



# 2024年第十届 计算机与通信国际会议

2024 10<sup>th</sup> International Conference on  
COMPUTER AND COMMUNICATIONS

## CONFERENCE PROGRAM

CHENGDU | December  
**成都** | 13-16 | 2024



# CONFERENCE PROGRAM



## 2024 the 10th International Conference on **COMPUTER AND COMMUNICATIONS**

**December 13-16, 2024**

**Chengdu, China**

成都望江宾馆

Wangjiang Hotel

中国四川省成都市锦江区下沙河铺街 42 号

No.42 Xiashahepu Street, Jinjiang District, Chengdu, Sichuan, China





### Co-Sponsored By



四川省電子學會  
Sichuan Institute of Electronics



四川省電子學會  
Sichuan Institute of Electronics  
青年人才工作委員會  
Youth Talent Work Committee



### Hosted By



西南交通大學  
Southwest Jiaotong University



電子科技大學  
University of Electronic Science and Technology of China



四川大學  
SICHUAN UNIVERSITY



成都理工大學  
CHENGDU UNIVERSITY OF TECHNOLOGY



成都信息工程大學  
Chengdu University of Information Technology

### Patrons



Research Institute of  
Big Data Analytics  
Xi'an Jiaotong-Liverpool University  
西交利物浦大學



北京交通大學  
BEIJING JIAOTONG UNIVERSITY



東北電力大學  
NORTHEAST ELECTRIC POWER UNIVERSITY



江蘇科技大學  
Jiangsu University of Science and Technology



請添加會議秘書微信信號 ICCC 2024，以免錯過重要通知





# TABLE OF CONTENT

General Information .....	05
Welcome Message.....	07
Conference Committee .....	08
Agenda Overview .....	15
Keynote Speaker .....	21
Invited Speaker.....	27
Abstract of Invited Speakers .....	31
<b>Saturday, December 14</b>	
Oral Session 1: Software and Programming .....	51
Oral Session 2: Advanced Data Models and Data Management.....	52
Oral Session 3: Artificial Intelligence and Applications in Information Systems .....	53
Oral Session 4: Intelligent Information Systems and Security .....	54
Oral Session 5: Image Detection and Recognition Technology Based on Vision .....	55
Oral Session 6: Feature Extraction and Feature Fusion .....	56
Oral Session 7: Digital Signal Interference and Suppression Methods .....	57
Oral Session 8: Signal Recognition and Signal Estimation.....	58
Oral Session 9: Smart Grids and Power Systems .....	59
Oral Session 10: Next Generation Mobile Communications and Key Technologies .....	60
Oral Session 11: Resource Allocation and Management in Communication Networks .....	61
Oral Session 12: UAV-assisted Communications and Key Technologies.....	62
<b>Sunday, December 15</b>	
Oral Session 13: Channel Modeling and Estimation.....	63
Oral Session 14: Satellite Communications and Space-air-ground Integrated Networks.....	64
Oral Session 15: Information Security, Protocol Authentication and Network Analysis in IoT System.....	65
Oral Session 16: Electronics and Communication Engineering .....	66
Oral Session 17: Digital Image and Signal Analysis.....	67
Oral Session 18: Machine Learning and Security Management in Modern Information Systems .....	68
Oral Session 19: Mobile Communication and Wireless Data Transmission.....	69
Poster Session 1: Wireless Communication and Data Transmission Technology .....	70
Poster Session 2: Information Network and Data Security.....	72
Poster Session 3: Computer Models and Artificial Intelligence in Modern Information Systems .....	74
Poster Session 4: Digital Image Analysis and Signal Processing .....	76
Online Session 1: Computer System and Software Design .....	78
Online Session 2: Deep Learning and Neural Network .....	79
Online Session 3: Data-Driven Data Model and Algorithm .....	80
Online Session 4: Next Generation Artificial Intelligence Theory and Key Technologies .....	81
Online Session 5: Cloud-Based Data Sharing Model and Information Security .....	82
Online Session 6: Large Language Model and Natural Language Processing.....	83





Online Session 7: Complex System Anomaly Detection and Methods .....	84
Online Session 8: Algorithm Design and Optimization .....	85
Online Session 9: System Model and Calculation .....	86
Online Session 10: Signal-Oriented Intelligent Detection Technology and Model .....	87
<b>Monday, December 16</b>	
Online Session 11: Intelligent Image Analysis and Processing Method .....	88
Online Session 12: Digital Image Processing and Application .....	89
Online Session 13: Pattern Recognition and Algorithm .....	90
Online Session 14: Image Detection Model and Algorithm .....	91
Online Session 15: Vision-Based Intelligent Information System Design and Multimedia Technology.....	92
Online Session 16: Data Center Network, Network Security and Data Storage.....	93
Online Session 17: Protocol Standard Design, Data Routing Algorithm and Space Communication Technology in Data Communication .....	94
Online Session 18: Communication Network Resource Allocation and Management .....	95
Online Session 19: UAV-Assisted Communication and Satellite Communication System.....	96
Online Session 20: Communication and Signal System .....	97
Online Session 21: Modern Internet of Things and Communication System Performance Analysis .....	99
Online Session 22: Smart Grid and Power System .....	100
Online Session 23: Signal-Based Electronic System and Positioning Technology.....	101
Online Session 24: Electronics and Communication Engineering .....	102
One-day Tour in Chengdu city.....	103
Delegate List.....	104


Note





## GENERAL INFORMATION

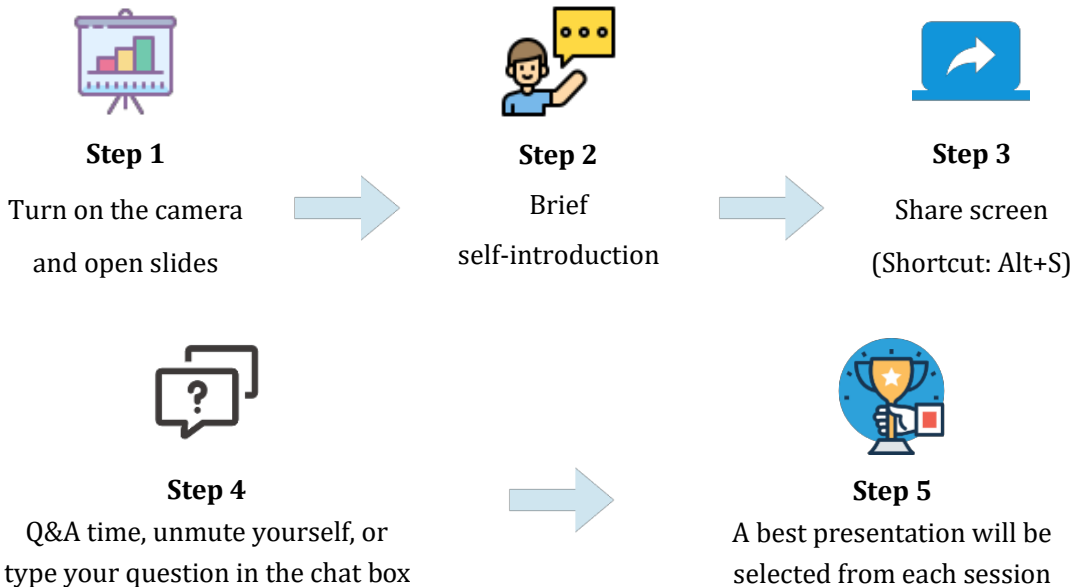
### G Zoom Meeting ID

 <a href="#">Zoom Download</a>	Room	Meeting ID	Link
	A	897 7177 9506	<a href="https://us02web.zoom.us/j/89771779506">https://us02web.zoom.us/j/89771779506</a>
	B	824 8503 5970	<a href="https://us02web.zoom.us/j/82485035970">https://us02web.zoom.us/j/82485035970</a>
	C	885 7036 3576	<a href="https://us02web.zoom.us/j/88570363576">https://us02web.zoom.us/j/88570363576</a>
	D	886 5305 2977	<a href="https://us02web.zoom.us/j/88653052977">https://us02web.zoom.us/j/88653052977</a>
	E	810 2192 5287	<a href="https://us02web.zoom.us/j/81021925287">https://us02web.zoom.us/j/81021925287</a>

※We recommend that you install the Zoom platform on your computer before the conference starts. New users can participate in the Zoom meeting without registration. Zoom 新用户无需注册，输入会议号 meeting ID 即可参会。

<p>◆ Name Setting</p> <p>Keynote Speaker: Keynote_Name</p> <p>Committee: Position_Name</p> <p>Author: Paper ID_Name</p> <p>Delegate: Delegate_Name</p>	<p>◆ Useful Links</p> <ul style="list-style-type: none"> <li>◇ <a href="#">Conference Banner</a></li> <li>◇ <a href="#">Zoom Background</a></li> </ul>
--	--

### Presentation Process by Zoom Meeting



### H No-Show Policy

**Papers unrepresented** at the conference, without prior written approval by the Conference Technical Program Chair, will be removed from the final conference proceedings before uploading to IEEE Xplore. No refund will be approved to authors of those papers.

**Contact us**

E-mail: [iccc2015@vip.163.com](mailto:iccc2015@vip.163.com)  
 Telephone: +86-13086600000

Web: [www.iccc.org](http://www.iccc.org)

*For paper review and reviewer application:*  
 E-mail: [iccc-review@vip.163.com](mailto:iccc-review@vip.163.com)



## WELCOME MESSAGE

On behalf of the conference committees, we warmly welcome you to the 2024 the 10th International Conference on Computer and Communications (ICCC), held in Chengdu, China from December 13 to 16, 2024, co-sponsored by Sichuan Institute of Electronics (SIE), Youth Talent Work Committee (Sichuan Institute of Electronics), and IEEE. ICCC 2024 is jointly hosted by Southwest Jiaotong University, University of Electronic Science and Technology of China, Sichuan University, Chengdu University of Technology, and Chengdu University of Information Technology. Thanks to our patrons: Research Institute of Big Data Analytics @ Xi'an Jiaotong-Liverpool University, Beijing Jiaotong University, Northeast Electric Power University, and Jiangsu University of Science and Technology.

ICCC was initiated in 2015, this year marks the 10th anniversary of ICCC conference. The goal and feature of this conference is to bring together a rich diversity of authors and speakers from university, government and industry around the globe to share their knowledge, experiences and research results, to discuss the practical challenges encountered and the solutions adopted on a wide range of computer and communications research and technologies. It is good that great achievements have been made, ICCC has attracted more than 5500 conference participants in the last 9 years.

The program this year was comprised of 6 keynote lectures, 37 invited speeches, and the paper presentations were grouped into 19 offline oral sessions, 4 poster sessions, and 24 online sessions.

On behalf of all the conference committees, we feel deeply grateful to all that have contributed to make this event possible: authors who contributed papers, the invited speakers, session chairs and the diligent reviewers. Your high competence, enthusiasm, valuable time and expertise knowledge, enabled us to prepare this conference program smoothly. Special thanks are also extended to the conference administrative committee for their tireless efforts throughout the course of the conference.

We have an exciting program at this conference that will allow members to reflect upon and celebrate our past accomplishments, renew friendships and extend our networks, and jointly explore current and future research directions. We hope that you will have a productive and fun - filled time at this very special conference. We would like to thank all of the sponsoring organizations for providing their generous financial support. Lastly, we would like to thank all of the conference participants for their contributions which are the foundation of this conference. We welcome different opinions from all participants and look forward to the better development of ICCC in the coming years.

Wish you a very successful conference!

