SatMA2: Deep learning 1
10:00-10:30	Coffee Break	
10:30-12:30	SatMB1: Neurodynamics 2	SatMB2: Computer Vision 1
12:30-13:30	Lunch Break	
Room	Room 1 (ID: 516 107 226)	Room 2 (ID: 649 465 373)
13:30-15:30	SatAA1: Evolutional Computation 1	SatAA2: Computer Vision 2
15:30-16:00	Coffee Break	
16:00-18:00	SatAB1: Evolutional Computation 2	SatAB2: Computer Vision 3
Sunday, August 16, 2020		
Room	Room 1 (ID: 650 619 600)	Room 2 (ID: 469 779 140)
08:00-10:00	SunMA1: Deep learning 2	SunMA2: Other
10:00-10:30	Coffee Break	
10:30-12:30	SunMB1: Deep learning 3	SunMB2: Fuzzy
12:30-13:30	Lunch Break	
Room	Room 1 (ID: 168 555 585)	Room 2 (ID: 696 482 866)
13:30-15:30	SunAA1: Deep learning 4	SunAA2: IJCIS Special Issue

Room ID is the Tencent/VooV meeting ID. All password is 202008.

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Instructions for Oral Presentations

Oral Presentation:

- Oral Presentation Time: 20 minutes, including 17 minutes for presentation, and 3 minutes for Q&A.
- Presentation Form: Due to the Coronavirus, the oral presentation sessions in ICACI2020 will be conducted online using Tencent Meeting as the platform. Please download and install the Tencent Meeting before the session using the following links:

The Mainland China version
<https://meeting.tencent.com/>

The international version (VooV Meeting):
<https://voovmeeting.com>
- Every session has a Tencent Meeting ID. Please find your session and the corresponding ID. The password is: 202008. The presenter is required to enter the meeting 10 minutes before the session starts, and inform the session chairs that he/she is present. If the session chairs are absent, the first presenter in the session becomes the session chair.
- When you enter the meeting, please mute your speaker in the Tencent Meeting. Before your presentation, please unmute it. The general presentation software such as Microsoft PowerPoint and Adobe Reader can be used. Please use the screen sharing function of the Tencent Meeting to share your slides.

Plenary and Invited Lectures

Plenary Lecture I:

Brain Computer Interface in Human-Autonomy Teaming

Distinguished Professor CT Lin
University of Technology Sydney, Sydney

Abstract

BCI is widely considered a ‘disruptive technology’ for the next-generation human-computer interface in wearable computers and devices. In particular, there are incredible potential real-life applications of BCI in augmenting human performance for people in health and aged care. Despite this, there are limitations. Human cognitive functions, such as action planning, intention, preference, perception, attention, situational awareness, and decision-making, although omnipresent in our daily lives, are complex and hard to emulate. Yet, by studying the brain and behaviour at work, a BCI plays an incredibly important role natural cognition.

Discover the latest thinking in the realm of the Brain-Computer Interface in this lecture. Listen the current status of BCI and discusses its three major obstacles: the shortage of wearable EEG devices, the various forms of noise contamination that hinder BCI performance, and the lack of suitable adaptive cognitive modelling. This talk will introduce the fundamental physiological changes of human cognitive functions in the interaction with autonomous machines (autonomy) and explain how to combine the bio-findings and AI techniques to develop monitoring and feedback systems to enhance the cooperation of human and autonomy.

Biosketches

Chin-Teng Lin received the B.S. degree from the National Chiao-Tung University (NCTU), Taiwan in 1986, and the Master and Ph.D. degree in electrical engineering from Purdue University, West Lafayette, Indiana, U.S.A. in 1989 and 1992, respectively. He is currently a Distinguished Professor, Co-Director of Centre for AI, and Director of CIBCI Lab, FEIT, UTS. He is also invited as the International Faculty

of the University of California at San Diego (UCSD) from 2012 and Honorary Professorship of University of Nottingham from 2014.

