

ICNSC19 Conference Brochure



**2019 IEEE 16th International Conference on
Networking, Sensing and Control
(ICNSC 2019)**

May 9-11, 2019, Banff, Alberta, Canada



Program at Glance

Thursday May 9, 2019			
8.30	Plenary (Open)		
9.00	Keynote Speech 1 by Prof. Wen-Hua Chen		
10.00	Coffee Break		
10.30	Session 1 A (5) Machine Learning	Session 1 B (5) Modelling and Optimization	Session 1 C (5) Best Conference Paper
12.30	Lunch Break		
14.00	Session 2 A (4) Advances in Scheduling	Session 2 B (4) Visualization and Networking	Session 2 C (4) Intelligent Optimizations
15.30	Coffee Break		
16.00	Session 3 A (6) Hardware Design	Session 3 B (6) Object Recognition	Session 3 C (6) Best Student Paper
18.20	Close Sessions		
19:30	Welcome Cocktail		

Friday May 10, 2019			
9.00	Keynote Speech 2 by Prof. Giancarlo Fortino		
10.00	Coffee Break		
10.30	Session 4 A (5) Advances in Scheduling	Session 4 B (5) Advanced Control Methods	Session 4 C (5) Intelligent Unmanned Systems
12.30	Lunch Break		
14.00	Session 5 A (4) Innovative Detection Methods	Session 5 B (4) Cloud Computing Systems	Session 5 C (4) Big Data in Network Systems
15.30	Coffee Break		
	Plenary Sessions		
16:00	Plenary Speech 1: Dr. Ming Hou		
16:45	Plenary Speech 2: Dr. Jianbo Lu		
17:30	Plenary Speech 3: Prof. Hesuan Hu		
18.15	Close Sessions		
18:30	Conference Banquet		

Saturday May 11, 2019			
9.00	Keynote Speech 3 by Prof. Hossam A. Gabbar		
10.00	Coffee Break		
10.30	Session 7 A (5) Advanced Algorithms	Session 7 B (5) Internet of Things	Session 7 C (0) Optional
12.30	Conference Closing		

Notes:

- 1) The number in the parentheses express how many papers will be presented in this session.
- 2) Rooms: Session A (KC 103), Session B (KC 105), and Session C (KC 208).

Program

IEEE 16th IEEE International Conference on Networking, Sensing and Control
Banff, Canada
May 9-11, 2019

May 9, 2019, Thursday
Morning

8:30 Opening
Jiacun Wang, General Chair
Haibin Zhu, Program Chair

9:00 Keynote 1: Prof. Wen-Hua Chen
Session Chair: Jiacun Wang

Autonomous Search of Unknown Source of Atmospheric Release using
Mobile Sensor Platforms

10: 30 Session 1A: Machine Learning
Session Chair: Yan-Lin He

- 4 Photographic Analysis and Machine Learning for Diagnostic Prediction of Adenoid Hypertrophy
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Qin-Yan Zhang Automation School Beijing University of Posts and
Telecommunications Beijing zh_qinyan@163.com
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Yi Lei Research Institute of Information Technology Tsinghua University Beijing
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Jia-Li Wu Software School North university of China Taiyuan, Shanxi
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(Presenter: **Jiacun Wang**)
- 6 Deep Learning Based Formation Control for the Multi-Agent Coordination

*The bold and underlined author is the presenter.