Best regards,

Conference Organizing Committee, ICCC 2024  
Chengdu





# CONFERENCE COMMITTEE

## Conference Advisory Committees

Prof. Jiangchuan Liu, Simon Fraser University, Canada

Prof. Xiaoli Li, Institute for Infocomm Research, A\*STAR, Singapore

## Conference General Chairs

Prof. Wanbin Tang, The Executive Vice Director of Sichuan Institute of Electronics, China & Director of National Key Laboratory of Communication Anti-interference, University of Electronic Science and Technology of China

## Conference General Co-Chairs

Prof. Jianguo Ma, Zhongyuan University of Technology, China

Prof. Sheng-Uei Guan, Xi'an Jiaotong-Liverpool University, China

Prof. Yutaka Ishibashi, Aichi Sangyo University, Japan & Emeritus Professor at Nagoya Institute of Technology, Japan

## Organizing Committee Chairs

Mrs. Tao Xiang, Sichuan Institute of Electronics, China

Prof. Tianrui Li, Institute of Artificial Intelligence, Southwest Jiaotong University, China

Prof. Haiquan Zhao, Southwest Jiaotong University, China

Prof. Xiaohai He, Sichuan University, China

Prof. Xiaoling Zhong, Chengdu University of Technology, China

Prof. Yingxiang Li, Chengdu University of Information Technology, China

## Organizing Committee Co-Chairs

Prof. Wenyong Ma, Chengdu University of Information Technology, China

Prof. Bo Yan, University of Electronic Science and Technology of China, China

Prof. Yang Yang, Sichuan University, China

## Conference Program Chairs

Prof. Bo Ai, Beijing Jiaotong University, China

Prof. Jianpo Li, Northeast Electric Power University, China

Prof. Jingsha He, Beijing University of Technology, China

Prof. Haifeng Zheng, Fuzhou University, China

Prof. Zhenyu Yin, University of Chinese Academy of Sciences, China; Shenyang Institute of Computing Technology Chinese Academy of Sciences, China

Prof. Hirotake Ishii, Kyoto University, Japan

Prof. Qiang Wu, Nanjing University of Aeronautics and Astronautics, China

## Conference Program Co-Chairs

Prof. Nan Wang, California State University, Fresno, USA

Prof. Yinglei Song, Jiangsu University of Science and Technology, China

Prof. Long Cheng, North China Electric Power University, China

Prof. Jingyu Hua, Zhejiang University of Technology, China

Prof. Zhen Chen, Institute of Microelectronics, University of Macau, China



# CONFERENCE COMMITTEE

## Conference Publicity Chairs

- Prof. Qiao Liu, University of Electronic Science and Technology of China, China
- Prof. Takanori Miyoshi, Nagaoka University of Technology, Japan
- Assoc. Prof. Yong Jia, Chengdu University of Technology, China
- Assoc. Prof. Pingguo Huang, Gifu Shotoku Gakuen University, Japan
- Assoc. Prof. Chutisant Kerdvibulvech, National Institute of Development Administration (NIDA), Thailand
- Assoc. Prof. Yanhui Guo, Beijing University of Posts and Telecommunications, China
- Assoc. Prof. Danyang Zheng, Southwest Jiaotong University, China

## Publication Chairs

- Dr. Yutong Zou, Sichuan University, China
- Dr. Xia Wan, Sichuan Institute of Electronics, China

## Conference Treasurer

- Dr. Jingying She, Sichuan Minzu College, China

## Regional Chair of Wuhan (武汉)

- Assoc. Prof. Chen Wang, Huazhong University of Science and Technology, China

## Regional Chair of Xi'an (西安)

- Assoc. Prof. Wenhui Yi, Xi'an Jiaotong University, China

## Regional Chair of Guangzhou (广州)

- Prof. Feng Ke, South China University of Technology, China

## Regional Chair of Suzhou (苏州)

- Assoc. Prof. Wei Zou, Soochow University, China

## Regional Chair of Beijing (北京)

- Assoc. Prof. Zongshuai Zhang, Institute of Computing Technology, Chinese Academy of Sciences, China

## Technical Committees

- Prof. Bingbing Di, Henan University, China
- Prof. Jianwen Ding, Beijing Jiaotong University, China
- Prof. Peiyan Yuan, Henan Normal University, China
- Prof. Shufeng Li, Communication University of China, China
- Prof. Huiqin Du, Jinan University, China
- Prof. Xingcheng Liu, Sun Yat-sen University, China
- Prof. Mario Tanda, University of Naples Federico II, Italy
- Prof. Toshihiko Kato, University of Electro-Communications, Japan
- Prof. Long Zhang, Hebei University of Engineering, China
- Prof. Bin He, Beijing University of Chemical Technology, China





# CONFERENCE COMMITTEE

## Technical Committees (continued)

- Assoc. Prof. Xiaochen Yuan, Macao Polytechnic University, Macao
- Assoc. Prof. Daricha Sutivong, Faculty of Engineering, Chulalongkorn University, Thailand
- Assoc. Prof. Jinhui Yuan, Zhongyuan University of Technology, China
- Assoc. Prof. Peng Wang, Air Force Engineering University, China
- Assoc. Prof. Jihao Fan, Nanjing University of Science and Technology, China
- Assoc. Prof. Chengzong Peng, Chengdu University of Information Technology, China
- Assoc. Prof. Liang Liang, Chongqing University, China
- Assoc. Prof. Peng Li, Nanjing University of Science and Technology, China
- Assoc. Prof. Lu Han, Beijing University of Posts and Telecommunications, China
- Assoc. Prof. Tengfei Cao, Qinghai University, China
- Assoc. Prof. Dongmei Xing, Nanchang University, China
- Assoc. Prof. Yuhuang Zheng, Guangdong University of Education, China
- Assoc. Prof. Rinku Basak, American International University-Bangladesh (AIUB), Bangladesh
- Assoc. Prof. Yinghua Zhou, Chongqing University of Posts and Telecommunications, China
- Assoc. Prof. Qian Xu, Northwestern Polytechnical University, China
- Assoc. Prof. Conghui Qi, Xihua University, China
- Assoc. Prof. Mansoor Khan, Qilu Institute of Technology, China
- Assoc. Prof. Shengdong Du, Southwest Jiaotong University, China
- Assoc. Prof. Xiaoqin Song, Nanjing University of Aeronautics and Astronautics, China
- Assoc. Research Fellow, Huasen He, University of Science and Technology of China, China
- Assoc. Prof. Deepak Kumar Jain, Dalian University of Technology, China
- Assoc. Prof. Xianlong Ma, Northwestern Polytechnical University, China
- Assoc. Prof. Yumei Wang, Beijing University of Posts and Telecommunications, China
- Assoc. Prof. Xin Zhang, Beijing University of Posts and Telecommunications, China
- Assoc. Prof. Huiqian Du, Beijing Institute of Technology, China
- Assoc. Prof. Honggang Chen, Sichuan University, China
- Assoc. Prof. Beibei Li, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China
- Assoc. Prof. Jinsong Hu, Fuzhou University, China
- Assoc. Prof. Xiaoming Wang, Nanjing University of Posts and Telecommunications, China
- Assoc. Prof. Ping Guo, Department of Computer Science, University of Illinois at Springfield, USA
- Assoc. Prof. Ankan Bhattacharya, Hooghly Engineering & Technology College, India
- Assoc. Prof. Bhai Nhuraisha Deplomo, University of Makati, Philippines
- Assoc. Prof. Bo Li, Ningxia University, China
- Assoc. Prof. Chao Fang, Beijing University of Technology, China
- Assoc. Prof. Dong Qin, Nanchang University, China
- Assoc. Prof. Futai Zou, Shanghai Jiao Tong University, China
- Assoc. Prof. Gong Chen, Chengdu University of Information Technology, China
- Assoc. Prof. Grant Emanuel, University of North Dakota, USA
- Assoc. Prof. Guanqun Sun, Hangzhou Medical College, China
- Assoc. Prof. Guobing Li, Xi'an Jiaotong University, China
- Assoc. Prof. Haiyang Liu, Institute of Microelectronics, Chinese Academy of Sciences, China
- Assoc. Prof. Hongwei Zhou, Information Engineering University, China





## CONFERENCE COMMITTEE

### Technical Committees (continued)

Asst. Prof. Farhan Amin, Yeungnam University, South Korea  
Asst. Prof. Chiabwoot Ratanavilisagul, King Mongkut's University of Technology North Bangkok (KMUTNB), Thailand  
Asst. Prof. Wei You, Information Engineering University, China  
Asst. Prof. Yanjie Zhou, Zhengzhou University, China  
Dr. Yan Li, University of Nottingham Ningbo China, China  
Dr. Tongtong Yan, The University of Western Ontario, Canada  
Dr. Linna Wei, Anhui University of Technology, China  
Dr. Wen Fang, Tongji University, China  
Dr. Huaguang Shi, Henan University, China  
Dr. Yunfei Gao, Wuhan University, China  
Dr. Mingliang Xiong, Tongji University, China  
Dr. Weiwei Jiang, Beijing University of Posts and Telecommunications, China  
Dr. Hongchen Yan, Beijing Institute of Spacecraft System Engineering, China Academy of Space Technology, China  
Dr. Tianhai Zhao, Northwestern Polytechnical University, China  
Dr. Zhen Li, Southwest Jiaotong University, China  
Dr. Zehua Ma, University of Science and Technology of China, China  
Dr. Yuandong Zhuang, Purple Mountain Laboratories, China  
Dr. Lufeng Yuan, Beijing China-Power Information Technology Co., Ltd., China  
Dr. Xiaojuan Sun, Aerospace Information Research Institute, Chinese Academy of Sciences, China  
Dr. Jian Wang, H3C Tech, China  
Dr. Amjad Ali Amjad, Zhejiang University, China  
Dr. Bo Zhang, Tianjin Normal University, China  
Dr. Yanyun Gong, Northwestern Polytechnical University, China  
Dr. Jie Yang, Postdoctoral Researcher, Northeastern University, China  
Dr. Hamza Djigal, Wenzhou-Kean University, China  
Dr. Paulo Batista, University of Évora, Portugal  
Dr. Lintao Li, Beijing Engineering and Technology Research Center for Convergence Networks and Ubiquitous Services, USTB, China  
Dr. Yiming Lei, Peking University, China  
Dr. Xianjun Hu, Purple Mountain Laboratories, China  
Dr. Yilin Kang, Purple Mountain Laboratories, China  
Dr. Yinghua Jiang, Southeast University, China  
Dr. Qi Liu, Shanghai Jiao Tong University, China  
Dr. Zhe Ji, Beijing University of Posts and Telecommunications, China  
Dr. Zhangkai Luo, Space Engineering University, China  
Dr. Abdul Hayee Shaikh, Southern University of Science & Technology, China  
Dr. Amine Khaldi, Université Kasdi Merbah Ouargla, Algeria  
Dr. Anping Jiang, Beijing Microelectronics Technology Institute, China  
Dr. Baolei Mao, Zhengzhou University, China  
Dr. Bing Ning, Zhongyuan University of Technology, China  
Dr. Cen Wang, KDDI Research, Inc., Japan  
Dr. Chen Dong, Beijing University of Posts and Telecommunications, China

## CONFERENCE COMMITTEE

### Technical Committees (continued)

- Dr. Cheng Wang, Beijing University of Posts and Telecommunications, China  
 Dr. Feng Sun, University of Science and Technology Beijing, China  
 Dr. Guosheng Xu, Beijing University of Posts and Telecommunications, China  
 Dr. Hany Mansour, Military Technical College, Egypt  
 Dr. Haohao Ren, University of Electronic Science and Technology of China, China  
 Dr. Hua Wei, China Tower Corporation Limited, China  
 Dr. Isma Hamid, National Textile University, Pakistan  
 Dr. Janusz Getta, University of Wollongong, Australia  
 Dr. Jiahui Chen, University of Electronic Science and Technology of China, China  
 Dr. Jiangang Wen, Zhejiang Gongshang University, China  
 Dr. Jiaxin Zhang, Beijing University of Posts and Telecommunications, China  
 Dr. Jin Xu, Zhengzhou University of Light Industry, China  
 Dr. Jingxuan Wei, Shenyang Institute of Computing Technology Chinese Academy of Sciences, China  
 Dr. Jiong Dong, Xuchang University, China  
 Dr. Kan Yu, Beijing University of Posts and Telecommunications, China  
 Dr. Ke Wang, Jiangmen Polytechnic, China & Macao Polytechnic University, China  
 Dr. Liancheng Zhang, Information Engineering University, Zhengzhou, China  
 Dr. Long Suo, Nanjing Forestry University, China  
 Dr. Luca Reggiani, Politecnico di Milano, Italy  
 Dr. Nanxi Li, China Telecom, China  
 Dr. Qinqin Tang, Beijing University of Posts and Telecommunications, China  
 Dr. Ruizhe Yang, Beijing University of Technology, China  
 Dr. Shiyu Wang, Shenyang Institute of Computing Technology, University of Chinese Academy of Sciences, China  
 Dr. Songting Li, National University of Defense Technology, China  
 Dr. Weijun Zeng, Army Engineering University of PLA, China  
 Dr. Wenji Li, China Academy of Space Technology, China  
 Dr. Xiaolei Zhou, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China  
 Dr. Xu Sen, Shenyang University of Chemical Technology, Key Laboratory of Industrial Intelligence Technology on Chemical Process of Liaoning Province, China  
 Dr. Xueqian Tang, Chinese Aeronautical Radio Electronics Research Institute, China  
 Dr. Yanlei Zheng, China Unicom Research Institute, China  
 Dr. Yao Zhang, Hangzhou Dianzi University, China  
 Dr. Yijun Lu, Waseda University, Japan  
 Dr. Yingyi Yang, China Southern Powergrid Technology Co., Ltd., China  
 Dr. Yiwen Xu, Fujian Key Lab for Intelligent Processing and Wireless Transmission of Media Information, Fuzhou University, China  
 Dr. Yuan Qi, Beijing University of Posts and Telecommunications, China  
 Dr. Yue Dai, University of California, Berkeley, USA  
 Dr. Yueting Li, Beihang University, China  
 Dr. Yulun Wu, National University of Defense Technology, China  
 Dr. Zhaowu Zhan, China Gridcom Co., Ltd., State Grid Corporation of China (SGCC), China