Prof. Lin's research focuses on machine-intelligent systems and brain computer interface, including algorithm development and system design. He has published over 320 journal papers (H-Index 66 based on Google Scholar), and is the co-author of Neural Fuzzy Systems (Prentice-Hall) and author of Neural Fuzzy Control Systems with Structure and Parameter Learning (World Scientific). Dr. Lin served as Editor-in-Chief of IEEE Transactions on Fuzzy Systems from 2011 to 2016, and has served on the Board of Governors of IEEE Circuits and Systems Society, IEEE Systems, Man, and Cybernetics Society, and IEEE Computational Intelligence Society. Dr. Lin is an IEEE Fellow, and received the IEEE Fuzzy Pioneer Award in 2017.

Plenary Lecture II:

Decomposed Fuzzy Systems

Shun-Feng Su

Department of Electrical Engineering

National Taiwan University of Science and Technology, Taipei

Abstract

In the talk, a novel fuzzy structure termed as the decomposed fuzzy system (DFS) is proposed to act as the fuzzy approximator. The proposed structure is to decompose each fuzzy variable into layers of fuzzy systems and each layer is to characterize one traditional fuzzy set. Similar to forming fuzzy rules in traditional fuzzy systems, layers from different variables will form the so-called component fuzzy systems. The structure of DFS is proposed to facilitate minimum distribution learning effects among component fuzzy systems so that the learning can be very efficient. It can be seen from our experiments that even when the rule number increases, the learning time in terms of cycles is still almost constant. It can also be found that the function approximation capability and learning efficiency of the DFS are much better than that of the traditional fuzzy systems when employed in adaptive fuzzy control systems. Besides, in order to further reduce the computational burden, a simplified DFS is proposed in this study to satisfy possible real time constraints required in many applications. From our simulation results, it can be seen that the simplified DFS can perform fairly with a more concise decomposition structure. Furthermore, when used in modeling, the proposed DFS not only can have much faster convergent speed, but also can achieve a smaller testing error than those of other fuzzy systems.

Biosketches



Shun-Feng Su received the B.S. degree in electrical engineering, in 1983, from National Taiwan University, and the M.S. and Ph.D. degrees in electrical engineering, in 1989 and 1991, respectively, from Purdue University, West Lafayette, IN.

He is now a Chair Professor of the Department of Electrical Engineering, National Taiwan University of Science and Technology. He is an IEEE Fellow, IFSA fellow, CACS fellow and RST fellow. He has published more than 300 refereed journal and conference papers in the areas of robotics, intelligent control, fuzzy systems, neural networks, and non-derivative optimization. His current research interests include computational intelligence, machine learning, virtual reality, intelligent transportation systems, smart home, robotics, and intelligent control.

Dr. Su is very active in various international/domestic professional societies. He now is the IEEE SMC society Distinguished Lecturer Program chair. He also serves as a board member of various academic societies. Dr. Su also acted as General Chair, Program Chair, or various positions for many international and domestic conferences. Dr. Su currently serves as Associate editors of *IEEE Transactions on Cybernetics*, *IEEE/CAA Journal Automatica Sinica* and *IEEE Access*, a subject editor (Electrical Engineering) of the *Journal of the Chinese Institute of Engineers*, and the Editor-in-Chief of *International Journal of Fuzzy Systems*.

Technical Program

Friday, August 14, 1:30PM-3:30PM

FriAA1 Machine Learning 1, Chairs: Xingda Wang and Jingying Zhao, Room: 1

- 1:30PM *IVP-LDL: Label Distribution Learning via Preservation of Information Volumes*
Miao Cheng
- 1:50PM *BOF Endpoint Carbon Content Prediction based on Association Rule Case Base Maintenance Strategy*
Yuan Cheng, Zhenpeng Cheng and Xinzhe Wang
- 2:10PM *Bagging of Gaussian Process for Large Generator Eddy Current Prediction*
Jingying Zhao, Min Han, Hai Guo, Haoran Tang, Enming Zhao and Na Dong
- 2:30PM *P wave Detection in Electrocardiogram Based on Wavelet Transform and Differential Correction*
Yuchao Wang, Lu Wu, Chao Chen, Zhongyi Jin, Zhao Li and Yinglong Wang
- 2:50PM *Dynamic Multi-channel Access in Wireless System with Deep Reinforcement Learning*
Fan Li, Yun Zhu and Youyun Xu
- 3:10PM *A novel weight update rule of Online Transfer Learning*
Xingda Wang, Xiaoping Wang and Zhigang Zeng