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16 Hierarchical and Distributed Machine Learning Inference Beyond the Edge
Anthony Thomas*, Yunhui Guo*, Yeseong Kim*, Baris Aksanli†, Arun Kumar*,
Tajana S. Rosing*

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35 Intelligent modeling using a novel feature extraction based multiple activation
functions extreme learning machine

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Yan-Lin He College of Information Science & Technology Beijing University of
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84 Stochastic Dual-objective Disassembly Sequence Planning with Consideration of
Learning Effect

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Dan You Zhejiang Gongshang University, China youdan@zjgsu.edu.cn

10:30 Session 1B: Modeling and Optimization
Session Chair: Jianyu Wang

- 18 An emergency response model combining rescuers and victims
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Technology Nanjing, China huangyy@njust.edu.cn
Jianyu Wang School of automation Nanjing University of Science and Technology
Nanjing, China wangjyu@njust.edu.cn
- 77 A Delayed Predator-prey Model for Worm Propagation in Computer Systems
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Zizhen Zhang School of Management Science and Engineering Anhui University of
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Xuemin Chen Department of Engineering Texas Southern University Houston
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- 83 Optimizer Adapted for Disassembly Sequencing Problems
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- 95 Improving efficiency and availability in Smart Classroom environments
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100 Developing a Cyber-Physical System for Promoting Green Engineering of Solid Waste Incineration

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Yuanqing Huang South China Institute of Environmental Sciences, Ministry of Ecology and Environment Guangzhou, China
Yingshi Xie, Jing Hai South China Institute of Environmental Sciences, Ministry of Ecology and Environment Guangzhou, China

10:30 Session 1C: Best Papers
Session Chair: Naiqi Wu

22 An Obstacle Detection and Avoidance System for Mobile Robot with a Laser Radar

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28 Multi-State Siamese network for indoor visual navigation

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36 Quadrotor LPV Control using Static Output Feedback

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61 Real-time Collision Avoidance for Unmanned Ships under Constraints of Rules
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85 Deep Neural Networks for Predicting Task Time Series in Cloud Computing
Systems
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12:30 Lunch Break

Afternoon

14:00 Session 2A: Advances in Scheduling Session Chair: Xiwang Guo

70 A Three-tier Optimization Method for Congestion Evaluation from Angle of Game
Relationship
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81 Restricted Neighborhood Search for Large Scale Vehicle Routing Problems
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- 89 Using Group Role Assignment to Solve Dynamic Vehicle Routing Problem
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- 112 Rail Corrugation Identification Method Based on Parameter Optimization VMD
and SPWVD

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14:00 Session 2B: Visualization and Network

Session Chair: Yanyan Huang

- 8 Improved Alarm Visualization System Based on Two-Dimensional Online Root-
cause Contribution Graph for Industry 4.0

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- 27 Super-resolution reconstruction of depth image based on edge-selected deep
residual network

Jian Ye^{1,2}, Mingyu Gao^{1,2}, **Yuxiang Yang**^{1,2*}, Qi Cao^{1,2}, Zhongfei Yu¹

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- 110 Learning similar tasks based on PPO by transferring trajectory
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Xiong Chen* School of Information Science and Technology Fudan University
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- 113 Visual Simulation of Anti-Terrorism Emergency Response Based on Unity3D
Muhammad Aziz ur Rehman, **Huang Yan Yan*** School of Automation, Nanjing
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Correspondence: huangyy@njust.edu.cn

14:00 Session 2C (Special Session: Intelligent Optimizations)

Session Chair: Guanjun Liu / Huaxiong Li

- 26 SS3: Convolutional Neural Network for Resting State EEG Signal
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Shuang Liu Center for Science and Technology Development Ministry Education
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(Presenter: **Xiwang Guo**)
- 29 SS2: BUCKER 2.0: An Unfolding Based Checker for CTL
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Guanjun Liu Department of Computer Science Tongji University Shanghai, China
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42 SS2: A Petri-net-based Method For Detecting Bugs in Multiple Threads
Jiaquan Sun, **Guanjun Liu**, Dongming Xiang and Changjun Jiang
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Shanghai Electronic Transactions and Information Service Collaborative
Innovation Center Shanghai 201804, China {calyx, liuguanjun@tongji.edu.cn

58 SS1: Co-Training Based Sequential Three-Way Decisions for Cost-Sensitive
Classification
Di Dai, Xianzhong Zhou, **Huaxiong Li** and Lifeng Liu
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15:30 Break

