

Welcome Messages

On behalf of the Organizing Committee, we welcome you all to attend the Tenth International Conference on Intelligent Control and Information Processing.

The Tenth International Conference on Intelligent Control and Information Processing (ICICIP 2019) is held in Marrakesh, Morocco, Africa during December 14-19, 2019, following the successes of previous events. Located in northern Africa, Marrakesh is one of four ancient capitals of the kingdom and listed by UNESCO as a cultural heritage.

ICICIP 2019 aims to provide a high-level international forum for scientists, engineers, and educators to present the state of the art of research and applications in related fields. The conference features plenary speeches given by three world-renowned scholars, regular sessions with broad coverage on popular topics. In addition, the conference also features a post-conference workshop on special and emerging topics.

We are sure that you will enjoy the event both intellectually and culturally.

Jun Wang

Abdelkrim Haqiq

Peter X. Liu

Stefano Squartini

Wenwu Yu

Dongbin Zhao

Organizers and Sponsors

Sponsors/Organizers



[Hassan I University](#)



[City University of Hong Kong](#)

Technical co-sponsors



[IEEE Systems, Man and Cybernetics Society](#)

Organizing Committee

General Chair

Jun Wang, City University of Hong Kong, Hong Kong

Advisory Chairs

Khadija Essafi, Hassan I University, Settat, Morocco

Mohamed Knidiri, Former Minister of National Education, Morocco

Jamal Naja, Hassan I University, Settat, Morocco

Steering Chairs

Derong Liu, University of Illinois, Chicago, USA

Jun Wang, City University of Hong Kong, Hong Kong

Organizing Chairs

Abdelkrim Haqiq, Hassan I University, Settat, Morocco

Peter X. Liu, Carleton University, Ottawa, Canada

Program Chairs

Stefano Squartini, Marche Polytechnic University, Ancona, Italy

Wenwu Yu, Southeast University, Nanjing, China

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

Special Sessions Chairs

Long Cheng, Institute of Automation, Chinese Academy of Sci., Beijing, China

Qingshan Liu, Southeast University, Nanjing, China

Tutorial/Workshop Chairs

El Mehdi Mellouli, Sidi Mohamed Ben Abdellah University, Fes, Morocco

Kay Chen Tan, City University of Hong Kong, Hong Kong

Publications Chairs

Zhenyuan Guo, Hunan University, Hunan, China

Rushi Lan, Guilin University of Electronic Technology, Guilin, China

Cheng Lian, Wuhan University of Technology, Wuhan, China

Publicity Chairs

Adel Alimi, University of Sfax, Sfax, Tunisia

Tingwen Huang, Texas A&M University at Qatar, Doha, Qatar

Sam Kwong, City University of Hong Kong, Hong Kong

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

Registration Chairs

Shenshen Gu, Shanghai University, Shanghai, China

Qingshan Liu, Southeast University, Nanjing, China

Local Arrangements Chairs

Bouchaib Nassereddine, Mohamed Hanini, Said El Kafhali, Oussama Mjihil,
Hassan I University, Settat, Morocco

Program at a Glance

December 14

14:00-18:00	On-site registration (lobby)
-------------	------------------------------

December 15

8:00-18:00	On-site registration (lobby)
8:30-8:40	Opening ceremony (Marrakech Meeting Room)
8:40-9:40	Keynote speech I
9:40-10:00	Coffee break
10:00-11:00	Keynote speech II
11:00-12:00	Keynote speech III
12:00-13:00	Lunch (Panoramique)
13:00-15:40	Oral session 1: Intelligent Information Processing I
15:40-16:00	Coffee break
16:00-18:00	Oral session 2: Intelligent Information Processing II
18:30-20:00	Banquet (TBA)

December 16

8:00-10:00	Oral session 3: Intelligent Information Processing III
10:00-10:20	Coffee break
10:20-12:00	Oral session 4: Intelligent Control I
12:00-13:00	Lunch (Panoramique)
13:00-15:40	Oral session 5: Intelligent Control II
15:40-16:00	Coffee break
16:00-18:00	Oral session 6: Intelligent Control III