FriAA2 Control 1, Chairs: KangKang Sun and Shuo Chen, Room: 2

- 1:30PM *Parametric Adaptive Dynamic Surface Control for Triangular Structural Nonlinear Systems with Prescribed Performance*
Kangkang Sun, Runsheng Guo and Jianbin Qiu
- 1:50PM *Formation Control Strategy of Multi-agent Systems with Obstacle Avoidance*
Jingcheng Liu, Changzhu Zhang, Chao Huang, Hao Zhang, Zhuping Wang and Deyang Kong
- 2:10PM *Event-Triggered Control for Networked Systems with Time-Delay and Quantization*
Shuo Chen, Yuan Fan, Cheng Song and Haoyun Li
- 2:30PM *Critic Only Policy Iteration-based Zero-sum Neuro-optimal Control of Modular and Reconfigurable Robots with uncertain disturbance via Adaptive Dynamic Programming*
Tianjiao An, Jingchen Chen, Xinye Zhu, Yuanchun Li, Keping Liu and Bo Dong
- 2:50PM *Bipartite Tracking Control for Second-Order Stochastic Nonlinear Multi-Agent Systems with Dead-Zone Input*
Xiyue Guo, Hongjing Liang, Yingnan Pan and Hongyi Li

Friday, August 14, 4:00PM-6:00PM

FriAB1 Machine Learning 2, Chairs: Xiaoping Wang and Wei Song, Room: 1

- 4:00PM *Improving Robustness of Deep Transfer Model by Double Transfer Learning*
Lin Yu, Xingda Wang, Xiaoping Wang and Zhigang Zeng

- 4:20PM *A Supervised Correlation Coefficient Method: Detection of different correlation*
Sen Wang and Li Zhang
- 4:40PM *Online Time Series Prediction Based Modified Kernel Recursive Least Squares from Random Projection and Adaptive Update*
Junzhu Ma, Min Han and Jun Wang
- 5:00PM *A Hybrid Method for Short-Term Traffic Flow Prediction*
Wei Song and Taolin Yin
- 5:20PM *Knowledge Link Inference of Graph Structure Based on Holographic Model*
Yufei Zhao, Guangping Zeng, Liu Chen and Chunguang Zhang
- 5:40PM *Court Similar Case Recommendation Model Based on Word Embedding and Word Frequency*
Fan Yang, Jianxia Chen, Yujun Huang and Chao Li

FriAB2 Control 2, Chairs: Meng Wang and Xiaodong Men, Room: 2

- 4:00PM *Torque Estimation-Based Decentralized Control of Modular Robot Manipulators with the External Collisions*
Xiaodong Men, Yuexi Wang, Zhenguo Zhang, Yuanchun Li, Shenquan Wang and Bo Dong
- 4:20PM *Simulation of Load Control Scheme in Power Plant Based on Condensate Throttling Prediction Model*
Miaomiao Zhang, Xiaoyong Zhang, Wei Dan, Ze Song, Liangyu Ma and Jingxuan Zhao
- 4:40PM *Zhang Neural Dynamics (ZND) Tracking Control of Multiple Integrator Systems with Noise Disturbances: Theoretical and Simulative Results*
Zhenyu Li, Chaowei Hu, Min Yang, Xiangui Kang and Yunong Zhang
- 5:00PM *Static Output Feedback Controller Design for Two-Dimensional Roesser T-S Fuzzy Systems*
Meng Wang
- 5:20PM *A novel analysis method for Grain-like cascade FSRs*
Bingbo Ren, Yang Liu, Jianquan Lu and Jinde Cao
- 5:40PM *Finite-time average consensus of multi-agent systems with impulsive perturbations*
Xiaoxiao Lv, Jinde Cao, Jiaojiao Yan and Lin Lin