## AGENDA OVERVIEW

成都望江宾馆 Wangjiang Hotel 中国四川省成都市锦江区下沙河铺街 42 号 No.42 Xiashahepu Street, Jinjiang District, Chengdu, Sichuan, China	1F 五福堂 Wufu Hall 普吉岛 Phuket Island 松涛餐厅 Songtao Restaurant	2F 素林厅 Surin Conf. Room 清迈厅 Chiang Mai 槟榔屿厅 Penang Island 槟城厅 Penang 文莱厅 Brunei Darussalam	4F 吉打厅 Kedah 吉兰丹 Kelantan
--	--	--	---------------------------------

Session Time	Friday, December 13, 2024   Pre-Test/Registration	Venue
10:00-18:00	Zoom Pre-test. See page 19	Room A: 897 7177 9506 Room B: 824 8503 5970 Room C: 885 7036 3576
10:00-17:00	On-site Registration	1F Lobby <成都望江宾馆 Wangjiang Hotel>
14:00-17:00	 <b>乒乓球友谊赛</b> TABLE TENNIS FRIENDLY TOURNAMENT	活动中心 <成都望江宾馆 Wangjiang Hotel>

Session Time	Saturday, December 14, 2024   Plenary Meeting	
09:00-09:30	<i>Host - Organizing Committee Co-Chair</i> <b>Prof. Yang Yang.</b> Sichuan University, China	1F 五福堂 Wufu Hall <b>Room A: 897 7177 9506</b>
	<i>Welcome Address - Organizing Committee Chair</i> <b>Prof. Wanbin Tang.</b> Director of National Key Laboratory of Communication Anti-interference, University of Electronic Science and Technology of China & The Executive Vice Director of Sichuan Institute of Electronics, China 唐万斌, 电子科技大学通信抗干扰全国重点实验室主任/教授, 四川省电子学会常务副理事长	
	<i>Opening Speech - Organizing Committee Chair</i> <b>Prof. Tianrui Li.</b> Institute of Artificial Intelligence, Southwest Jiaotong University, China 李天瑞, 西南交通大学	
	Committee Group Photo	
09:30-10:10	<i>Keynote Speech I</i> Title: Modified Shannon's Formula <b>Prof. Jianguo Ma.</b> Fellow of IEEE. Zhongyuan University of Technology, China	 Live Broadcast
10:10-10:50	<i>Keynote Speech II</i> Title: Robustness of BLS with Information Theoretic Learning Criterion <b>Prof. Haiquan Zhao.</b> Southwest Jiaotong University, China	
10:50-11:20	Group Photo & Coffee Break	
11:20-12:00 online	<i>Keynote Speech III</i> Title: Adaptive Output-Feedback Boundary Control of Distributed Parameter Systems <b>Prof. Jianbin Qiu.</b> Fellow of IEEE. Harbin Institute of Technology, China	
12:00-13:00	Lunch Buffet <1F 普吉岛 Phuket Island>	








# AGENDA OVERVIEW

## Saturday, December 14, 2024 | Parallel Session

2F 槟榔屿厅 Penang Island	2F 檳城厅 Penang	2F 文莱厅 Brunei Darussalam	2F 清迈厅 Chiang Mai	4F 吉打厅 Kedah	4F 吉兰丹 Kelantan
<b>13:00-15:30</b>					
<b>Oral Session 1</b> Software and Programming  Invited Talk: Emanuel Grant (IC522)  IC008, IC069, IC303, IC403, IC426, IC431, IC460	<b>Oral Session 2</b> Advanced Data Models and Data Management  Invited Talk: Yanjie Zhou  IC121, IC027, IC064, IC108, IC336, IC354, IC413, IC453	<b>Oral Session 3</b> Artificial Intelligence and Applications in Information Systems  IC214, IC1013, IC163, IC226, IC297, IC305, IC501, IC258, IC502	<b>Oral Session 4</b> Intelligent Information Systems and Security  Invited Talk: Danyang Zheng, Songlin He  IC019, IC037, IC287, IC325, IC377, IC448, IC096, IC063	<b>Oral Session 5</b> Image Detection and Recognition Technology Based on Vision  Invited Talk: Gong Chen, Yuanyuan Wu, Yi Zhao (IC441)  IC112, IC249, IC273, IC276, IC339, IC443	<b>Oral Session 6</b> Feature Extraction and Feature Fusion  IC007, IC1010, IC390, IC114, IC178, IC191, IC385, IC398
<b>15:40-18:15</b>					
<b>Oral Session 7</b> Digital Signal Interference and Suppression Methods Invited Talk: Yingtao Niu  IC029, IC122, IC139, IC241, IC263, IC314, IC360, IC411	<b>Oral Session 8</b> Signal Recognition and Signal Estimation  IC329, IC061, IC177, IC196, IC269, IC330, IC344	<b>Oral Session 9</b> Smart Grids and Power Systems Invited Talk: Lufeng Yuan (IC450)  IC071, IC184, IC198, IC327, IC386, IC388, IC487	<b>Oral Session 10</b> Next Generation Mobile Communications and Key Technologies Invited Talk: Yu Yao  IC148, IC223, IC255, IC312, IC343, IC437, IC500, IC334	<b>Oral Session 11</b> Resource Allocation and Management in Communication Networks  IC059, IC134, IC270, IC282, IC320, IC394, IC471, IC514	<b>Oral Session 12</b> UAV-assisted Communications and Key Technologies Invited Talk: Xin Yang (IC1008)  IC010, IC162, IC240, IC288, IC293, IC331, IC342, IC120, IC296


## 18:30-21:00 | ICCC 2024 Banquet Dinner

1F 松涛餐厅 Songtao Restaurant		<ol style="list-style-type: none"> <li>Welcoming Remarks from General Co-Chair: <b>Prof. Sheng-Uei Guan.</b> Xi'an Jiaotong-Liverpool University, China. 关圣威, 西交利物浦大学</li> <li>ICCC 2024 Awarding Ceremony                             <ul style="list-style-type: none"> <li>✧ 最佳论文奖 Best Paper Award</li> <li>✧ 最佳学生论文奖 Best Student Paper Award</li> <li>✧ 最佳行业论文奖 Best Industry Paper Award</li> <li>✧ 最佳审稿人 Best Reviewer Award</li> </ul> </li> <li>Lucky Draw 幸运抽奖环节</li> </ol>
-------------------------------	---	--






# AGENDA OVERVIEW

Session Time		Sunday, December 15, 2024   Plenary Meeting	
09:30	<i>Host - Organizing Committee Chair</i> <b>Prof. Haiquan Zhao.</b> Southwest Jiaotong University China	1F 五福堂 Wufu Hall Room A: 897 7177 9506	
09:00-09:40 (online)	<i>Keynote Speech IV</i> Title: Driving Transformation Across Industries with AI <b>Prof. Xiaoli Li.</b> Fellow of IEEE. Institute for Infocomm Research, A*STAR, Singapore		
09:40-10:20 (online)	<i>Keynote Speech V</i> Title: 6G Network and Resource Optimization <b>Prof. Haijun Zhang.</b> Fellow of the IEEE, AAIA. University of Science and Technology Beijing, China		
10:20-11:00	Coffee Break		
11:00-11:40 (online)	<i>Keynote Speech VI</i> Title: Networked Live Video Analytics: From Design to Deployment <b>Prof. Jiangchuan Liu.</b> Fellow of the IEEE, Fellow of Canadian Academy of Engineering. Simon Fraser University, Canada		
11:40-13:00	Lunch Buffet <1F 普吉岛 Phuket Island>		

Live Broadcast

2F 槟榔屿厅 Penang Island	2F 檳城厅 Penang	2F 文莱厅 Brunei Darussalam	4F 吉打厅 Kedah	2F 清迈厅 Chiang Mai	2F 素林厅 Surin Conf. Room
<b>13:00-15:30</b>					
<b>Oral Session 13</b> Channel Modeling and Estimation  <i>Invited Talk: Nanxi Li (IC1001)</i>  IC252, IC259, IC277, IC367, IC400, IC405, IC507	<b>Oral Session 14</b> Satellite Communications and Space-air-ground Integrated Networks  <i>Invited Talk: Yang Huang (IC409), Kefeng Guo (IC1003), Xin Nie</i>  IC153, IC175, IC124, IC227, IC389, IC407	<b>Oral Session 15</b> Information Security, Protocol Authentication and Network Analysis in IoT System  <i>Invited Talk: Guobing Li, Kan Yu</i>  IC091, IC103, IC328, IC393, IC454, IC513	<b>Oral Session 16</b> Electronics and Communication Engineering  <i>Invited Talk: Xiaoqiang Hua</i>  IC066, IC020, IC056, IC363, IC412, IC421, IC434	<b>Poster Session 1</b> Wireless Communication and Data Transmission Technology  IC049, IC171, IC205, IC274, IC275, IC279, IC447, IC476, IC484, IC520, IC1011, IC046, IC197, IC228, IC381, IC503, IC047, IC525	<b>Poster Session 2</b> Information Network and Data Security  IC054, IC087, IC097, IC099, IC225, IC236, IC280, IC335, IC347, IC418, IC483, IC486, IC102, IC1007, IC464, IC341
<b>16:00-18:15</b>					
<b>Oral Session 17</b> Digital Image and Signal Analysis  <i>Invited Talk: Jing Yang, Weili Kou, Tong Hao (IC137)</i>  IC181, IC244, IC253, IC1002, IC292	<b>Oral Session 18</b> Machine Learning and Security Management in Modern Information Systems  <i>Invited Talk: Salabat Khan, Cen Wang</i>  IC415, IC499, IC345, IC384, IC262	<b>Oral Session 19</b> Mobile Communication and Wireless Data Transmission  <i>Invited Talk: Yang Yang</i>  IC362, IC348, IC340, IC044, IC425, IC093		<b>Poster Session 3</b> Computer Models and Artificial Intelligence in Modern Information Systems  IC030, IC082, IC110, IC143, IC187, IC200, IC231, IC238, IC323, IC376, IC353, IC438, IC444, IC455, IC480, IC508	<b>Poster Session 4</b> Digital Image Analysis and Signal Processing  IC195, IC264, IC309, IC1012, IC002, IC136, IC165, IC265, IC268, IC286, IC422, IC449, IC106, IC332, IC493, IC512, IC368
18:10-20:00 Dinner Buffet <1F 普吉岛 Phuket Island>					






# AGENDA OVERVIEW

## Sunday, December 15, 2024 | Parallel Session (Online) UTC+8

Room A 897 7177 9506	Room B 824 8503 5970	Room C 885 7036 3576	Room D 886 5305 2977	Room E 810 2192 5287
<b>13:00-16:00</b>				
<b>Online Session 1</b> Computer System and Software Design  IC319, IC040, IC150, IC182, IC248, IC013, IC179, IC322, IC128	<b>Online Session 2</b> Deep Learning and Neural Network  IC395, IC326, IC095, IC423, IC014, IC089, IC151, IC245, IC235, IC451	<b>Online Session 3</b> Data-Driven Data Model and Algorithm  IC315, IC023, IC017, IC156, IC192, IC085, IC310, IC490, IC505, IC159, IC378, IC498	<b>Online Session 4</b> Next Generation Artificial Intelligence Theory and Key Technologies  IC300, IC1006, IC391, IC468, IC086, IC154, IC157, IC170, IC511, IC081	<b>Online Session 5</b> Cloud-Based Data Sharing Model and Information Security  IC217, IC117, IC105, IC242, IC419, IC233, IC060, IC516, IC208, IC152, IC432, IC485
<b>16:00-18:35</b>				
<b>Online Session 6</b> Large Language Model and Natural Language Processing  IC155, IC211, IC313, IC430, IC462, IC518, IC100, IC488, IC218	<b>Online Session 7</b> Complex System Anomaly Detection and Methods  IC050, IC065, IC118, IC144, IC361, IC404, IC146, IC147, IC051	<b>Online Session 8</b> Algorithm Design and Optimization <i>Invited Talk: Nikola Ivkovic</i>  IC034, IC041, IC104, IC318, IC321, IC222, IC324, IC399, IC433	<b>Online Session 9</b> System Model and Calculation <i>Invited Talk: Isma Hamid</i>  IC088, IC257, IC1014, IC465, IC470, IC209, IC380, IC003, IC383	<b>Online Session 10</b> Signal-Oriented Intelligent Detection Technology and Model  IC032, IC062, IC115, IC229, IC254, IC299, IC382, IC005, IC357, IC375