December 17

Interactive sessions

December 18 - 19

Post-conference Workshop in Essaouira (for the workshop registrants only)
--

Keynote Speech I

Network Controllability and its Robustness against Destructive Attacks

Guanrong Chen

IEEE Life Fellow and Fellow of the World Academy of Sciences
City University of Hong Kong, Kowloon Tong, Kowloon, Hong Kong

Abstract: This talk addresses the concerned issue of network controllability and its robustness against destructive node-removal or edge-removal attacks. The concept and criteria of network controllability are introduced, and a new snapback network model is constructed. Then, a quantitative measure of the robustness of network controllability is defined. Finally, an extensive empirical comparison on seven typical network models, namely, random-graph network, scale-free network, multiplex concurrence network, snapback network, re-directing snapback network, random triangle network, and random rectangle network, against six different types of attacks, that is, random and targeted, betweenness-based and degree-based node-removal and edge-removal attacks, showing the overall super-robustness of the multi-ring structure in complex networks.



Biography: Prof. Guanrong Chen received the M.Sc. degree in computational mathematics from Zhongshan University, China in 1981 and the Ph.D. degree in applied mathematics from Texas A&M University, USA in 1987. He has been a Chair Professor at City University of Hong Kong, China since year 2000, prior to that he was a tenured Full Professor at the University of Houston, Texas, USA. Prof Chen was elected IEEE Fellow in 1997, and has been an ISI Highly Cited Researcher in Engineering since 2009. He received second prize of the State Natural Science Award of China in 2008, 2012 and 2016, respectively, and awarded the 2011 Euler Gold Medal, Russia. He was conferred Honorary Doctorates by the Saint Petersburg State University, Russia in 2011 and by the University of Normandy, France in 2014. He is a member of the Academy of Europe (2014) and a fellow of The World Academy of Sciences (2015).

Keynote Speech II

Recent Advances in Fixed-Time Cooperative Control of Multi-Agent Systems

Qing-Long Han, FIEEE, FIEAust

Distinguished Professor and Pro Vice-Chancellor (Research Quality)
Swinburne University of Technology, Melbourne, Victoria 3122, Australia

Abstract: Fixed-time cooperative control of multi-agent systems has received considerable research interest since it can provide an estimated bound of settling time, which does not depend on initial conditions. Compared with asymptotic cooperative control algorithms, fixed-time cooperative control algorithms can provide better closed-loop performance and disturbance rejection properties. Different from finite-time control, fixed-time cooperative control can produce a faster convergence rate and provide an explicit estimate of settling time independent of initial conditions, which is desirable for multi-agent systems. In this keynote talk, some fundamental concepts of fixed-time stability are introduced. Then, fixed-time cooperative control of multi-agent systems with various dynamics are elaborated in detail. An application of fixed-time consensus for distributed optimization is presented. Finally, a time base generator approach is introduced for practical fixed-time cooperative control.



Qing-Long Han received Ph.D. degree in Control Engineering and Electrical Engineering from East China University of Science and Technology, Shanghai, China, in 1997. From September 1997 to December 1998, he was a Post-doctoral Researcher Fellow with the Laboratoire d'Automatique et d'Informatique Industrielle (LAI) (currently, Laboratoire d'Informatique et d'Automatique pour les Systèmes, LIAS), École Supérieure d'Ingénieurs de Poitiers (ESIP) (currently, École Nationale Supérieure d'Ingénieurs de Poitiers (ENSIP)), Université de Poitiers, France. From January 1999 to August 2001, he was a Research Assistant Professor with the Department of Mechanical and Industrial Engineering at Southern Illinois University at Edwardsville, USA. From September 2001 to December 2014, he was Laureate Professor, Associate Dean (Research and Innovation) with the Higher Education Division, and the Founding Director of the Centre for Intelligent and Networked Systems at Central Queensland University, Australia. From

December 2014 to May 2016, he was Deputy Dean (Research), with the Griffith Sciences, and a Professor with the Griffith School of Engineering, Griffith University, Australia. In May 2016, he joined Swinburne University of Technology, Australia, where he is currently Pro Vice-Chancellor (Research Quality) and a Distinguished Professor. He is also the Director of Centre for Networked Control Systems with the School of Mechatronic Engineering and Automation, Shanghai University, China. In March 2010, he was appointed Chang Jiang (Yangtze River) Scholar Chair Professor by Ministry of Education, China.