Saturday, August 15, 8:00AM-10:00AM

SatMA1 Neurodynamics 1, Chairs: Yunong Zhang and Tianqi Cheng, Room: 1

- 8:00AM *Fractional Complex-order Hopfield Neural Networks to Analyze the Effect of Drug-resistance in the HIV Infection*
César Augusto Peña Fernández
- 8:20AM *Peng-Type ZNN Model Attempted for Online Diagonalization of Time-Varying Symmetric Matrix*
Liangjie Ming, Min Yang, Chen Peng, Yingbiao Ling and Yunong Zhang
- 8:40AM *Matrix-Type Neural Dynamical Methods for Matrix-Variable Nonlinear Programming with Linear Constraints*
Youshen Xia and Tiantian Ye
- 9:00AM *Finite-Time Stabilization of Memristive Neural Networks with Time-Varying Delay: Interval Matrix Method*
Fei Wei, Guici Chen and Tianqi Cheng
- 9:20AM *A Neurodynamic Approach to L_0 -Constrained Optimization*
Yadi Wang, Xiaoping Li and Jun Wang
- 9:40AM *Analysis of the Solution of Time-Varying Linear Equations Based on the Method of Neural Dynamics*
Wudai Liao, Jun Zhou and Zongsheng Liu

SatMA2 Deep learning 1, Chairs: Huajin Tang and Yong Shao, Room: 2

- 8:00AM *UA-Miner: Deep Learning Systems for Expose Unprotected API Vulnerability in source code*
Yuan He
- 8:20AM *An Event-based Categorization Model Using Spatio-temporal Features in a Spiking Neural Network*
Junwei Lu, Junfei Dong, Rui Yan and Huajin Tang
- 8:40AM *Spike Trains Encoding Optimization for Spiking Neural Networks Implementation in FPGA*
Biao Fang, Yuhao Zhang, Rui Yan and Huajin Tang
- 9:00AM *Study on Zero Sequence Protection of Circuit Breaker Based on PCM Radial Basis Network*
Yong Shao, Yafeng Zhang, Huafeng Liu, Yufan Yao, Qiao Ding and Peng Zan
- 9:20AM *Recurrent Restricted Boltzmann Machine for Chaotic Time-series Prediction*
Weijie Li, Min Han and Jun Wang
- 9:40AM *Fault diagnosis method of shortwave transmission system based on IAGA-BP neural network*
Yong Luo, Yiyue Xiang, Bin Chen and Shouyang Zhong

Saturday, August 15, 10:30AM-12:30AM

SatMB1 Neurodynamics 2, Chairs: Shenshen Gu and Yadi Wang, Room: 1

- 10:30AM *Finite-time boundedness of QVMNNs with time-varying delays*
Wei, Cao and Chengsheng Li
- 10:50AM *Sparse Nonnegative Matrix Factorization Based on a Hyperbolic Tangent Approximation of L0-Norm and Neurodynamic Optimization*
Xinqi Li, Jun Wang and Sam Kwong
- 11:10AM *Anti-synchronization Analysis of Fractional-Order Neural Networks With Time-Varying Delays*
Minglin Xu, Peng Liu, Minxue Kong and Junwei Sun
- 11:30AM *A Variable Parameter Zeroing Neural Network for Resolving Time-Variant Quadratic Minimization with Preferable Performance*
Yongjun He, Lin Xiao, Yi Qian, Bolin Liao, Lei Ding and Pei Liu
- 11:50AM *The Basic Algorithm for Zero-One Unconstrained Quadratic Programming Problem with k-diagonal Matrix*
Shenshen Gu and Xinyi Chen

SatMB2 Computer Vision 1, Chairs: Binbin Zhang and Furao Shen, Room: 2

- 10:30AM *JPEG-XR-GCP: Promoting JPEG-XR Compression by Gradient-Based Coefficient Prediction*
Yu Tang, Tao Xiang, Ying Yang and Zhengge Shu
- 10:50AM *Image Block Compression Based on Dual-Learning Dictionaries*
Wenchao Pan, Bo Li and Yanwen Chong
- 11:10AM *A Real-Time Pedestrian Counting System Based on RGB-D*
Yang Yao, Xu Zhang, Yu Liang, Xin Zhang, Furao Shen and Jian Zhao
- 11:30AM *An Automatic Image Segmentation Algorithm Based on Three-Way Decisions*
Binbin Zhang, Qianwen Li, Wen Shen, Shikun Huang and Zhihua Wei
- 11:50AM *Object Detection Based on Multi-Source Information Fusion in Different Traffic Scenes*
Chenchen Huang, Siqi Chen and Longtao Xu
- 12:10AM *Classification of Imbalanced Near-infrared Spectroscopy Data*
Qibin Wang, Lingqiao Li, Xipeng Pan and Huihua Yang