## Monday, December 16, 2024 | Parallel Session (Online) UTC+8

Room A 897 7177 9506	Room B 824 8503 5970	Room C 885 7036 3576	Room D 886 5305 2977	Room E 810 2192 5287
<b>09:00-11:45</b>				
<b>Online Session 11</b> Intelligent Image Analysis and Processing Method  IC504, IC213, IC429, IC135, IC372, IC442, IC006, IC206, IC068, IC045	<b>Online Session 12</b> Digital Image Processing and Application  IC016, IC043, IC127, IC052, IC371, IC515, IC140, IC190, IC482, IC141, IC492	<b>Online Session 13</b> Pattern Recognition and Algorithm  IC078, IC111, IC304, IC379, IC435, IC080, IC158, IC387, IC491, IC055	<b>Online Session 14</b> Image Detection Model and Algorithm  IC025, IC094, IC183, IC202, IC366, IC212, IC243, IC039, IC256, IC436	<b>Online Session 15</b> Vision-Based Intelligent Information System Design and Multimedia Technology  <i>Invited Talk: Bhai Nhuraisha Deplomo(IC193), Xiwen Zhang</i>  IC201, IC220, IC126, IC289, IC246, IC496
<b>13:00-15:40</b>				
<b>Online Session 16</b> Data Center Network, Network Security and Data Storage  <i>Invited Talk: Yueting Li</i>  IC074, IC250, IC033, IC038, IC210, IC161, IC079, IC290, IC164	<b>Online Session 17</b> Protocol Standard Design, Data Routing Algorithm and Space Communication Technology in Data Communication  IC439, IC408, IC478, IC266, IC207, IC308, IC204, IC338, IC446, IC028	<b>Online Session 18</b> Communication Network Resource Allocation and Management <i>Invited Talk: Chao Fang, Liwei Yang (IC473)</i>  IC416, IC234, IC283, IC417, IC333, IC406, IC510, IC251	<b>Online Session 19</b> UAV-Assisted Communication and Satellite Communication System  <i>Invited Talk: Qinqin Tang</i>  IC011, IC076, IC230, IC194, IC125, IC402, IC224, IC424, IC317	<b>Online Session 20</b> Communication and Signal System  <i>Invited Talk: Ke Wang</i>  IC467, IC098, IC337, IC073, IC203, IC070, IC458, IC291, IC396, IC012, IC067, IC356
<b>16:00-19:00</b>				
<b>Online Session 21</b> Modern Internet of Things and Communication System Performance Analysis  IC130, IC267, IC355, IC401, IC420, IC295, IC373, IC160, IC369, IC479, IC469	<b>Online Session 22</b> Smart Grid and Power System  <i>Invited Talk: Bo Li</i>  IC272, IC239, IC101, IC138, IC349, IC466, IC523, IC042, IC497, IC113	<b>Online Session 23</b> Signal-Based Electronic System and Positioning Technology  IC024, IC169, IC173, IC301, IC107, IC306, IC428, IC414, IC057	<b>Online Session 24</b> Electronics and Communication Engineering  <i>Invited Talk: Abdul Hayee Shaikh, Lanhua Xia, Amjad Ali Amjad</i>  IC199, IC058, IC172, IC427, IC031, IC166, IC036, IC185	





※Keynote Talk: 40min. Invited Talk: 20min. Oral Presentation: 15min. Poster Presentation: 5-10min. Time includes Q&A session.

※ We will take a group photo at the end of each parallel session.

<b>Monday, December 16, 2024</b> One-day Tour in Chengdu city	
08:00~17:00	Meet up at 1F Lobby <成都望江宾馆 Wangjiang Hotel> Chengdu Research Base of Giant Panda Breeding 成都大熊猫繁育研究基地 Du Fu Thatched Cottage 杜甫草堂 Jinli Street 锦里古街

\*The registration fee includes cost of lunch and tourism entrance ticket.

Registration closes at 5:00 PM, **December 9** (UTC+8h).

More details please check page no. 103.





# ZOOM PRE-TEST

## Zoom Test Session - Friday, December 13, 2024

※Participants who are going to do an online presentation are required to join the rehearsal in Zoom on Friday, December 13.  
Duration: 2~3min apiece. Feel free to leave after you finish the test.

※We will test control panel including screen sharing, audio, video, etc. Please get your presentation slides and computer equipment prepared beforehand. 所有报告人需参加 12 月 13 日的 Zoom 在线测试环节。每人大约需要 2~3 分钟，完成即可离开。测试前请准备好您的演示文档。

Room A: 897 7177 9506								
10:00~10:40	10:40~11:20	11:20~12:00	13:00~13:40	13:40~14:20	14:20~15:00	15:00~15:40	15:40~16:20	16:20~17:30
IC003	IC024	IC041	IC060	IC080	IC1006	IC117	IC140	IC156
IC005	IC025, IC040	IC042	IC062	IC081	IC101	IC118	IC141	IC157
IC006	IC028	IC043	IC065	IC085	IC1014	IC125	IC144	IC158
IC011	IC031	IC045	IC067	IC086	IC104	IC126	IC146	IC159
IC012	IC032	IC050, IC107	IC068	IC088	IC105	IC127	IC147	IC160
IC013	IC033	IC051	IC070	IC089	IC111	IC128	IC150	IC161
IC014	IC034	IC052	IC073, IC074	IC094	IC113	IC130	IC151	IC164
IC016	IC036	IC055	IC076	IC095	IC115	IC135	IC152	IC166
IC017	IC038	IC057	IC078	IC098	IC185	IC138	IC154	IC169
IC023	IC039	IC058	IC079	IC100	IC498		IC155	IC170
IC356	IC317	IC492	IC485					
<b>10:00~18:00</b>	Other online participants, includes but not limited to keynote speaker, invited speaker, session chair, committee member, delegate.							

Room B: 824 8503 5970								
10:00~10:40	10:40~11:20	11:20~12:00	13:00~13:40	13:40~14:20	14:20~15:00	15:00~15:40	15:40~16:20	16:20~17:30
IC172	IC201	IC212	IC234	IC254	IC295	IC318	IC355	IC379
IC173	IC202	IC213	IC235	IC256	IC299	IC319	IC357	IC380
IC179	IC203	IC217	IC239	IC257	IC300	IC321	IC361	IC382
IC182	IC204	IC218	IC242	IC266	IC301	IC322	IC366	IC383
IC183	IC206	IC220	IC243	IC267	IC304	IC324	IC369	IC387
IC190	IC207	IC222	IC245	IC272	IC306	IC326	IC371	IC391
IC192, IC515	IC208	IC224	IC246	IC283	IC308	IC333	IC372	IC395
IC193	IC209	IC229	IC248	IC289	IC310	IC337	IC373	IC396
IC194	IC210	IC230	IC250	IC290	IC313	IC338	IC375	IC399
IC199	IC211	IC233	IC251	IC291	IC315	IC349	IC378	IC401

Room C: 885 7036 3576											
10:00~10:30	IC402	IC404	IC406	IC408	IC414	IC416	IC417	IC419	IC420	IC423 IC424	IC427
<b>10:30~11:00</b>	IC428	IC429	IC430	IC432	IC433	IC435 IC436	IC439, C446	IC442	IC451	IC458	IC462
<b>11:00~11:30</b>	IC465	IC466 IC470	IC467	IC468	IC469	IC473	IC478	IC479	IC482	IC488	IC490
<b>11:30~12:00</b>	IC491	IC496	IC497	IC504	IC505	IC510	IC511	IC516	IC518	IC523	

























## INVITED SPEAKER



**Dr. Amjad Ali Amjad**  
Donghai Laboratory, Zhoushan,  
Zhejiang, China & Zhejiang University,  
China

Speech Title: Advanced Visible Light  
Communication Systems Utilizing Blue  
Laser Diodes and Color Converter  
Materials











## Prof. Tong Hao

Tongji University, China

### Speech Title: Dual-polarized RF Tags for Orientation Estimation of Underground Pipelines

Tong Hao received the doctoral degree in engineering science from the University of Oxford in 2009. From 2010 to 2011, he was a Postdoctoral Research Fellow with the University of Birmingham, U.K. From 2012 to 2014, he was a Specialist in General Electric Company. He is currently a Full Professor with the College of Surveying and Geo-Informatics, Tongji University, Shanghai, China. His current research interests include enhanced detection, sensing and interpretation of subsurface/subglacial targets using radar technologies.

**Abstract:** Ground Penetrating Radar (GPR) is a non-destructive technique widely used to detect objects such as under-ground pipelines and cables. The hyperbolic features observed in radar images are commonly used to estimate cylindrical objects' depth and radius. However, generating standard hyperbola requires that the GPR scanning direction be perpendicular to the pipeline's orientation, which is challenging to guarantee in practical field measurements. In this study, we integrate GPR with radio frequency identification (RFID) to estimate the orientation of underground pipelines. We designed a dual-polarized flexible RF tag, with the resonant frequencies depending on the polarization of the incident electromagnetic wave. The tags were tested in both simulation and field experiments to show that they can generate strong resonance in horizontal and vertical polarizations. Subsequently, we analyzed the different structures of tags that affect the resonant frequencies in horizontal and vertical polarizations and thereby can effectively control the resonant frequencies in different polarizations. This innovative approach has potential for applications such as pipeline orientation estimation, offering new solutions in the realm of underground environmental monitoring.

## Assoc. Prof. Emanuel S. Grant

University of North Dakota, USA

### Speech Title: Software Engineering M.S. Program for Safety Critical System with Artificial Intelligence

Emanuel S. Grant received a B.Sc. from the University of the West Indies, MCS from Florida Atlantic University, and a Ph.D. from Colorado State University, all in Computer Science. Since 2008, he is an Associate Professor in the Department of Computer Science (August 2002 – June 2018) and the School of Electrical Engineering and Computer Science (June 2018 – present) at the University of North Dakota, USA, where he started as an Assistant Professor in 2002. He currently serves as the Associate Director of the School of Electrical Engineering and Computer Science (SEECs) and SEECs Graduate Program Director. His research interests are in software development methodologies, formal specification techniques, domain-specific modeling languages, model-driven software development, software engineering education, and ethics for software engineering. Emanuel Grant has conducted research in software engineering teaching with collaborators from Holy Angel University, Philippines; HELP University College, Malaysia; III-Hyderabad, India; Singapore Management University, Singapore; Montclair State University, and University of North Carolina Wilmington of the USA; and the University of Technology, Jamaica. Emanuel is a member of the Association for Computing Machinery (ACM), Upsilon Pi Epsilon (UPE), and the Institute of Electrical and Electronics Engineers (IEEE).

**Abstract:** AI is applied at a pace that challenges the verification of its suitability to the domains of application. A team of computer science researchers will combine their knowledge and skills to formulate a pedagogical strategy for a graduate-level program in software engineering (SE) that is developed from a foundational set of learning theories from which a set of principles is derived. These principles are used to define a set of learning techniques that are then amalgamated into methods for a comprehensive teaching and learning methodology. The graduate program will address the use of artificial intelligence (AI) in SE education, as the trending approach in 21st century application development. Academic and international industrial software development standards are incorporated into the course and program curricula to diminish the gap between classroom education and professional practices. Fundamental to this approach is the use of established learning theories for SE and AI in designing the educational modules. The outcome of this proposed research will be a graduate program in software engineering.



## Assoc. Prof. Xiaoqiang Hua

National University of Defense Technology, China

### Speech Title: MIG Detectors: Basic Theory and Applications

Xiaoqiang Hua is an associate professor of the National University of Defense Technology. He received the PhD degrees in information and communication engineering from National University of Defense Technology, Changsha, China, in 2018. His research interests lie in the areas of information geometry, statistical signal processing, radar target detection.

**Abstract:** Matrix information geometry is the study of intrinsic properties in the space of Riemannian manifold composed of positive-definite matrices. Matrix information geometry has been successfully applied to radar signal processing, image processing, computer vision, and other inter-disciplinaries. This report gives a brief introduction of the theory of matrix information geometry, and summaries some applications of signal detection in homogeneous and nonhomogeneous clutter. The further work on MIG detectors is also pointed out.

## Assoc. Prof. Yi Zhao

Chang'an University, China

### Speech Title: UAV Vision Based Wind Turbine Blades Defects Detecion via Semantic Segmentation

Yi Zhao Member IEEE (M'14 ) received the M.Eng. degree from Pierre and Marie Curie University (current Sorbonne University), France, in 2010 and the Ph.D. degree from the University of Toulon, France, in 2014. He is currently associate Professor at School of Electronics and Control Engineering, Chang'An University since 2014. He is also the co-founder and chef scientist in JYI(Shaoxing) intelligent-tech Inc. since 2018. His research interests include computational intelligence, machine learning and sensory application. He has been an Active Reviewer of more than 10 major IEEE technical journals (TII, TPAMI, TIE, Sensor Journal, etc) and top conferences and Technical Program Committee Member for 30 international conferences since 2014.