16:00 Session 3A: Hardware Design Session Chair: Gangbing Song

82 Interconnected Observers for a Powered Two-Wheeled Vehicles: Both Lateral
and Longitudinal Dynamics Estimation
Majda Fouka, Lamri Neheoua, Hichem Arioui and Said Mammam
IBISC Laboratory. Evry Val d'Essonne University, Evry 91000, France. Email:
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98 Hardware Assisted Chaos Based IoT Authentication
Hong Zhao Fairleigh Dickinson University Teaneck, NJ, USA zhao@fdi.edu
Laurent Njilla Air Force Research Laboratory Rome, NY, USA
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102 Comprehensive effectiveness evaluation of non-lethal water cannon weapons
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Jun Wang Advanced Launch Collaborative Innovation Center Nanjing University
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103 Research on High Precision Tracking of Piezoelectric Fast Steering Mirror

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104 Fatigue Crack Width Detection Based on the Active Sensing Method: A Feasibility Study

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111 A feature-based performance evaluation model of WSNs

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(Presenter: **Shan Liang**)

16:00 Session 3B: Object Recognition

Session Chair: Huaxiong Li

31 Pyramid Text Recognition Based on A New Text Representation Model
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Jingsha He* Faculty of Information Technology Beijing University of Technology Beijing 100124, China
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40 Sparse component analysis based on an improved ant K-means clustering algorithm for underdetermined blind source separation

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- 49 In-network performance measurements for Software Defined Wireless Sensor Networks
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Gustavo A. Nunez Universidade de Sao Paulo Sao Paulo - SP, Brazil
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Cintia B. Margi Universidade de Sao Paulo Sao Paulo - SP, Brazil cintia@usp.br
Fabio L. Verdi Universidade Federal de Sao Carlos Sorocaba - SP, Brazil
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- 54 A Skeleton Object Detection-Based Dynamic Gesture Recognition Method
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Xianzhong Zhou* Department of Control and Systems Engineering, School of Management and Engineering Research Center for New Technology in Intelligent Equipment Nanjing University Nanjing, China zhouxz@nju.edu.cn
- 87 **Jun Wang**, Jingtian Wei and Zhi Guo
Deployment and Strategy formulation of Airport Bird-driving equipment based on efficiency Analysis
Jun Wang Advanced Launching Co-innovation Center Nanjing University of Science and Technology Nanjing, China wangj1125@163.com
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Zhi Guo School of Automation Nanjing University of Science and Technology Nanjing, China guozhi@njust.edu.cn
- 97 Wenjin Zhang, **Jiacun Wang** and Xuemin Chen
Dynamic Hand Gesture Recognition Based on 3D Convolutional Neural Networks Models
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16:00 Session 3C: Best Student Papers
Session Chair: Xuemin Chen

9 Maximally Permissive Supervisor Synthesis Using Reachability and Structural Analysis of Petri Nets

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Zhiwu Li School of Electro-Mechanical Engineering Xidian University Xi'an, China zhwli@xidian.edu.cn

10 Reliability-aware and Deadline-constrained workflow scheduling in Mobile Edge Computing

Qinglan Peng¹, Haochen Jiang², Mujie Chen³, Jiawei Liang⁴, Yunni Xia^{1*}

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(Presenter: **Xiaoning Sun**)

59 An iterative Deadlock Prevention Policy Based on siphons

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78 Shape Self-Assembly for a Swarm of Agents

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88 A Generative Adversarial Distribution Matching Framework for Visual Domain Adaptation

Kai Zhang, L. Pan, X. Wang and Q. Kang are with the Department of Control Science and Engineering, and C. Cui is with the School of Foreign Languages, Tongji University, Shanghai 200092, China (e-mail: gkang@tongji.edu.cn).