Professor Han has been conducting research in the field of Control Theory and Control Engineering. He has published has been conducting research in the field of networked control systems, multi-agent systems, time-delay systems and neural networks. Since 2001, he has published **two hundred and fifty-one (251)** fully-refereed high quality journal articles, of which **thirty-one (31)** articles are published in **Automatica**, and **nineteen (19)** articles are published in **IEEE Transactions on Automatic Control** (the two best journals in the area of automatic control) and **one hundred and twelve (112)** articles are published in the **most prestigious IEEE Transactions**. He has also published **one hundred and eighty (180)** leading conference papers, four monographs, one research-based book chapter, and edited four conference proceedings and six special issues.

As of September 7, 2019, Professor Han's research work has been cited **21834 times** with **h-index of 80**, **i10-index of 228** according to Google Scholar. He has ranked at **No. 5** in the arena of **Computer Science and Electronics** in Australia according to Guide2Research (<http://www.guide2research.com/scientists/AU>). This ranking is based on the h-index metric provided by Google Scholar and DBLP. His research work has been cited **17593 times** with **h-index of 73** according to SCOPUS, and **14633 times** with **h-index of 68** according to Clarivate Analytics (formerly Thomson Reuters) Web of Science Core Collection. The **Essential Science Indicator's (ESI)** Report on July 11, 2019, which covers the period from **January 2009 to March/April 2019**, indicates that he has **50 Highly Cited Papers**. Among these Highly Cited Papers, **33 Highly Cited Papers** are in the field of **Engineering**; **16 Highly Cited Papers** are in the field of **Computer Science**; and **1 Highly Cited Paper** is in the field of **Mathematics**.

Professor Han is one of The World's Most Influential Scientific Minds: 2014-2016 and 2018. He is a Highly Cited Researcher according to Clarivate Analytics (formerly Thomson Reuters). He is a **Fellow of The Institute of Electrical and Electronic Engineers (FIEEE)** and a **Fellow of The Institution of Engineers Australia (FIEAust)**. He is an Associate Editor of a number of international journals including IEEE Transactions on Industrial Electronics, IEEE Transactions on Industrial Informatics, IEEE Transactions on Cybernetics, IEEE/CAA Journal of Automatica Sinica, and Information Sciences. His research interests include networked control systems, time-delay systems, multi-agent systems, neural networks and complex dynamical systems.

Keynote Speech III

Many Objective Evolutionary Optimization and Its Application in Convolutional Neural Network Design and Deployment

Gary G. Yen, Regents Professor, FIEEE, FIET

School of Electrical and Computer Engineering, Oklahoma State University, Stillwater, Oklahoma, USA

Abstract: Evolutionary computation is a branch of studying biologically motivated computational paradigms which exert novel ideas and inspiration from natural evolution and adaptation. The applications of population-based meta-heuristics in solving multiobjective optimization problems have been receiving a growing attention. To search for a family of Pareto optimal solutions based on nature-inspiring metaphors, Evolutionary Multiobjective Optimization Algorithms have been successfully exploited to solve optimization problems in which the fitness measures and even constraints are uncertain and changed over time. When encounter optimization problems with many objectives, nearly all designs perform poorly because of loss of selection pressure in fitness evaluation solely based upon Pareto optimality principle. During the last years, evolutionary algorithms have been adapted to address these challenges of curse of dimensionality. In addition, a minimum Manhattan distance (MMD) approach to multiple criteria decision making in many-objective optimization problems is proposed. This procedure is equivalent to the knee selection described by a divide and conquer approach that involves iterations of pairwise comparisons. Given such a directive, knee-based evolutionary algorithms have also been exploited to address dynamic optimization, constraint optimization, robust optimization and their applications including automatic design of the deep neural networks.

Specifically, we propose to automatically evolve CNN architectures by using a genetic algorithm (GA) based on ResNet and DenseNet blocks. Neither preprocessing before it starts nor postprocessing in terms of CNNs is needed. Furthermore, the proposed algorithm does not require users with domain knowledge on CNNs, the investigated problem, or even GAs. In addition to design CNNs, we will also discuss issues involved in deploying such CNNs. We formally establish filter pruning as a multiobjective optimization problem, and propose a knee-guided evolutionary algorithm that can automatically search for the solution with quality tradeoff between the scale of parameters and performance, in which both conflicting objectives can be optimized simultaneously. The proposed design and deployment algorithm is evaluated on the CIFAR10, CIFAR100 and ImageNet benchmark data sets against 18 state-of-the-art peer competitors. Experimental results show that the proposed algorithm outperforms the state-of-the-art CNNs hand-crafted and the CNNs designed by automatic peer competitors in terms of the classification performance and achieves a competitive classification accuracy against semiautomatic peer competitors.