**Abstract:** The timely maintenance of wind turbine blades is considered of high importance for the safety and effectiveness of Wind power stations. To address the concerns of inefficiencies and safety issue of traditional manual blade damage detection methods, we employed UAV vision and proposed a novel semantic segmentation model based on DeepLabV3Plus. The major enhancement involved adopting SCTNet as the backbone network and integrating the EMA mechanism. Our experiments indicate that DeepLabV3Plus-SE performs exceptionally well in segmenting wind turbine blades and identifying defects. Moreover, the model shows substantial improvements in key performance metrics, namely mIoU and mAcc.



## Assoc. Prof. Xin Yang

Northwestern Polytechnical University, China

### Speech Title: Modulation Recognition of OTFS Signal for UAV Communication System

Xin Yang is an associate professor at the School of Electronic Information, Northwestern Polytechnical University, and a doctoral supervisor. He received his bachelor's degree and master's degree from Xidian University in 2011 and 2014 respectively. He received his PhD from Northwestern Polytechnical University in 2018. He has long been engaged in high reliability wireless communication and networking technology research. He won the provincial and ministerial Technology Invention Award (ranked 2nd) and the Shaanxi Young Science and Technology Star.

**Abstract:** With the continuous expansion of drone application scenarios, the communication requirements and modes of drones have become more diversified and complex. However, high-speed information transmission has always been a focus of attention. To provide a guarantee for highly reliable communication of drones, Orthogonal Time Frequency Space (OTFS) technology overcomes the influence of multipath and Doppler effects in traditional communication systems in high-speed moving environments. At the same time, in the multipath channel of unmanned aerial vehicle communication systems, traditional methods for identifying OTFS signal subcarrier modulation methods exist some problems such as low recognition accuracy and incomplete identification methods. Therefore, deep learning can be used to study the recognition of OTFS signal subcarrier modulation methods. The article uses Convolutional Neural Network (CNN), Long Short Term Memory (LSTM) Neural Network and LCDNN for modulation recognition. Meanwhile, Residual Network (Res Net) is used as the base model. The result of simulation experiment shows that the LCDNN has higher recognition accuracy, short training time for model and good network performance.

## Assoc. Prof. Youjie Zhou

Zhengzhou University, China

### Speech Title: Multiple optimal solutions make better decisions: applications in logistics

Yanjie Zhou received Ph.D. degree from the Department of Industrial Engineering at Pusan National University in 2020 and received B.S. Degree and M.S. Degree in Computer Science and Computer Applied Technology from Zhengzhou University in 2012 and 2015, respectively. He is currently an associate professor with the School of Management at Zhengzhou University. He focuses on solving real-world optimization problems by using artificial intelligence techniques. His research has been published in several prestigious journals, including the IEEE Transactions on Neural Networks and Learning Systems and Knowledge-based Systems. He has also received numerous awards and honors for his work, such as the Best Paper Award of the 6th Y-RIB in collaboration with UNESCAP in 2024 and the Chinese Government Award for Outstanding Students in Korea in 2017/2018. He also has served as a guest editor for journals such as the European Journal of Industrial Engineering and Case Studies on Transport Policy, and as a member of the editorial board for the Journal of Game Studies and Social Sciences & Humanities Open. He is also a reviewer for a wide range of international and domestic journals and has been involved in conference committees and memberships in professional societies.

**Abstract:** A combinatorial optimization problem may have multiple optimal solutions, and obtaining all the optimal solutions is more intractable than obtaining one optimal solution. Two optimal solutions have the same objective function value. In practice, the two optimal solutions may have different hidden costs, which can not be evaluated in the objective function. Finding multiple optimal solutions will help the decision maker to make a comprehensive decision. This paper summarizes the methods for obtaining multiple solutions, including mathematical formulation-based methods and branch & bound methods. Combinatorial optimization problems in logistics, such as container relocation problems and vehicle routing problems, that have multiple optimal solutions are presented and analyzed. This paper advocates the decision maker providing multiple optimal solutions that help them to make a better decision.



## Assoc. Prof. Liwei Yang

China Agricultural University, China

### Speech Title: Resource Allocation Strategy Based on the BCPF Algorithm for Visible Light Communication

Dr. Liwei Yang, associate professor of China Agricultural University. She received the B.E. degree in Telecommunication Engineering from Chongqing University of Posts and Telecommunications, China, and the Ph.D. degree in Information and Communications Engineering from Beijing University of Posts and Telecommunications, China. From 2009 to 2011, she was a Postdoctoral Research Fellow with the Department of Electronic Engineering, Tsinghua University, China. In 2015, she joined the faculty of the College of Information and Electrical Engineering, China Agricultural University. Her research interests include optical networks, optical wireless communications and visible light communication. She participated in a number of national projects and published more than 100 papers. She served as a TPC member of several international academic conferences and a reviewer for several international journals.

**Abstract:** A novel bandwidth and channel priority fairness algorithm (BCPF) is proposed for heterogeneous networks combining WiFi and Visible Light Communication (VLC) technologies. Indoor network modeling and simulation experiments verify the algorithm's effectiveness in improving overall system performance. The results demonstrate significant improvements in system throughput, reduced latency, and enhanced user fairness, indicating the new algorithm's potential to optimize hybrid WiFi-VLC networks.

## Assoc. Prof. Gong Chen

Chengdu University of Information Technology, China

### Speech Title: Recent Advances and Trends in High Resolution SAR ADCs

GONG CHEN received the B.S. degree in electronic engineering from University of Electronic Science and Technology of China (UESTC), in 2005, the M.S. degree in Information, Production and Systems (IPS) from the Waseda University, Japan, in 2010, and the Ph.D. degree in Integrated circuits and systems from the Kitakyushu University, Japan, in 2013. During 2013-2016, he joined the the Advanced Semiconductor Research Institute, Panasonic, Osaka, Japan. In 2018, he completed a research assignment from IPS at Waseda University. Since 2018, he has been a Chair of the Microelectronic Department, Chengdu University of Information Engineering, Chengdu, China. His current research interests include physics, analog and mixed-signal electronics, and their joint feasibility aspects. He has authored or co-authored about 25 papers and holds six patents.

**Abstract:** This topic presents an overview of the recent advances in high resolution SAR ADCs. It delves into the fundamental principles behind the trends in high resolution design, with a primary focus on the application of noise-shaping techniques in SAR ADCs. Firstly, it outlines two primary topological structures: error feedback and cascaded integrator feedforward. Secondly, it delves into the active and passive circuit-level implementations based on deep nanometer CMOS processes, emphasizing the associated design trade-offs. Lastly, it discusses the trends in this field, such as multi-stage and cascaded implementations. Additionally, it also touches upon some high-speed design solutions and trends.







## Prof. Xiwen Zhang

Beijing Language and Culture University, China

### Speech Title: Three Views for Intelligently Extracting and Generating Information from Multimedia

XiWen Zhang is currently a full professor of Digital Media Department, School of Information Science, Beijing Language and Culture University. Prof. Zhang worked as an associated professor from 2002 to 2007 at the Human-computer interaction Laboratory, Institute of Software, Chinese Academy of Sciences. From 2005 to 2006 he was a Post doctor advised by Prof. Michael R. Lyu in the Department of Computer Science and Engineering, the Chinese University of Hong Kong. From 2000 to 2002 he was a Post doctor advised by Prof. ShiJie Cai in the Computer Science and Technology department, Nanjing University. Prof. Zhang's research interests include pattern recognition, computer vision, and human-computer interaction, as well as their applications in digital image, video, and ink. Prof. Zhang has published over 60 refereed journal and conference papers. His SCI papers are published in Pattern Recognition, IEEE Transactions on Systems Man and Cybernetics B, Computer-Aided Design. He has published more than twenty EI papers. Prof. Zhang received his B.E. in Chemical equipment and machinery from Fushun Petroleum Institute (became Liaoning Shihua University since 2002) in 1995, and his Ph.D. advised by Prof. ZongYing Ou in Mechanical manufacturing and automation from Dalian University of Technology in 2000.

**Abstract:** Thanks to digitizing sensors and computing devices, there are various digital media, such as image, video, ink, audio, point cloud, and so on. Due to machine learning, deep learning, pattern recognition, and computer vision, various information can be extracted and generated from these media. Our work has focused on image, video, and ink, as well as extracted and generated various information using the proposed hierarchy and matrix models, local homogeneity, implementing ways with evolution operations and adversarial generation. In our work, various digital images are processed, such as ones scanned from mechanical paper drawings and paper text, face images, portrait ones with line drawings, and microscopic bone marrow images. Various digital inks are processed, such as Chinese characters inks, text inks (namely handwriting), graphics inks (namely sketch). Hand and body video is also processed.

## Assoc. Prof. Bhai Nhuraisha I. Deplomo

University of Makati, Philippine

### Speech Title: TRAINS: Train and Passenger Real-time Analytics and Integration Network System Using NeuRaiSya with BhaiCha Algorithm and PINNs Applications

Engr. Bhai Nhuraisha I. Deplomo serves as the Founder of EROVOUTIKA Electronics, Robotics, and Automation. She holds a license in Electronics and Communication Engineering, having earned her Bachelor's degree (BSECE) with Distinction and Best in Journalism Award from the University of Mindanao - Cotabato. During her undergraduate years, she excelled as the Editor-In-Chief of the school publication, and academic excellence award. Her academic journey continued with the successful completion of a Master's degree in MSecE (MS in Electronics Engineering) from Mapua University and an MSICT (MS in Information and Communication Technology) from Pamantasan ng Lungsod ng Maynila (PLM). Additionally, she pursued her Doctor of Technology (academic units earned) at TUP-Manila. Currently, she is in the final stages of completing her PhD in Electronics Engineering at Mapua University, focusing on her dissertation. With a wealth of experience, Engr. Bhai Nhuraisha I. Deplomo has been actively involved in numerous Robotics and Automation projects. She holds the position of Associate Professor at the University of Makati, contributing to the academic field with her expertise and dedication.

**Abstract:** Current Philippine railway systems face significant challenges in real-time monitoring and effective management of both train movements and passenger flow. These challenges often lead to inefficiencies, safety concerns, and financial losses due to outdated monitoring systems and a lack of predictive capabilities. Addressing these issues, the NeuRaiSya System was developed to enhance the oversight and management of trains and passenger movements. The system assists engineers and operators by providing tools for real-time tracking and prediction of train movements, thereby preventing potential issues and optimizing passenger flow to improve train traffic and maximize railway revenue. The system achieves these goals by gathering sensor data, including accelerometer, gyroscopic, and tilt angle measurements, which are simulated and analyzed using the PINNs application for train anomaly detection and prediction. This BhaiCha algorithm employs a coding matrix to convert sensor data into actionable insights about the train's status and passenger distribution. The system's graphical user interface (GUI) supports real-time monitoring by visualizing train movements and conditions. Simulation results demonstrate that the BhaiCha algorithm effectively generates signal codes that accurately reflect the status of trains and passenger flow, addressing the critical needs of modern railway systems. The implementation of this system shows significant potential to improve safety, efficiency, and financial management in railway operations.



## Assoc. Prof. Lanhua Xia

Hangzhou Dianzi University, Hangzhou, China

**Speech Title: The design-for-testability of CP-PLL in communication devices, the method, design and applications**

Lanhua Xia is an associate professor in Hangzhou Dianzi Univ. She received the Ph.D degree from the National ASIC Engineering Research Center of Southeast University, China, 2018, and was a research scholar in the University of Texas at Austin in 2017, supervised by prof. Jacob A. Abraham. She has led 2 projects funded by the National Natural Science Foundation of China and 2 projects funded by Zhejiang Province. She published more than 20 papers in IEEE TAES, IEEE TCAS2, ACTA Astronautica, IET Circuits Devices & Systems, and granted more than 10 patents in recent years. She served as TPC member and session chair of the IEEE ICCD for three consecutive sessions from 2021 to 2023, and as Organizing Committee of the IEEE ICFIT in 2024. She is also a committee member of Chinese Association for Artificial Intelligence (CAAI).

**Abstract:** With the rapid development of communication devices and IC industry, the mass production test of mixed-signal circuit has become one of the main technical bottlenecks restricting the industrial development. The charge-pump phase-locked loop (CP-PLL), which is a key mixed signal circuit module in most communication systems, its production quality and test cost have a big influence on the time to market, the production cost and performance stability of electronic products. In the report, the design-for-testability of CP-PLL in communication devices, the method, design and applications are introduced. Based on the qualitative and quantitative analysis of the influence of faults in the structure of CP-PLL on its performance, it combines the integrated structural test and performance evaluation at low cost.

## Assoc. Prof. Yingtao Niu

National University of Defense Technology, China

**Speech Title: From adaptive communication anti-jamming to intelligent communication anti-jamming: 50 years of evolution**

Yingtao Niu received the Ph.D. degree from the Institute of Communication Engineering, PLA University of Science and Technology, China, in 2008. He is currently an Associate Research Fellow with the Sixty-Third Research Institute, National University of Defense Technology (NUDT), Nanjing, China. His main research interests include spread-spectrum communication, cognitive radio theory and techniques, with particular emphasis on algorithms of wireless communication signal processing and intelligent algorithm in cognitive radio systems.