114 Path Planning of Mobile Robot Based on an Improved A* Algorithm

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May 10, 2019, Friday

Morning

9:00 Keynote 2: Prof. Giancarlo Fortino

Session Chair: Haibin Zhu

Towards Opportunistic IoT Services: A Novel Paradigm for Engineering the Next-generation Smart IoT Systems

10:00 Coffee Break

10:30 Session 4 A: Advances in Scheduling

Session Chair: Yanyan Huang

20 An r-dominance-based bare-bones multi-objective particle swarm optimization for attitude maneuver of flexible spacecraft filled with liquid

Liaoxue Liu, Yu Guo, Yifei Wu and Rui Zhu

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- 23 Circle Formation of Anonymous Mobile Agents with Measurement Errors
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Cheng Song School of Automation Nanjing University of Science and Technology Nanjing 210094, China chengsong@njust.edu.cn
Yuan Fan School of Electrical Engineering and Automation Anhui University Hefei 230601, China yuanf@ahu.edu.cn
- 24 Non-trap Artificial Potential Field Based on Virtual Obstacle
Tiande Chen
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Y. Y. Huang School of Automation Nanjing University of Science and Technology Nanjing, China huangyy@njust.edu.cn
- 56 Group Multi-Role Assignment with Coupled Roles
Haibin Zhu
Department of Computer Science and Mathematics, Nipissing University, North Bay, ON, Canada haibinz@nipissingu.ca
- 63 Spatio-Temporal Scheduling of Heterogeneous Delay-Constrained Tasks in Geo-Distributed Green Clouds
Haitao Yuan Dept. of ECE New Jersey Institute of Technology Newark, NJ 07102 USA haitao.yuan@njit.edu
Jing Bi School of Software Engineering Beijing University of Technology Beijing 100124, China bijing@bjut.edu.cn
MengChu Zhou Dept. of ECE New Jersey Institute of Technology Newark, NJ 07102 USA zhou@njit.edu

10:30 Session 4B Control
Session Chair: Mingcong Deng

- 11 Control of Flow Rate in Pipeline Using PID Controller
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(Presenter: **Xuemin Chen**)

39 CCD Camera-Based Ball Balancer System with Fuzzy PD Control in Varying Light Conditions

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(Presenter: **Liaoxue Liu**)

53 Gesture Control for Human-Robot Interaction Based on Three-Way Decision Model

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91 Experimental Study on Operator-based Nonlinear Control for a Miniature Pneumatic Bending Rubber Actuator by Using PSO-SVR-GGD Method

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Kou Fujita The Graduate School of Engineering Tokyo University of Agriculture and Technology Koganei, Tokyo, Japan

Keisuke Ueno The Graduate School of Engineering Tokyo University of Agriculture and Technology Koganei, Tokyo, Japan

PO1 A Review of Electric Vehicles, Charging Stations and their Impact on Consumers and Manufacturers

Ishani Chatterjee

Helen and John C. Hartmann Dept. of Electrical and Computer Engineering

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10:30 Session 4C: Special Session on Quantum Cybernetics and Intelligent Unmanned Systems