Gary G. Yen received the Ph.D. degree in electrical and computer engineering from the University of Notre Dame in 1992. He is currently a Regents Professor in the School of Electrical and Computer Engineering, Oklahoma State University. His research interest includes intelligent control, computational intelligence, evolutionary multiobjective optimization, conditional health monitoring, signal processing and their industrial/defense applications.

Gary was an associate editor of the *IEEE Transactions on Neural Networks* and *IEEE Control Systems Magazine* during 1994-1999, and of the *IEEE Transactions on Control Systems Technology*, *IEEE Transactions on Systems, Man and Cybernetics* (Parts A and B) and *IFAC Journal on Automatica* and *Mechatronics* during 2000-2010. He is currently serving as an associate editor for the *IEEE Transactions on Evolutionary Computation*, *IEEE Transactions on Cybernetics* and *IEEE Transactions on Emerging Topics on Computational Intelligence*. Gary served as Vice President for the Technical Activities, IEEE Computational Intelligence Society in 2004-2005 and was the founding editor-in-chief of the *IEEE Computational Intelligence Magazine*, 2006-2009. He was the President of the IEEE Computational Intelligence Society in 2010-2011 and is elected as a Distinguished Lecturer for the term 2012-2014 and 2016-2018. He received Regents Distinguished Research Award from OSU in 2009, 2011 Andrew P Sage Best Transactions Paper award from IEEE Systems, Man and Cybernetics Society, 2013 Meritorious Service award from IEEE Computational Intelligence Society and 2014 Lockheed Martin Aeronautics Excellence Teaching award. He is a Fellow of IEEE and IET

December 14

14:00-18:00	Registration (lobby)
-------------	----------------------

December 15

8:30-8:40	Opening ceremony (Marrakech Meeting Room)	
8:40-9:40	Keynote speech I	Professor Guanrong Chen
9:40-10:00	Coffee break	
10:00-11:00	Keynote Speech II	Professor Qing-Long Han
11:00-12:00	Keynote Speech III	Professor Gary G. Yen
12:00-13:00	Lunch (Panoramique)	
Session	Oral session 1: Intelligent Information Processing I (Marrakech Meeting Room)	
Chairs	Shuang Cong and Jianchao Fan	
13:00-13:20	Yingying Kong, Bowen Zhang, Henry Leung and Shiyu Xing	<u>Urban UAV Images Semantic Segmentation Based on Fully Convolutional Networks with Digital Surface Models</u>
13:20-13:40	Kun Zhang, Shuang Cong, Jiao Ding, Jiaojiao Zhang and Kezhi Li	<u>Efficient and Fast Optimization Algorithms for Quantum State Filtering and Estimation</u>
13:40-14:00	Huiyan Lu, Ruiqi Liu, Xiujuan Du, Haiqi Liu, Mei Liu, Long Jin and Jiliang Zhang	<u>On RNN Models for Solving Dynamic System of Linear Equations</u>
14:00-14:20	Huan Wang, Dongyang Fu, Shan Liao, Guancheng Wang and Xiuchun Xiao	<u>Significant Wave Height Prediction Based on MSFD Neural Network</u>
14:20-14:40	Xiang Wang, Xin-Xin Wang, Xiu Su, Jianchao Fan, Lin Wang and Qing-Hui Meng	<u>Spectral Analysis Based Green Tide Identification in High-suspended Sediment Wasters in South Yellow Sea of China</u>
14:40-15:00	Xinxin Wang, Xiang Wang, Jianchao Fan, Jianhua Zhao, Yu Wang and Enbo Wei	<u>Automatic Detection and Identification of RFI Sources for SMAP Satellite Polarized Data Based on IDL</u>
15:00-15:20	Yangyang Qian, Mingang Hua and Juntao Fei	<u>Fault Detection Filtering for Nonlinear Systems with Packet Dropout</u>
15:20-	Xiangguang Dai, Keke Zhang, Wei	<u>Sparse Coding with Outliers</u>