**Abstract:** A comprehensive review of the evolution of intelligent communication anti-jamming techniques is provided. First, a clear definition of the concept and elaboration on the inherent connotations and capability characteristics of intelligent communication anti-jamming is provided. Additionally, the initial construction of an intelligent communication anti-jamming system architecture is outlined. Subsequently, the development of intelligent communication anti-jamming is delved, tracing its progression from early-stage adaptive anti-jamming techniques to the more recent advancements in intelligent anti-jamming, which are primarily based on game theory and machine learning. Moreover, the latest research findings in this domain are thoroughly examined and the existing challenges and bottlenecks that hinder current research progress are highlighted. Finally, several viable research directions for future studies in the field of intelligent anti-jamming are proposed.



## Assoc. Prof. Xin Nie

Wuhan Institute of Technology, China

### **Speech Title: Coordinated Task-planning for Multi-autonomous Satellites**

Dr. Xin Nie, born in 1983, is an Associate Professor and Master's advisor at the School of Computer Science and Engineering, Wuhan Institute of Technology. Holding a Ph.D. in Computer Software and Theories from Wuhan University, he has made significant contributions to the fields of intelligent optimization algorithms, big data, and smart industrial production lines. Dr. Nie has published over 10 SCI/EI indexed papers, secured 4 national invention patents, and registered 2 software copyrights in past 5 years. He actively engages in teaching courses such as "Software Project Management" and "Programming Fundamentals" for international students. As a competition organizer and mentor, he has led teams to numerous awards in the "China Software Cup" and has participated as a judge in robotics and AI competitions.

**Abstract:** With the rapid development of remote sensing technology, multi-satellite autonomous task planning has become a key research direction in satellite Earth observation. The core challenge in this field lies in how to achieve efficient collaborative planning of Earth observation tasks under the conditions of limited resources and diversified observation requirements. Intelligent optimization algorithms, as an effective tool to solve this problem, are continuously promoting technological progress in this field. Firstly, an overview of the importance of multi-satellite collaborative task planning and its current research status at home and abroad will be presented. The observation task planning of satellite constellations not only needs to consider the observation capabilities of satellites, user requirements, and resource constraints but also has to deal with complex issues such as visibility constraints between stars and the Earth and spatial geometric transformations. The complexity of these issues makes it difficult for traditional optimization methods to obtain the optimal solution in polynomial time, while intelligent optimization algorithms provide an effective solution. Next, the application of intelligent optimization algorithms in multi-satellite collaborative task planning will be highlighted, by integrating the latest research findings, including methods for multi-satellite autonomous collaborative task planning towards dynamic regional targets, etc. We will demonstrate how these algorithms can optimize key indicators such as regional coverage rate, immediacy, and the number of strips while meeting user requirements and resource constraints. Furthermore, the challenges faced by intelligent optimization algorithms in practical applications will be explored, including the convergence speed of the algorithms, multi-objective optimization strategies, and the integrated application of algorithms in actual satellite task planning. Finally, the future development of multi-satellite collaborative task planning will be prospected. With the continuous advancement of artificial intelligence and machine learning technologies, intelligent optimization algorithms are expected to play a greater role in multi-satellite collaborative task planning, achieving more efficient and intelligent task planning to meet the growing demand for Earth observation.

## Assoc. Prof. Jing Yang

Guizhou University, China

### **Speech Title: Image and Text Guided Network for Compositional Zero-Shot Learning**

Jing Yang received the PhD degree in mechanical and electronic engineering from Guizhou University, in 2020. From August 2018 to September 2019, he was awarded a scholarship by the China Scholarship Council (CSC) under the State Scholarship Fund to pursue his study with Oklahoma State University, as a Joint Ph.D. Student with the Institute for Mechatronic Engineering, where he joined the Guoliang Fan's Group, as a Professor. From October 2022 to October 2023, he was a visiting scholar studying in the team of Professor Wu Fan (NSFC Distinguished Young Scholars) from Shanghai Jiao Tong University. He is currently an assistant professor with the State Key Laboratory of Public Big Data, Guizhou University, China. His research interests include Open domain visual learning, intelligent robot, and Edge Computing. He has published more than 50 peer-reviewed papers in the related area, including well-archived international journals such as the International Journal of Intelligent Systems, the Micromachines, the Journal of Sensors, the International Journal of Advanced Robotic Systems. he has served on the editorial board of the IEEE Transaction on Semiconductor Manufacturing, the Journal of Computational Design and Engineering and peer reviewers for several international conferences and journals.

**Abstract:** Humans are able to acquire knowledge about unfamiliar and unknown objects readily. However, it is extremely challenging for artificial intelligence to achieve this skill. This report highlights some of the work the team has done to compositional zero-shot learning. With the rapid development of artificial intelligence, compositional zero-shot learning (CZSL) can generalize unseen compositions by learning prior knowledge of attributes and object compositions seen during training. Despite numerous endeavours and significant advancements in the field of CZSL, the insufficient inter-class connectivity has remained insufficiently addressed. So we address the problem from a multi-modal perspective by proposing Image and Text Guided Network for Compositional Zero-Shot Learning (ITGN-CZSL), which has the ability to correlate graphical and textual multi-modal features. Extensive experiments on four CZSL datasets demonstrate that ITGN-CZSL surpasses previous methods.

**Assoc. Prof. Danyang Zheng**

Southwest Jiaotong University, China

**Speech Title: Zero Trust-aware Prompt Chain Deployment for AIGC Services**

Danyang Zheng, Ph.D., Associate Professor (since January 2023), Chief Technology Advisor at Sichuan Prologue Technology Co., Ltd., Youth Editorial Board Member of the journal Big Data Mining and Analysis (BDMA, IF: 13.6, 2023 latest Chinese Academy of Sciences ranking: Tier 1), IEEE member, CCF member. His research focuses on in-network computing, network reliability and security, and digital twins. He has published over 40 SCI/EI papers, including in top-tier journals and conferences such as IEEE INFOCOM, IEEE TDSC, IEEE TNSM, IEEE TCoM, IEEE IoTJ, Computer Networks, and BDMA, with over 20 as the first author or corresponding author. He is currently leading/working on multiple National Natural Science Foundation Youth Project, Sichuan Provincial Natural Science Foundation Youth Project, and horizontal research projects. He is serving as the Conference Publicity Chair of ICCC 2024 and has served as the Track Chair of WCCCT 2024, and program committee member for ICCC 2021-2024, IEEE ICTC 2023-2024, IEEE VTC 2023, and IEEE ICCT 2023.

**Abstract:** The proliferation of Artificial Intelligence-Generated Content (AIGC) services necessitates robust security frameworks to ensure data integrity and trustworthiness. This study introduces a novel framework for Zero Trust-aware Prompt Chain Deployment, specifically tailored for AIGC services. Leveraging the Zero Trust architecture, which fundamentally operates on the principle of "never trust, always verify," we have developed a deployment strategy that seamlessly integrates with existing AIGC infrastructures. Our framework not only enhances the security posture of AIGC services but also optimizes operational efficiency, offering a balanced approach to innovation and security. Empirical evaluations demonstrate significant improvements in both security and performance metrics, underscoring the viability and effectiveness of our approach in real-world applications.

**Assoc. Prof. Kefeng Guo**

Space Engineering University, China/ Nanjing University of Aeronautics and Astronautics, China

**Speech Title: Joint Opportunistic Scheduling and Power Optimization for Covert Satellite Terrestrial Integrated Networks**

Kefeng Guo received his B.S. degree from Beijing Institute of Technology, Beijing, China in 2012, and the Ph.D. degree in Army Engineering University, Nanjing, China in 2018. He is a Lecturer in School of Space Information, Space Engineering University. He is also an associate professor in the College of Electronic and Information Engineering, Nanjing University of Aeronautics and Astronautics. He has authored or coauthored nearly 100 research papers in international journals and conferences. His research interests focus on cooperative relay networks, MIMO communications systems, multiuser communication systems, satellite communication, hardware impairments, cognitive radio, NOMA technology and physical layer security. He was a recipient of exemplary Reviewer for IEEE Transactions on Communications in 2022. He was the recipient of the Outstanding Ph.D. Thesis Award of Chinese Institute of Command and Control in 2020. He also was the recipient of the Excellent Ph.D. Thesis Award of Jiangsu Province, China in 2020. He was the recipient of the Best Paper Award of WiSATS 2024. He was listed in the World's Top 2% Scientists identified by Stanford University in 2022-2024. He also serves as an Editor on the Editorial Board for the EURASIP Journal on Wireless Communications and Networking and IEEE Open Journal of the Communications Society. Dr. Guo has been the TPC member of many IEEE sponsored conferences, such as IEEE ICC, IEEE GLOBECOM and IEEE WCNC.

**Abstract:** In this research, we explore covert communications in a representative satellite terrestrial integrated network (STIN) which is made up of several potential relays and the public users. To ensure the covertness of downlink transmissions, partial users are used as cooperative jammers. It is proved that our proposed opportunistic scheduling scheme can significantly improve covert performance of the STIN. Specifically, the downlink from satellite to users with the highest signal-to-interference-plus-noise ratio is chosen for covert transmission. On this foundation, the analytical expression of detection error probability at a warden is derived. Moreover, we further derive the effective covert rate, which is the important factor to indicate the efficiency of the considered covert network. Then, to further enhance system's covert performance, the transmit power of the satellite and the jammer are optimized, respectively. Finally, some simulations are presented to show the effectiveness of our proposed scheme, and prove that there exists one best power setting for the covert STIN.





efficient protocol dubbed FairThunder. The proposed protocol exhibits many advantages such as be able to fetch content chunk from any specific position so the delivery can be resumed in the presence of unexpected interruption, and the protocol is efficient in the sense of achieving asymptotically optimal on-chain costs and optimal delivery communication. The implemented prototype are deployed on the Ethereum test network and extensive experiments in different network settings showcase its efficacy and efficiency.

## Dr. Lufeng Yuan

Beijing China-Power Information Technology Co.,Ltd., China

### **Speech Title: A Method For Constructing The Knowledge Graph Of Digital Twin Power Facilities Based On Deep Learning**

Lufeng Yuan is a senior engineer at State Grid Corporation of China. He received his PhD degree of computer science from the Institute of Computing Technology, Chinese Academy of Sciences, Beijing in 2017. As a big data expert of State Grid Corporation of China, he works in power informatization and digitalization. He has published more than 10 papers and written 2 books. His research interests mainly focus on Big data, artificial intelligence and digital twins.

**Abstract:** We propose a method for constructing the knowledge graph of digital twin power facilities based on deep learning to solve the problem which is difficult to effectively manage and apply complex and diverse information of power facilities. This method systematically integrates structured data and unstructured data such as facility attributes, functions, locations, operating status, and detection status, generates digital twin models of power facilities. It constructs knowledge graph through entity recognition and fills in the lacks in the knowledge graph. The experiments show that the accuracy of entity recognition by this method reaches 90.89%, and the accuracy of knowledge graph completion is 83.8%. Finally, we constructed the knowledge graph of digital twin power facilities. This knowledge graph contains 29564 entities and 104615 relationships, with entity recognition accuracy of 81.68% and relationship recognition accuracy of 79.35%. This knowledge graph can serve as the core of data and model management for our power facility digital twin platform for model management and facility retrieval.

## Dr. Cen Wang

KDDI Research, Inc., Japan

### **Speech Title: Using Large Language Models to Automate Network Control and Management**

Cen Wang, IEEE/OSA member, graduated from Beijing University of Posts and Telecommunications and received electrical engineering doctoral degree in 2019. He then joined KDDI Research, Inc., Japan, in 2020, as a core researcher of optical communication and network. He started research in natural language processing assisted network automation in 2023, the related works were selected as highly scored paper in OFC 2023, and invited presentation in ECOC 2024.

**Abstract:** In network control and management (C&M), administrators usually need to complete relevant operations based on an understanding of network device operation manuals, network configuration commands, and alarm information. The essence of this process is the understanding of natural language. Inspired by this, we proposed a series of methods that use natural language processing (NLP) and the currently popular large language model (LLM) technology to enhance network C&M automation, which significantly reduce the work efforts and the knowledge cost and increase the intelligence of control plane. This paper will introduce our current work progress and conduct a comprehensive analysis of the complete architecture, roadmap and standardization promotion of network C&M automation based on NLP and LLM.

## Dr. Qinqin Tang

Beijing University of Posts and Telecommunications, China

### Speech Title: Integrated Computing and Networking for LEO Satellite Mega-Constellations

Qinqin Tang received her Ph.D. in Information and Communication Engineering from Beijing University of Posts and Telecommunications (BUPT), Beijing, China, in 2022. From March 2021 to February 2022, she was a visiting Ph.D. student in the Department of Computer Science at the University of Ottawa, Canada. She is currently a Postdoctoral Research Fellow at BUPT. Her research interests include the Internet of Intelligence, edge/cloud computing, traffic offloading, and resource management. To date, she has published over 50 SCI/EI papers and has authorized or applied for more than 30 national invention patents. Additionally, she has served as the Technical Program Committee (TPC) Chair or Member for numerous conferences and as a reviewer for several prestigious journals, including IEEE Network, IEEE Transactions on Communications, and IEEE Transactions on Wireless Communications.