Session Chair: Chunlin Chen

- 43 SS1: Robust PCA for Face Recognition with Occlusion Using Symmetry Information
Libin Cao, **Huaxiong Li**, Haichen Guo, Bo Wang Department of Control and Systems Engineering School of Management and Engineering, Nanjing University, Nanjing, China njucaolibin@163.com, huaxiongli@nju.edu.cn, hguo94@163.com, bowangsme@nju.edu.cn
- 55 SS1: Research on Multi-modal Interactive Control for Quadrotor UAV
Shuwei Zhang Department of Control and Systems Engineering, School of Management and Engineering Nanjing University Nanjing, China zhangsw95@163.com
Xin Liu Department of Control and Systems Engineering, School of Management and Engineering Nanjing University Nanjing, China liuxin@mail.hfut.edu.cn
Jiahui Yu Department of Control and Systems Engineering, School of Management and Engineering Nanjing University Nanjing, China mg1815007@smail.nju.edu.cn
Libo Zhang Department of Control and Systems Engineering, School of Management and Engineering Nanjing University Nanjing, China zhanglb@smail.nju.edu.cn
Xianzhong Zhou* Department of Control and Systems Engineering, School of Management and Engineering Research Center for New Technology in Intelligent Equipment Nanjing University Nanjing, China zhouxz@nju.edu.cn
(Presenter: **Tianxing Wang**)
- 64 SS1: Ultrafast-pulse generation using inhomogeneous laser fields and performance analysis
Yang Xiang^{1,2}, Daoyi Dong¹ and **Chunlin Chen**³
¹School of Engineering and Information Technology, University of New South Wales, Canberra, Australia
²School of Physics and Electronic Information Engineering, Henan Polytechnic University, Jiaozuo, China
³School of Management and Engineering, Nanjing University, Nanjing, China
Email: xiangyang@hpu.edu.cn; daoyidong@gmail.com; clchen@nju.edu.cn
- 66 SS1: Reinforcement Learning for Robots Path Planning with Rule-based Shallow-trial

Tang Kaiqiang Department of Control and Systems Engineering, School of Management and Engineering, Nanjing University, China
mf1615017@smail.nju.edu.cn

Fu Huiqiao Department of Control and Systems Engineering, School of Management and Engineering, Nanjing University, China 875805096@qq.com

Jiang Hao School of Manufacturing Science and Engineering, Southwest University of Science and Technology, China 1114699747@qq.com

- 67 SS1: An Emotion-Based Approach to Reinforcement Learning Reward Design
Haixu Yu Department of Control and Systems Engineering School of Management and Engineering Nanjing University, Nanjing 210093, China
hxyu@smail.nju.edu.cn
Pei Yang Department of Control and Systems Engineering School of Management and Engineering Nanjing University, Nanjing 210093, China yangpei@nju.edu.cn

12:30 Lunch Break

Afternoon

14:00 Session 5A: Advanced Detection Methods

Session Chair: Mingcong Deng

- 21 A Defect Detection System for Lamp Cup Rivet Based on Machine Vision
Zhiwei He^{1,2}, Canjun Jiang¹, Yuxiang Yang^{1,2*}, Mingyu Gao^{1,2}, Zhongfei Yu¹
¹School of electronic and information, Hangzhou Dianzi University
²Zhejiang Provincial Key Lab of Equipment Electronics, Hangzhou, China
*Corresponding author: yyx@hdu.edu.cn
- 33 Low-Cost Concealed Weapon Detection for School Environments Using Acoustic Signatures
Jai Chadha Minnetonka Senior High School Minnetonka, MN, USA
013484@mtka.org
- 51 Helmet Detection Based On Improved YOLO V3 Deep Model
Fan Wu^{1,3}, Guoqing Jin², Mingyu Gao^{1,3}, Zhiwei HE^{1,3*}, **Yuxiang Yang**^{1,3}
¹College of Electronic Information, Hangzhou Dianzi University
²Hangzhou Xujian Technology Co., Ltd.
³Zhejiang Provincial Key Lab of Equipment Electronics, Hangzhou, China
zwhe@hdu.edu.cn
- 80 Road Intersection Moving Object Detection by 360-degree View Camera

Chinthaka Premachandra, Shohei Ueda and Yuya Suzuki Graduate School of Engineering and Science, Shibaura Institute of Technology, Tokyo, 1358548 Tokyo (Corresponding author, phone: +81-358598308; e-mail: chintaka@sic.shibaura-it.ac.jp).