Saturday, August 15, 1:30PM-3:30PM

SatAA1 Evolutional Computation 1, Chairs: Min Han and Pengxiang Zhao, Room: 1

- 1:30PM *Solving Multi-Objective Portfolio Optimization Problem Based on MOEA/D*
Pengxiang Zhao, Shang Gao and Nachuan Yang
- 1:50PM *Balancing Convergence and Diversity in Multiobjective Immune Algorithm*
Lingjie Li, Wu Lin, Qiuzhen Lin and Zhong Ming

- 2:10PM *An Enhanced Volleyball Premier League Algorithm with Chaotic Maps*
Huawei Tong, Yun Zhu and Youyun Xu
- 2:30PM *The Intelligent Decision-making based on Multi-source Heterogeneous Data Fusion in Manufacturing*
Jie Yu, Shenggao Gu, Jiwei Wang, Zhinan Jia and Yunpeng Zhao
- 2:50PM *A Genetic Algorithm with Restart Strategy for Solving Approximate Shortest Vector Problem*
Luan Luan, Chunxiang Gu and Yonghui Zheng
- 3:10PM *Particle Swarm Optimization based Neural Network Model for Chaotic Time Series Forecasting*
Xin Li, Weijie Ren, Jingying Zhao and Min Han

SatAA2 Computer Vision 2, Chairs: Jianchao Fan and Hongyue Wu, Room: 2

- 1:30PM *An Efficient System for Predicting Hand-Object Contact Probability Based on RGB Image Sequences*
Ji'An Tao, Lu Xu, Xinyan Ma and Kuizhi Mei
- 1:50PM *Contour-based medical image fusion for biopsy*
Hongyue Wu, Yunjie Chen, Biao Huang, Su Zhang, Yunkai Zhu and Yaqing Chen
- 2:10PM *A new image encryption algorithm based on 2D-LSIMM chaotic map*
Huacheng Zhang, Jinyu Zhu, Shuaijie Zhao, Qing He, Xiaoxiong Zhong and Jianming Liu
- 2:30PM *Green Tide Information Extraction Based on Multi-source Remote Sensing Data*
Tingting Liang, Jianchao Fan, Lina Ke and Jianhua Zhao
- 2:50PM *Multiple Spaces Deep Hashing for Image Retrieval*
Xianyang Wang, Qingbei Guo and Xiuyang Zhao

Saturday, August 15, 4:00PM-6:00PM

SatAB1 Evolutional Computation 2, Chairs: Na Shen and Yalan Zhou, Room: 1

- 4:00PM *PN-HASH: An Immune-Inspired Scheme for Data Integrity Check*
Junteng Wang, Wenjian Luo, Yamin Hu and Hao Jiang
- 4:20PM *Iterated Local Search with Hybrid Neighborhood Search for Workforce Scheduling and Routing Problem*
Yalan Zhou, Manhui Huang, Hong Wu, Guoming Chen and Zhijian Wang
- 4:40PM *3-D Shape Optimization of a Sensor Mounting Arm using MOGA and MLF*
Na Shen, Dongran Li and Wilhelm Stork
- 5:00PM *CPSO-THCS: An Optimization Algorithm for Emergency Supply Delivery Routing Problem*
Yang Hu, Nankun Mu, Xiaofeng Liao and Xinyu Lei
- 5:20PM *A Novel Group-based Swarm Optimizer for Large-Scale Optimization*
Shanwen Guan, Rushi Lan, Yijie Zhu, Ruomei Wang, Xiyang Sun and Xiaonan Luo
- 5:40PM *Parameters Identification of Photovoltaic Cell and Module Using LSHADE*
Mohammed El-Abd, Kunjie Yu and Shilei Ge