15:40	Zhang, Jiang Xiong and Yuming Feng	
15:40-16:00	Coffee break	
Ses- sion	Oral session 2: Intelligent Information Processing II (Marrakech Meeting Room)	
Chairs	Zhi-Hui Zhan and Nian Zhang	
16:00-16:20	Yue-Xin Li, Zhi-Hui Zhan, Hu Jin and Jun Zhang	Cloudde-based Distributed Differential Evolution for Solving Dynamic Optimization Problems
16:20-16:40	Jianchao Fan, Xinxin Wang, Xiang Wang and Xiaoxin Liu	GF-3 PolSAR Marine Aquaculture Recognition Based on Complex Convolutional Neural Networks
16:40-17:00	Juan F. Ramirez Rochac, Lily Liang, Nian Zhang and Timothy Oladunni	A Gaussian Data Augmentation Technique on Highly Dimensional, Limited Labeled Data for Multiclass Classification Using Deep Learning
17:00-17:20	Thayse Christine da Silva and Marcelo Ricardo Stemmer	Automatic Identification and Prediction of Anatomical Points in Monocular Images for Postural Assessment
17:20-17:40	Min Woo Kim, Kyung Tae Kim and Hee Yong Youn	Node Clustering Based on Feature Correlation and Maximum Entropy for WSN
17:40-18:00	Youcef Moudjib Houari, Haibin Duan, Baochang Zhang and Ali Maher	Cross Spectral-Spatial Convolutional Network for Hyperspectral Image Classification
18:30-20:00	Banquet	

December 16

Ses- sion	Oral session 3: Intelligent Information Processing III (Marrakech Meeting Room)	
Chairs	Ping Guo and Qiu-Hua Lin	
8:00-8:20	Yan-Wei Niu, Qiu-Hua Lin, Li-Dan Kuang, Yue Qiu and Vince D Calhoun	Sample Augmentation for Classification of Schizophrenia Patients and Healthy Controls Using ICA of fMRI Data and Convolutional Neural Networks
8:20-8:40	Wanliang Wang, Zheng Wang, Guoqing Li and Senliang Ying	An Improved Multi-Objective Optimization Algorithm Based on Decomposition
8:40-9:00	Juan F. Ramirez Rochac, Nian Zhang and Jiang Xiong	A Spectral Feature Based CNN Long Short-Term Memory Approach for Classification

9:00-9:20	Ningning Zhou, Yang Liu and Long Hong	An Improved SLIC Super-pixel Extraction Algorithm Based on MMTD
9:20-9:40	Rong Fu, Tongtong Wu, Zuoying Luo, Fuqing Duan, Xuejun Qiao and Ping Guo	Learning Behavior Analysis in Classroom Based on Deep Learning
9:40-10:00	Leisi Shi, Chen Li and Lihua Tian	Music Genre Classification Based on Chroma Features and Deep Learning
10:00-10:20	Coffee break	
Ses-sion	Oral session 4: Intelligent Control I (Marrakech Meeting Room)	
Chairs	Long Cheng and Bo Zhao	
10:20-10:40	Haowei Lin, Qiuye Wu, Derong Liu, Bo Zhao and Qinmin Yang	Fault Tolerant Control for Nonlinear Systems Based on Adaptive Dynamic Programming with Particle Swarm Optimization
10:40-11:00	Jintao Gong, Guang Chen, Hong-Xiang Hu and Wenwu Yu	Parameters Identification and Synchronization of Complex Dynamical Networks with Time-varying Delays via Linear Control
11:00-11:20	Jun Ma, Rong Mo, Miao Chen, Long Cheng and Hongsheng Qi	Mirror-Training of a Cable-Driven Hand Rehabilitation Robot Based on Surface Electromyography (sEMG)
11:20-11:40	Zhenxing Li, Chengdong Yang, Zhaodong Liu, Ancai Zhang and Jianlong Qiu	Fully Distributed Consensus Control for Second-order Uncertain Nonlinear Multi-Agent Systems via an Event-triggered Approach
11:40-12:00	Yao Hu, Ming Yang, Bing Wang, Chunxiang Wang and Boya Xu	Autonomous Exploration for Automated Valet Parking Based on Road Structure
12:00-13:00	Lunch (Panoramique)	
Ses-sion	Oral session 5: Intelligent Control II (Marrakech Meeting Room)	
Chairs	Wen Yu and Tieshan Li	
13:00-13:20	Shunyuan Xiao, Xiaohua Ge, Qing-Long Han and Zhenwei Cao	Two-Target Tracking Over Heterogeneous Sensor Networks under Deception Attacks
13:20-13:40	Liangen Yuan, Tieshan Li, C. L. Philip Chen, Qihe Shan and Min Han	Broad Learning System-Based Learning Controller for Course Control of Marine Vessels
13:40-14:00	Yuanyuan Xu, Tieshan Li, Qihe Shan and Min Han	Adaptive Fuzzy Compensation Control of MIMO Stochastic Nonlinear Systems with Input Hysteresis