**Abstract:** Low earth orbit (LEO) satellite mega-constellations, with their wide coverage, low delay, and large communication capacity, have become an indispensable part of future networks to achieve global coverage. With the remarkable development of edge computing, LEO satellite mega-constellations are starting to have on-orbit computing capabilities to cater to the computing service requirements of the Internet of remote things (IoRT). Meanwhile, satellite edge cooperation will most likely be able to overcome single-point satellite resource bottlenecks and improve the utilization of resources. However, most of the existing studies related to satellite edge cooperation have focused on small-scale task scheduling and resource allocation among adjacent nodes. These studies do not fully capture the heterogeneous and large-scale characteristics of mega-constellations. Furthermore, computing and network resources are optimized separately in these works, which hinders the improvement of service performance. Therefore, this article proposes a new conception called integrated computing and networking for LEO satellite mega-constellations (ICN-LSMC), which breaks the barriers between computing and networking and enables unified management of both. We first analyze the motivation for ICN-LSMC and present the corresponding design principles. Based on the design principles, we design the system architecture and layered structure of ICN-LSMC. Promising technical challenges are then discussed, including fine-grained resource representation and awareness, ingenious task scheduling, and deterministic routing. To support the feasibility of the proposed architecture, we conduct a performance evaluation. Finally, we highlight some of the potential open issues related to future research.

## Dr. Nanxi Li

China Telecom Research Institute, China

### Speech Title: An Overview of Standardization Progress for Integrated Sensing and Communications: Use Cases, Channel Modeling and Potential Challenges

Nanxi Li received his Ph.D. degree in information and telecommunication engineering from Beijing University of Posts and Telecommunications in 2018. He has been with China Telecom Research Institute since then, working on 5G standardization in 3GPP RAN1 and 6G promising techniques. He has invented or co-invented about 120 filed/granted Chinese patents, 20 papers and co-authored 1 book. He is now a senior engineer, and his main research areas include 5G physical layer technologies, 3GPP RAN1 standardization and reconfigurable intelligent surfaces. And he is the rapporteur for the 3GPP Rel-18 further NR coverage enhancements work item

**Abstract:** Integrated sensing and communication (ISAC) is a promising technique for 6G, which provides the possibility to enable smart manufacturing, smart transportation as well as smart city. Till now, 3GPP has initiated the study on ISAC in both Service & Systems Aspects (SA) and Radio Access Network (RAN) working group, aiming to identify the potential use cases, requirement and define the channel modeling details. In this paper, we provide a comprehensive overview about standardization progress of ISAC in 3GPP, including the use cases, deployment scenarios and channel modeling. In the end, the potential challenges for ISAC from operator's perspective are provided.



## Asst. Prof. Kan Yu

Beijing University of Posts and Telecommunications, China

### Speech Title: A systematic architecture for communication-perception-computing-security in IoV

于刊，男，博士，“澳门青年学者”（北京邮电大学首位，全国 30 位），北京邮电大学泛网部重点实验室成员。主要研究方向包括：面向大规模无线接入网的拓扑构建，分布式算法设计，资源分配与优化，以及面向超可靠低时延通信的无线物理层安全机理。目前主持国家自然科学基金 1 项、山东省自然科学基金 1 项，参与国家重点研发计划、国防科技创新项目、国家自然科学基金、山东省重大基础研究和重点研发计划等 8 项，在计算机顶级期刊发表高水平论文 30 余篇，包括 CCF A 类期刊 IEEE/ACM Transactions on Networking、CCF B 类期刊 IEEE Transactions on Wireless Communications、IEEE Transactions on Communications、Computer Networks、JCR 1 区 TOP 期刊 IEEE Transactions on Cognitive Communications and Networking、IEEE Transactions on Vehicular Technology 等。

**Abstract:** Integrated sensing and communication (ISAC) technology accelerates the networking and intelligence of intelligent transportation systems (ITS), achieving efficient, safe, and reliable traffic management and services. Supported by millimeter-wave (mmWave) frequency bands, in terms of communication and sensing functions, both high-precision resolution and seamless integration of required ultra-high data rates can be provided simultaneously, and the performance of communication and sensing in ISAC is further improved. On the one hand, the above performance suffers from the severe coupling interference of ISAC working at mmWave frequency, and the coupling laws of ISAC and their decoupling methods are not yet clear. On the other hand, the strong directionality of mmWave-based communication beamforming poses serious security challenges to the information transmission in the context of ISAC. In order to study the physical layer security issues in the ISAC adopted by ITS, the concepts of “ubiquitous sensing”, “potential communication”, “integrated computing”, and “inherent security”, along with their coupling relationships, are put forward for the first time. Subsequently, the current research status and limitations of sensing, communication, computation and security are summarized from four aspects: vehicular network architecture, resource management, interference management, and security management. Finally, potential research directions in ITS are proposed, consisting of resource optimization allocation, deep cognition and modeling of coupling interference caused by using ISAC at mmWave frequency, performance limiting laws among sensing, communication, computation and security, and privacy protection architectures.

## Dr. Isma Hamid

National Textile University, Pakistan

### Speech Title: Forecasting of Complex Industrial Time Series Problems: A Novel Approach by using Reinforcement learning

Dr. Isma Hamid acquired Ph.D. degree in the field of Computer Science, in December 2017, from Chongqing University of Posts and Telecommunications (CQUPT), China Specialized in Behavior Analysis and Visualization Technology of Social Networks, Image Processing, Pattern Recognition and Big Data Analysis. I have fifteen years of teaching, research, and application development experience in reputed public sector universities of Pakistan. I published twenty-seven research papers in different EI and SCI journals and Conferences. I also have performed duties as external examiner to evaluate thesis of M.Sc. (Computer Science), M.S (Computer Science) and PhD (CS). During my university service, I supervised more than thirty projects of B.S, M.S and PhD students.

**Abstract:** Industries heavily rely on accurate time series forecasting to make informed decisions, optimize resource allocation, and plan. However, the irregularity in time intervals hinders the application of conventional forecasting techniques, leading to suboptimal predictions and unreliable insights. The inherent complexities of multivariate time series with irregular time intervals introduce further obstacles, as misaligned data points make it challenging to capture interdependent relationships among variables. The consequences of wrong predictions can be severe, leading to misguided decision-making, inefficient resource allocation, increased operational costs, missed opportunities, and diminished competitiveness. To ensure reliable and precise forecasting, it is imperative to address the challenges of irregular time series







this threshold as a key division between two phases of the RIS system's life cycle; 3) We demonstrate that PEs occur not only in RIS phase shifts but also in PDAs; and 4) We reveal that PEs have a more pronounced impact when the phase shift deviates significantly from the minimal phase and vice versa.

## Dr. Yueting Li

Beihang Univeristy, China

### **Speech Title: An Antiferromagnetic MRAM-Based Processing-In-Memory System for Efficient Bit-Level Operations of Quantized Convolutional Neural Networks**

Li Yueling, Senior Engineer, specializes in the integration of cross-level computation across devices, circuits, and architectures with spintronics chips. As the first author, she has published nine academic papers in prestigious journals including IEEE TETC, IEEE TCAD, and ACM TECS. Li holds 15 national invention patents as the first inventor. She has directed projects funded by the National Youth Science Foundation and the China Postdoctoral Science Foundation, and has participated in key research and development initiatives under China's Ministry of Science and Technology. Currently, she serves on the TPC for ACM/IEEE ASP-DAC 2024, IEEE ISICAS 2025, and IEEE ICC 2023/2024, and as the chair of sub-forums at IEEE ISCAS 2025 and IEEE ICC 2023.

**Abstract:** Quantized convolutional neural network (QCNN) is an attractive approach that reduces hardware overheads, especially for energy-constrained systems. However, existing QCNNs still require nontrivial hardware resources and memory capacity in order not to compromise model accuracy. To address this issue, we propose an antiferromagnetic magnetic random-access memory (ARAM)-based processing-in-memory (PIM) system, leveraging bit-level sparsity. Three optimization techniques are proposed to optimize hardware resource utilization while preserving CNN accuracy. First, the ARAM-based memory subsystem allows dynamic adaptation of variable bit-width across CNN layers. Second, the bit-level accelerator employs the bit-fusion format engineered for processing data from the ARAM subsystem. Third, a customized data path within the RISC-V core guarantees efficient instruction processing to the ARAM-based memory subsystem and bit-level accelerator, enabling optimal bit-level data transmission and computation. Experimental results demonstrate that this design remarkably reduces data movement by 50%–83% across existing CNNs. Compared to state-of-the-art designs, it enhances throughput and latency by an average of 5× and 10×, respectively. In addition, this design achieves speedups between 1.63× and 2.96×, outstripping other designs in AlexNet, VGG16, and ResNet18 benchmarks.

## Dr. Amjad Ali Amjad

Donghai Laboratory, Zhoushan, Zhejiang, China & Zhejiang University, China

### **Speech Title: Advanced Visible Light Communication Systems Utilizing Blue Laser Diodes and Color Converter Materials**

Amjad Ali Amjad received his B.S. degree (Hons.) in Computer Systems Engineering from the University of Engineering and Technology (UET), Peshawar, Pakistan, in 2014, his M.S. degree in Electrical Engineering from the University of Lahore, Islamabad, Pakistan, in 2017, and his Ph.D. from Zhejiang University in 2021. He was a Post-Doctoral Research Associate with the School of Electronic and Computer Engineering at Peking University from 20121 to 2013. He is currently engaged in his second postdoctoral research at the Donghai Laboratory in collaboration with Zhejiang University. He has participated in several projects funded by the National Natural Science Foundation of China. He has also served as a TPC member for several conferences and as a reviewer for many IEEE and Optica journals and conferences. His research interests include wireless optical communications, underwater wireless optical communication, solid-state lighting, and visible light communication. He has co-authored one book chapter and several papers on these subjects, published in refereed journals and conference proceedings.

**Abstract:** Gallium nitride (GaN) phosphor-converted white light-emitting diodes (Pc-WLEDs) are emerging as an indispensable solid-state lighting (SSL) source for next-generation display systems and the lighting industry. Together with the function of lighting, visible light communication (VLC) using Pc-WLEDs has gained increasing attention to fulfil the



growing demand for wireless data communication. Over the past few years, white-light-emitting diodes have been used for both high-speed visible light communication and solid-state lighting simultaneously. Practically, the low modulation response and low emitting intensity of light-emitting diodes (LED) are the drawbacks to the development of ultrahigh-speed VLC and a high-quality SSL system. Blue GaN laser diode (LD) and color convertor quantum dots-based white light can simultaneously be used for both high-speed VLC and SSL.