SatAB2 Computer Vision 3, Chairs: Penfeng Yan and Lifeng Zhang, Room: 2

- 4:00PM *3D Anthropometric Algorithm from A Single Viewpoint RGB-D Camera*
Xitao Zheng, Mingcheng Zhu and Yuan Xu
- 4:20PM *Hyper-Laplacian Regularized Low-Rank Collaborative Representation Classification*
Shun Xu and Wenwen Shen
- 4:40PM *InvUnet: Inverse the Unet for Nuclear Segmentation in H&E Stained Images*
Lifeng Zhang and Bin Li
- 5:00PM *De-speckling Convolutional Neural Network and Classification Method for SAR Images*
Yapei Zhao, Qingzeng Song, Xuechun Wang, Yijie Zhang and Guanghao Jin
- 5:20PM *AutoGesNet: Auto Gesture Recognition Network Based on Neural Architecture Search*
Yinqi Li, Lu Xu, Weihua Shu, Ji'An Tao and Kuizhi Mei
- 5:40PM *A 3D Grid Mapping System Based on Depth Prediction from a Monocular Camera*
Peifeng Yan, Shaowu Yang and Yuqing Lan

Sunday, August 16, 8:00AM-10:00AM

SunMA1 Deep learning 2, Chairs: Zichao Lin and K Ashwin Viswanathan, Room: 1

- 8:00AM *Time series-oriented load prediction using deep peephole LSTM*
Lei Fu
- 8:20AM *A Study of Prefrontal Cortex Task Switching Using Spiking Neural Networks*
K Ashwin Viswanathan, Goutam Mylavarapu, Kun Chen and Johnson P Thomas
- 8:40AM *Application of Neural Network Based on Flexible Neural Tree in Personal Credit Evaluation*
Po Yang, Weifeng Wang and Yuhui Chen
- 9:00AM *Layer-wise Pre-training Mechanism Based on Neural Network for Epilepsy Detection*
Zichao Lin, Zhenghui Gu, Yinghao Li, Zhuliang Yu and Yuanqing Li
- 9:20AM *An Automatic Sleep Staging Model Combining Feature Learning and Sequence Learning*
Yinghao Li, Zhenghui Gu, Zichao Lin, Zhuliang Yu and Yuanqing Li
- 9:40AM *A Novel Named Entity Recognition Approach of Judicial Case Texts Based on BiLSTM-CRF*
Jianxia Chen, Yujun Huang, Fan Yang and Chao Li

SunMA2 Other, Chairs: Lin Lin and Wei Yuan, Room: 2

- 8:00AM *Modelling the Neurons Activated by Transcranial Magnetic Stimulation*
Lin Lin, Jiang Wang and Guosheng Yi
- 8:20AM *Design of An Actuator for Artificial Anal Sphincter Based on Finite Element Analysis*
Peng Zan, Qiao Ding, Banghua Yang, Tianxiu Li, Yafeng Zhang and Ke Yan
- 8:40AM *Beamspace U-ESPRIT DOA Estimation Algorithm of Coherently Distributed Sources in Massive MIMO Systems*
Yang Liu, Lina Hou, Qinmin Shen, Cheng Lv, Shun Na and Tianshuang Qiu
- 9:00AM *A Task Scheduling Problem in Mobile Robot Fulfillment Systems*
Wei Yuan and Hui Sun
- 9:20AM *Priority-based Multi-Flight Path Planning with Uncertain Sector Capacities*
Sudharsan Vaidhun, Zhishan Guo, Jiang Bian, Haoyi Xiong and Sajal Das
- 9:40AM *Design of Intelligent Vehicle Based on Dynamic Wireless Charging*
Yue Yao and Luyao Du

Sunday, August 16, 10:30AM-12:30AM

SunMB1 Deep learning 3, Chairs: Tao Jiang and Shujuan Wang, Room: 1

- 10:30AM *BP neural network-based stripe width computation for adaptive control of line structured light sensors*
Jingbo Zhou, Laisheng Pan and Yuehua Li
- 10:50AM *Time-series Prediction Based on VMD and Stack Recurrent Neural Network*