14:00 Session 5B: Cloud Computing Systems
Session Chair: Yu Guo / Jing Bi

- 76 Strategic Development of Fresh E-Commerce with Respect to New Retail
Meng, Lingyu Industrial Engineering Texas State University San Marcos, United States m523@txstate.edu
Christenson, Lauren Industrial Engineering Texas State University San Marcos, United States lec131@txstate.edu
Dong, Zhijie Industrial Engineering Texas State University San Marcos, United States sasha.dong@txstate.edu
- 79 Hierarchically Non-continuous Regression Prediction for Short-Term Photovoltaic Power Output
S. Yao, **Le Pan**, and Q. Kang are with the Department of Control Science and Engineering, School of Electronics and Information Engineering, Tongji University, Shanghai 201804, China (e-mail: qkang@tongji.edu.cn).
Z. Yu is with No. 2 Middle School of Yantai, Yantai, Shandong 264000, China.
M. Zhou is with the Department of Electrical and Computer Engineering, New Jersey Institute of Technology, Newark, NJ 07102 USA (e-mail: zhou@njit.edu).
- 101 A Comparative Analysis of Classification and Regression Models for Energy-Efficient Clouds
Eugenio Cesario Monmouth University, USA ICAR-CNR, Italy
ecesario@monmouth.edu cesario@icar.cnr.it
Andrea Vinci ICAR-CNR, Italy vinci@icar.cnr.it
- 107 Real-time Sentiment Analysis On E-Commerce Application
Jahanzeb Jabbar School of Software and Microelectronics, Northwestern Polytechnical University Xi'an, P.R. China jahanzeb.jabbar@hotmail.com
Iqra Urooj School of Software and Microelectronics, Northwestern Polytechnical University Xi'an, P.R. China iqra.urooj@hotmail.com
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Naqash Azeem School of Mechanical Engineering, Northwestern Polytechnical University Xi'an, P.R. China iamnaqash@hotmail.com

14:00 Session 5C: Special Session on Big Data Engineering in Network Systems
Session Chair: Jiacun Wang

- 30 Trilateration in Indoor Positioning with an Uncertain Reference Point
Emre Teoman and Tolga Ovatman Department of Computer Engineering Istanbul Technical University Istanbul, Turkey {teomane, [ovatman](mailto:ovatman@itu.edu.tr)}@itu.edu.tr
- 86 Discrete Spatial Data Reconstruction based on Deep Neural Network
Yi Du College of Engineering Shanghai Polytechnic University Shanghai, China
duyi@sspu.edu.cn
Ting Zhang College of Computer Science and Technology Shanghai University of Electric Power Shanghai, China tingzh@shiep.edu.cn
Jiacun Wang Dept. of Computer Science and Software Engineering Monmouth University New Jersey, USA jwang@monmouth.edu
- 90 SS4: Inception Dual Network for steel strip defect detection
Zheng Liu Department of Electronic Engineering Fudan University Shanghai, China lseyijg@163.com
Xusheng Wang Academy for Engineering & Technology Fudan University Shanghai, China 18110860054@fudan.edu.cn
Xiong Chen Department of Electronic Engineering Fudan University Shanghai, China chenxiong@fudan.edu
- 93 SS4: Research on Control Method of Adaptive Lighting system in Intelligent Building
Yujiao Tang dept. Mechanical & Electrical Engineering Information Shanghai Urban Construction College Shanghai, China 252455335@qq.com
Xiong Chen Prof., Department of Electrical Engineering Fudan University Shanghai, China chenxiong@fudan.edu.cn

16:00 Session 6: Plenary Session
Session Chair: Haibin Zhu

Plenary Speech 1: Dr. Ming Hou
How to Stop Killer Robots: Interaction-Centered, Context-based Design for Safety Critical Human-Machine Systems

Plenary Speech 2: Prof. Hesuan Hu
Event Driven Systems and Their Real Time Supervisory Control Techniques

Plenary Speech 2: Dr. Jianbo Lu
Mobility and Its Vehicular Systems for Smart Cities

May 11, 2019, Saturday

Morning

Keynote 3: Prof. Hossam A. Gabbar
Session Chair: MengChu Zhou

Fast Charging Infrastructures for Autonomous Transportation and Smart Cities

10:00 Coffee Break

10:30: Session 7A: Advanced Algorithms
Session Chair: Shixin Liu / Ziyang Zhao

14 An Improved Radar and Infrared Sensor Tracking Fusion Algorithm Based on IMM-UKF

Tiantian Bao College of Electronics Information, Jiangsu University of Science and Technology, Zhenjiang, China, 285538879@qq.com