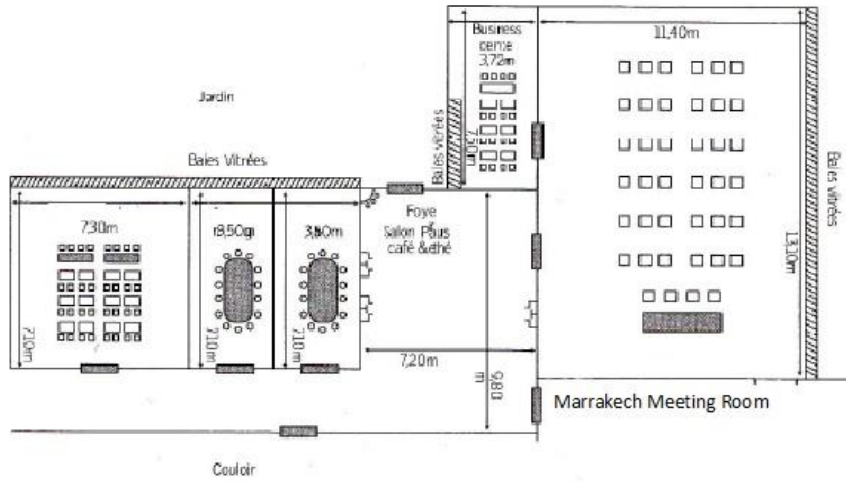
14:00-14:20	Wenhui Duan, Xiuchun Xiao, Dongyang Fu, Mei Liu, Jiliang Zhang, Shi Yan and Long Jin	A Controller of Liquid Material on Fast Saturated Zeroing Dynamics Model in Industrial Agitator Tank
14:20-14:40	Adolfo Perrusquia, Wen Yu and Xiaou Li	Impedance Control of Robot in Unknown Environment Using Reinforcement Learning
14:40-15:00	Erick García, Wen Yu and Xiaou Li	Optimal Design of a Parallel Robot Using Neural Network and Genetic Algorithm
15:00-15:20	Lei Wang, Chuan Wang, Kun Wang, He Wang, Zhaoyu Liu and Wenwu Yu	Distributed Load Frequency Control for Multi-Area Power Systems
15:20-15:40	Zhongbo Sun, Xiaoqin Duan, Feng Li, Yongbai Liu, Gang Wang, Tian Shi and Keping Liu	A RBF Neural Network-Sliding Model Control Approach for Lower Limb Rehabilitation Robot Based on Gait Trajectories of sEMG Estimation
15:40-16:00	Coffee break	
Session	Oral session 6: Intelligent Control III (Marrakech Meeting Room)	
Chairs	Qichao Zhang and Randa Herzallah	
16:00-16:20	Yinfeng Gao, Yuqi Liu, Qichao Zhang, Yu Wang, Dongbin Zhao, Dawei Ding, Zhonghua Pang and Yueming Zhang	Comparison of Control Methods Based on Imitation Learning for Autonomous Driving
16:20-16:40	Peng Xu, Guangming Xie, Jin Tao and Minyi Xu	Observer-based Event-triggered Circle Formation for Multi-agent Systems with Directed Topologies
16:40-17:00	Ana Zafar and Randa Herzallah	Generalised Fully Probabilistic Controller Design for Nonlinear Affine Systems
17:00-17:20	Randa Herzallah	Robust Probabilistic Control for Linear Stochastic Systems with Functional Uncertainty
17:20-17:40	Yong Lu, Pengcheng Cao, Lijun Xiong and Bocheng Xu	A Novel Fuzzy Logic Control on the FVVT Lift of Internal Combustion Engine
17:40-18:00	Sifan Yang, Guangming Xie, Jiayan Wen, Wenguang Luo, Zonghong Zhu and Jin Tao	Distributed Event-Triggered Bipartite Consensus for Multi-Agent Systems Associated with Signed Graphs