- Tao Jiang, Min Han and Jun Wang
- 11:10AM *Label-Embedding-Based Multi-core Convolution for Text Categorization*
Guorui Yuan, Jun Li, Hongguang Li, Yang Du, Yongrui Li and An Yu
- 11:30AM *FINET: Fine-grained feature Interaction Network for Click-Through Rate Prediction*
Zhibin Lian and Hong Ge
- 11:50AM *Stronger Adversarial Attack: Using Mini-batch Gradient*
Lin Yu, Ting Deng, Wenxiang Zhang and Zhigang Zeng
- 12:10AM *A Hybrid Deep Neural Networks For Sensor-based Human Activity Recognition*
Shujuan Wang and Xiaoke Zhu

SunMB2 Fuzzy, Chairs: Kewen Li and Shihui Dong, Room: 2

- 10:30AM *Application of New Method in Location of Logistics Centers*
Shihui Dong, Hongye Xiong, Zhiping Wang and Xu Li
- 10:50AM *Fuzzy control of model-based beta band power*
Hong Wang, Min Chen, Linlu Zu and Fei Su
- 11:10AM *Fruit Classification using Convolutional Neural Network via Adjust Parameter and Data Enhancement*
Liuchen Wu, Hui Zhang, Ruibo Chen and Junfei Yi
- 11:30AM *Simulation of Vehicle ESP Based on Adaptive Fuzzy PID Control*
Neng Wan, Guangping Zeng, Chunguang Zhang, Dingqi Pan and Yating Luo
- 11:50AM *Sampled-Data Output Feedback Control of Stochastic Nonlinear Systems*
Wenqiang Ji, Heting Zhang and Jianbin Qiu
- 12:10AM *Fuzzy Adaptive Control for Switched High-Order Nonlinear Systems with Time-Varying Output Constraint*
Kewen Li and Yongming Li

Sunday, August 16, 1:30PM-3:30PM

SunAA1 Deep learning 4, Chairs: Chengan Guo and Zhengfei Yu, Room: 1

- 1:30PM *An Airfoil Mesh Quality Criterion using Deep Neural Networks*
Xinhai Chen, Jie Liu, Chunye Gong, Yufei Pang and Bo Chen
- 1:50PM *A Short-term Traffic Flow Prediction Model Based on AutoEncoder and GRU*
Dejun Chen, Hao Wang and Ming Zhong
- 2:10PM *An Automatic Fracture Defect Detection Approach for Current-carrying Rings of Catenary Droppers Using A Multi-task Neural Network*
Wenqiang Liu, Dang Wang, Yuyang Li, Cheng Yang, Hui Wang and Zhigang Liu
- 2:30PM *Robust Finger Vein Recognition based on Deep CNN with Spatial Attention and Bias Field Correction*
Zhe Huang and Chengan Guo
- 2:50PM *Fusion Network Combined With Bidirectional LSTM Network and Multiscale CNN for Remaining Useful Life Estimation*
Yijie Jiang, Yi Lyu, Yonghua Wang and Pin Wan

3:10PM *How Can We Deal With Adversarial Examples?*
Zhengfei Yu, Yun Zhou and Weiming Zhang

SunAA2 IJCIS Special Issue, Chairs: Sitian Qin and Qingshan Liu, Room: 2

1:30PM *Synchronization of delayed inertial Cohen-Grossberg neural networks under adaptive feedback controller*

Qun Huang, Jinde Cao and Qingshan Liu

1:50PM *A Novel Density Peaks Clustering Algorithm Based on Local Reachability Density*

Hanqing Wang, Bin Zhou and Pinbo Duan

2:10PM *Optimizing Production Mix involving Linear Programming with Fuzzy Resources and Fuzzy Constraints*

B. Onasanya, Yuming Feng, Zitao Wang, O. Samakin, Shuang Wu and Xiaoyu Liu

2:30PM *A Neural Network for Solving the Moore-Penrose Inverse of Time-varying Complex-valued Matrixes*

Haojin Li, Defeng Qiao and Sitian Qin

2:50PM *Application of Fuzzy C-Mean Clustering Based on Multi-Polar Fuzzy Entropy Improvement in Dynamic Truck Scale Cheating Recognition*

Xianyun Huang and Zhenyu Lu

3:10PM *An Efficient Neurodynamic Approach to Fuzzy Chance-constrained Programming*

Litao Ma, Jiqiang Chen, Sitian Qin, Lina Zhang and Feng Zhang