Zhenkai Zhang College of Electronics Information, Jiangsu University of Science and Technology, Zhenjiang, China, zhangzhenkai@just.edu.cn

Mohamad Farzan Sabahi Department of Electrical Engineering, University of Isfahan, Isfahan, Iran, sabahi@eng.ui.ac.ir

60 A Brief Survey on Nature-Inspired Metaheuristics for Feature Selection in Classification in this Decade

Wei Liu School of Automation Nanjing University of Science and Technology Nanjing, China veileno@njust.edu.cn

Jianyu Wang School of Automation Nanjing University of Science and Technology Nanjing, China wangjyu@njust.edu.cn

73 Iterated Greedy Algorithm for Solving a New Single Machine Scheduling Problem

ZiYan Zhao State Key Laboratory of Synthetical Automation for Process Industries, College of Information Science and Engineering Northeastern University Shenyang, 110819, China neuzhaoziyan@163.com

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Shihua University Fushun, 113001, China x.w.guo@163.com

JiaLun Xue Department of Electrical and Computer Engineering New Jersey
Institute of Technology Newark, NJ, 07102, USA jx84@njit.edu

96 A Comparative Study on Two Ground Truth Inference Algorithms based on
Manually Labeled Social Media Data

Xiaoyu Sean Lu, Student Member, IEEE, **Mengchu Zhou**, Fellow, IEEE, Haoyue Liu,
Student Member, IEEE, New Jersey Institute of Technology, NJ, USA

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Liang Qi, Member, IEEE Shangdong Univ. of Sci. and Tech., China

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PO2 Machine Learning Methods for High-dimensional Cell Image Data Analysis

Donghui Zhang Sanofi, USA donghui.zhang@sanofi.com

10:30 Session 7B: Internet of Things

Session Chair: Jianyu Wang

12 Huarong Zheng, Jun Wu, Weimin Wu, Yifeng Zhang and Yi-Sheng Huang
Eco-driving of electric vehicles with integrated motion and battery dynamics
Huarong Zheng Dept. of control Science & Engineering Zhejiang University
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Yi-Sheng Huang Dept. of Electrical Engineering National Ilan University Ilan City,

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25 Robust Attitude Regulation of Uncertain Spacecraft with Flexible Appendages

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Dabo Xu School of Automation Nanjing University of Science and Technology Nanjing, China dxu@njust.edu.cn

- 45 IoT Based Door Lock Surveillance System Using Cryptographic Algorithms
Muhammad Ahtsham Nanjing University of Science & Technology Nanjing, China mahtsham475@yahoo.com
Huang Yan Yan Nanjing University of Science & Technology Nanjing, China huangyy@njust.edu.cn
Usman Ali Information Technology University of Punjab Lahore, Pakistan msee17009@itu.edu.pk
- 71 A Novel Multiobjective Approach for Detecting Money Laundering with a Neuro-Fuzzy Technique
Mohammad Behdad Jamshidi Young Researchers and Elite Club, Kermanshah Branch, Islamic Azad University, Iran bmj.jmd@gmail.com
Mohammadreza Gorjiankhanzad Payam Noor University, Tehran, Iran Mohammadreza.gorjian@gmail.com
Ali Lalbakhsh Kermanshah Branch, Islamic Azad University, Iran ali.lalbakhsh@yahoo.com
Saeed Roshani Department of Electrical Engineering, Kermanshah Branch, Islamic Azad University, Iran s_roshany@yahoo.com
- 108 Mohammad Behdad Jamshidi, Neda Alibeigi, Ali Lalbakhsh and Saeed Roshani
An ANFIS Approach to Modeling a Small Satellite Power Source of NASA
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