December 17

Interactive Sessions		
9:00-17:00	Fei Wang, Zichen Wang, Fei Yan, Hong Gu and Yan Zhuang	<u>A Novel Real-time Semantic-Assisted Lidar Odometry and Mapping System</u>
	Amauri B. Camargo Jr., Yisha Liu, Guojian He and Yan Zhuang	<u>Mobile Robot Autonomous Exploration and Navigation in Large-scale Indoor Environments</u>
	Jing Huang, Shuguo Yang and Wenwu Wang	<u>A Method for Content-Based Image Retrieval with a Two-Stage Feature Matching</u>
	Jiasen Wang, Jun Wang and Wei Zhang	<u>Design and Analysis of Neural Networks Based on Linearly Translated Features</u>
	Wei Zeng, Zhiyuan You, Mingyue Huang, Zelong Kong, Yikuan Yu and Xinyi Le	<u>Steel Sheet Defect Detection Based on Deep Learning Method</u>
	Guojing Wu, Jingchuan Wang, Hesheng Wang, Peng Li, and Le Xie	<u>An Improved Scan Matching Method based on Laser Reflection Intensity</u>
	Haibo Xie, Yang Song, Zongyao Xue, Chengyong Yan, Shibo Zhou and Zehua Li	<u>Ship-induced Wave Numerical Simulation in Head-on Situation of Two Ships in Shallow Water</u>
	Feng Jiang and Jiawei Yang	<u>Ultra-Short-Term Wind Power Prediction Based on Ensemble Learning and Elephant Herd Optimization Algorithm</u>
	Zhenlun Yang, Kunquan Shi, Angus Wu, Meiling Qiu and Xuewen Wei	<u>A Hybrid Self-Learning Method Based on Particle Swarm Optimization and SALP Swarm Algorithm</u>
	Chengyong Yan, Wenjun Zhang and Shibo Zhou	<u>Comprehensive Evaluation of Ship Maneuverability Based on Cluster Analysis</u>
	Zhenbing Liu, Xinlong Li, Weiwei Li, Rushi Lan, and Xiaonan Luo	<u>An Image Compression Framework Based on Multi-scale Convolutional Neural Network for Deformation Images</u>
	Simi Lu, Xiaofeng Liao, Nankun Mu, Jiahui Wu and Junqing Le	<u>Reversible Data Hiding Based on Improved Rhombus Prediction Method</u>
	Zimin Wang, Yumeng Wang, Yuhong Meng, Li Zeng, Zhenbing Liu and Rushi Lan	<u>Shapelet Feature Learning Method of BCG Signal Based on ESOINN</u>
	Zhouhua Peng, Bao Zhang, Qiuyue Sun, Dan Wang, Min Han, Lu Liu and Haoliang Wang	<u>Finite-set Model Predictive Speed and Heading Control of Autonomous Surface Vehicles with Unmeasured States</u>
Yutong Wang, Yikun Wang, Li Yao	<u>Single Channel Sleep Staging Based</u>	

	and Xiaojie Zhao	<u>on Unsupervised Feature Learning</u>
	Xia He, Long Hong and Guoping Du	<u>The Establishment of Chinese Character Reference Frame of English Monophthong</u>
	Wentao Fu, Longfei Xue, Yuanfa Ji and Xiyang Sun	<u>Implementation of Carrier Phase Synchronization Technology in Pseudo-Satellite Transmitter</u>
	Fang Lin, Zhelong Wang, Debin Shen, Kaida Li, Hongyu Zhao, Sen Qiu and Fang Xu	<u>Intelligent Flame Detection Based on Principal Component Analysis and Support Vector Machine</u>
	Tao Wang	<u>Exploiting the Relationship between Online and Spatial Collaboration Networks for Online Mass Collaboration</u>

Meeting room floor plan (Ground floor)



Breakout Rooms