## ORAL SESSION 3

<b>Oral Session 3: Artificial Intelligence and Applications in Information Systems</b> Chairperson: Dr. Cen Wang, KDDI Research, Inc., Japan	<b>13:00-15:15</b> <b>Saturday, December 14</b> 2F 文莱厅 Brunei Darussalam
---	--

Time	Paper ID	Speech Title & Presenter
13:00-13:15	IC214	Differential Privacy-based Avatar Update in Cooperative Intelligent Transportation System Metaverse <i>Salabat Khan, Qilu Institute of Technology, China</i>
13:15-13:30	IC1013	Enhanced Differential Interaction Representation for Joint Entity and Relationship Extraction <i>Youbo wang, University of Electronic Science and Technology of China, China</i>
13:30-13:45	IC163	Hardware-Accelerated 1-Bit Quantization Using PyRTL for Efficient Neural Network Design <i>Shoufeng Zhang, Beijing 101 High School, China</i>
13:45-14:00	IC226	Research on the Prediction Method of Remaining Tool Life Based on GASF-LSTM-Attention <i>Minnan Han, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China</i>
14:00-14:15	IC297	Reading Between the Lines: Commonsense Reasoning in Small Language Models <i>Wasif Feroze, University of Electronic Science and Technology of China</i>
14:15-14:30	IC305	Analysis on influencing factors of vehicle-road-cloud time synchronization accuracy <i>Yu, Kang, Beijing University of Posts and Telecommunications, China</i>
14:30-14:45	IC501	IRAM-SQL: A Language Model Integrating Relation-Aware Mechanism for Text-to-SQL <i>Ruohan Zhang, Beijing University of Posts and Telecommunications, China</i>
14:45-15:00	IC258	PSCA: Position-Syntax and Cross-Aspect for Aspect-based Sentiment Analysis in One Model <i>Ning Zhou, Southwest Jiaotong University, China</i>
15:00-15:15	IC502	BC-PASys: A Blockchain-based Secure and Reliable Peer Assessment System for Online Course <i>Bingbing Di, Henan University, China</i>





# ORAL SESSION 4

<b>Oral Session 4: Intelligent Information Systems and Security</b>			<b>13:00-15:40</b>
Chairperson: Assoc. Prof. Danyang Zheng, Southwest Jiaotong University, China			<b>Saturday, December 14</b> 2F 清迈厅 Chiang Mai
Time	Paper ID	Speech Title & Presenter	
13:00-13:20	Invited Talk	Zero Trust-aware Prompt Chain Deployment for AIGC Services <b>Assoc. Prof. Danyang Zheng</b> , Southwest Jiaotong University, China	
13:20-13:40	Invited Talk	Blockchain-Based Peer-to-Peer Content Delivery Networks <b>Asst. Prof. Songlin He</b> , Southwest Jiaotong University, China	
13:40-13:55	IC019	An Efficient Lightweight Anonymous Authentication Scheme for Vehicle Platoons <i>HaiqiongWu, Xihua University, China</i>	
13:55-14:10	IC037	Adversarial Attacks Against Black-Box Network Intrusion Detection Based on Heuristic Algorithm <i>Ning Liu, School of Information Science and Technology, Guangdong University of Foreign Studies, Guangzhou, China</i>	
14:10-14:25	IC287	Multi-Modal Task-Oriented Secure Semantic Communication: A Hide-and-Deceive Approach <i>Zonglin Li, Beijing University of Posts and Telecommunications, China</i>	
14:25-14:40	IC325	MetaFETC: Adaptive Few-Shot Encrypted Traffic Classification with Meta-Learning for Diverse Encryption Techniques <i>Siyang Chen, University of Science and Technology of China, China</i>	
14:40-14:55	IC377	New Entanglement-Assisted Concatenated Quantum Codes Exceed Quantum Gilbert-Varshamov Bound <i>Renxu Wang, Nanjing university of Science and Technology, China</i>	
14:55-15:10	IC448	An Intent-Driven Network Security Policy Generation Method <i>Xinlu Liu, Information Engineering University, China</i>	
15:10-15:25	IC096	Sexual Harassment in Social Virtual Reality: A Systematic Review <i>Shuhan Dong, Hanyang University, China</i>	
15:25-15:40	IC063	GraphBot: Botnet Detection via Dynamic Graph Representation Learning <i>Jingxian Shuai, University of Science and Technology of China, China</i>	



# ORAL SESSION 5

**Oral Session 5: Image Detection and Recognition Technology based on Vision**

**13:00-15:30**

**Saturday, December 14**

Chairperson: Assoc. Prof. Yi Zhao, Chang'an University, China

4F 吉打厅 Kedah

Time	Paper ID	Speech Title & Presenter
13:00-13:20	Invited Talk	Recent Advances and Trends in High Resolution SAR ADCs <i><b>Assoc. Prof. Gong Chen</b>, Chengdu University of Information Technology, China</i>
13:20-13:40	Invited Talk	Video Anomaly Detection Based on Spatio-Temporal Features and Multimodal Analysis <i><b>Assoc. Prof. Yuanyuan Wu</b>, Chengdu University of Technology, China</i>
13:40-14:00	Invited Talk (IC441)	UAV Vision Based Wind Turbine Blades Defects Detection via Semantic Segmentation <i><b>Assoc. Prof. Yi Zhao</b>, Yi Zhao, Chang'an University, China</i>
14:00-14:15	IC112	Fusion method of tobacco leaf state recognition based on Bayesian algorithm and xgboost <i>Chenglin Rao, Guizhou University, China</i>
14:15-14:30	IC249	Application of Improved YOLOv8 for Infrared Image Detection of Substation Equipment <i>Yingyi Yang, China Southern Power Grid Technology Co., Ltd., China</i>
14:30-14:45	IC273	Infrared Small Object Detection Based on Spatial Distribution Fusion and Multi-Scale Upsampling <i>Weiwen Cai, Beijing Institute of Technology, China</i>
14:45-15:00	IC276	Enhancing YOLOv8 with Attention Task Alignment Head for Prohibited Item Detection in Complex X-ray Images <i>Zhihan Wang, Beijing Institute of Technology, China</i>
15:00-15:15	IC339	A Filter Capsule Detection and Correction Method Based on Visual Detection and PID Control Linkage <i>Jianhua Liao, China Tobacco Guizhou Industrial Co., Ltd., China</i>
15:15-15:30	IC443	Video-Based Multi-Stage 3D Human Mesh Reconstruction <i>Qiu Zhiwen, Beijing University of Posts and Telecommunications, China</i>





## ORAL SESSION 6

### Oral Session 6: Feature Extraction and Feature Fusion

Chairperson: Assoc. Prof. Bo Li, Ningxia University, China

**13:00-15:00**

**Saturday, December 14**

4F 吉兰丹 Kelantan

Time	Paper ID	Speech Title & Presenter
13:00-13:15	IC007	Radio Frequency Fingerprinting Method Based on Empirical Modal Decomposition and Frequency Domain Phase Characterization <i>Jiawei Xin, Beijing University of Posts and Telecommunications, China</i>
13:15-13:30	IC1010	Cloud P2P Video Conferencing for Enterprise Networks <i>Jiixin Li, Beijing Jiaotong University, China</i>
13:30-13:45	IC390	Scene Image Retrieval Based on Salient Local Feature Aggregation and Geographic Information <i>Weifeng Xu, North China Electric Power University (Baoding), China</i>
13:45-14:00	IC114	Tobacco curing state recognition based on a multi-sensor feature fusion approach <i>Banghong Wu, Guizhou University, China</i>
14:00-14:15	IC178	FGS-Net: A Mutual Feature Fusion Residual Network Based on FBank and Gabor-Sinc Spectrogram for Birdsong Classification <i>Chizhou Peng, Southwest Forestry University, China</i>
14:15-14:30	IC191	End-to-end surface roughness prediction method driven by multi-source information fusion <i>Xiyue Zhang, University of Chinese Academy of Sciences, China</i>
14:30-14:45	IC385	Multi-Task Terminal Radio Frequency Fingerprint Feature Extraction Framework Based on Shuffle Network <i>Jingqi Hu, Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China</i>
14:45-15:00	IC398	Feature Point Detection Based on FPN and Attention Mechanism <i>Weifeng Xu, North China Electric Power University (Baoding), China</i>



# ORAL SESSION 7

<b>Oral Session 7: Digital Signal Interference and Suppression Methods</b> Chairperson: Assoc. Prof. Yingtao Niu, National University of Defense Technology, China	<b>15:40-18:00</b> <b>Saturday, December 14</b> 2F 檳榔屿厅 Penang Island
--	---

Time	Paper ID	Speech Title & Presenter
15:40-16:00	Invited Talk	From adaptive communication anti-jamming to intelligent communication anti-jamming: 50 years of evolution <b>Assoc. Prof. Yingtao Niu</b> , National University of Defense Technology, China
16:00-16:15	IC029	Anti-Jamming Communication Waveform Decision Method with Considering Waveform and Jamming Feature Jointly <i>Zhong Zheng, China Academy of Space Technology, China</i>
16:15-16:30	IC122	Covert Cooperative Jamming Aided Secure Wireless Communication with Channel Inversion Power Control <i>Jianqi Peng, University of Electronic Science and Technology of China, China</i>
16:30-16:45	IC139	Adversarial end-to-end Communication System: Dual Mechanisms for Anti-Interference and Anti-Eavesdropping <i>Tao Liu, Beijing University of Posts and Telecommunications, China</i>
16:45-17:00	IC241	Multi-parameter Control Anti-jamming Algorithm for Wireless Communication Systems Based on Disturbance Observer <i>Hang Yao, National University of Defense Technology, The Sixty-Third Research Institute, China</i>
17:00-17:15	IC263	The ATG Interference Source Localization based on Machine Learning <i>Tiantian Qu, Beijing University of Posts and Telecommunications, China</i>
17:15-17:30	IC314	Integrated Communications and Positioning System with Low Probability of Interception and Anti-Jamming Waveform <i>Yixuan Gao, Northwestern Polytechnical University, China</i>
17:30-17:45	IC360	Interference Signal Suppression Algorithm Based on 5G Base Station Single-Channel Transmission Environment Parameter Sensing <i>Peng Yang, Xi'an University of Posts and Telecommunications, China</i>
17:45-18:00	IC411	Robust Adaptive Beamformer for Interference Suppression in a Multipath Environment <i>Lanxian Cai, Sun Yat-Sen University, China</i>

## ORAL SESSION 8

### Oral Session 8: Signal Recognition and Signal Estimation

Chairperson: Assoc. Prof. Linning Peng, Southeast University, China

**15:40-17:25**

**Saturday, December 14**

2F 槟城厅 Penang

Time	Paper ID	Speech Title & Presenter
15:40-15:55	IC329	A Study on Modulation Signal Recognition Using Differential Constellation Trace Figure <i>Linning Peng, Southeast University, China</i>
15:55-16:10	IC061	Enhanced Tuplet and Anchor Clustering for Distance-Based Recognition of Unknown Modulation Type Signals <i>Lei Guo, Beijing University of Posts and Telecommunications, China</i>
16:10-16:25	IC177	Modulation Order Identification of CPM Signals Based on Deep Learning <i>Kaiyuan Yang, PLA Information Engineering University, China</i>
16:25-16:40	IC196	A New Method for OFDM Signal Modulation Recognition Based on Optimized Convolutional Neural Network <i>Xia Mingyun, Northwestern Polytechnical University, China &amp; The 30th Research Institute of China Electronics Technology Group Corporation, China</i>
16:40-16:55	IC269	An adaptive self-loading FxLMS with DOA estimation strategy by circular error sensor array for active noise control of indoor environment <i>Zhiwei Wang, Yanshan University, China</i>
16:55-17:10	IC330	Narrowband Radio Device Identification Based on RF Fingerprint Features <i>Linning Peng, Southeast University, China</i>
17:10-17:25	IC344	A Feature-Enhanced Deep Learning-Based Signal Detection Algorithm for MU-MIMO-NOMA Systems <i>Guang Chen, University of Science and Technology Beijing, China</i>



## ORAL SESSION 9

### Oral Session 9: Smart Grids and Power Systems

**15:40-17:45**

Chairperson: Dr. Lufeng Yuan, Beijing China-Power Information Technology Co., Ltd., China

**Saturday, December 14**

2F 文莱厅 Brunei Darussalam

Time	Paper ID	Speech Title & Presenter
15:40-16:00	Invited Talk (IC450)	A Method for Constructing the Knowledge Graph of Digital Twin Power Facilities Based on Deep Learning <b>Dr. Lufeng Yuan</b> , Beijing China-Power Information Technology Co., Ltd, China
16:00-16:15	IC071	Single-Cloud Single-Edge Model Distribution Network Based on Dynamic Lossy Pruning <i>Penghao Zhang, Beijing University of Posts and Telecommunications, China</i>
16:15-16:30	IC184	Intelligent Early Warning and Monitoring Decision Model for Abnormal Vibration States of Motors and an Empirical Study <i>Chien-Chih Wang, Ming Chi University of Technology, Taiwan</i>
16:30-16:45	IC198	VLSI Parasitic Capacitance Extraction Based on Pattern Matching Using Modified Machine Learning Methods <i>Hanyu Shi, Tongji University, China</i>
16:45-17:00	IC327	An Attention-BiGRU Based Power Generation Forecasting Method for Multi-Energy Systems <i>Wei Gao, Wuhan University, China</i>
17:00-17:15	IC386	DRL-Based Joint UAV Trajectory, Nest Scheduling and Resource Optimization for Multi-UAV Aided Power Inspection System <i>Yunfei Gao, Wuhan University, China</i>
17:15-17:30	IC388	A Dynamic Scheduling Strategy for Electric Vehicles considering Multi-Area Power Supply <i>Zhuo Chen, Wuhan University, China</i>
17:30-17:45	IC487	Autotrinity: A Heterogeneous Runner Based Remote Digital Lab System <i>Lue Cai, Beijing University of Posts and Telecommunications, China</i>





## ORAL SESSION 10

**Oral Session 10: Next Generation Mobile Communications and Key Technologies**

**15:40-18:00**

**Saturday, December 14**

Chairperson: Prof. Yu Yao, Northeastern University, China

2F 清迈厅 Chiang Mai

Time	Paper ID	Speech Title & Presenter
15:40-16:00	Invited Talk	"Ditecting" Cyberspace Situation in Industrial Control Networks <i>Prof. Yu Yao, Northeastern University, China,</i>
16:00-16:15	IC148	A load balancing network based on dynamic traffic partitioning <i>Jun Tao, Anhui Institute of Information Technology, China</i>
16:15-16:30	IC223	A Novel Decentralized Federated Split Learning Framework in 6G Edge Networks <i>Yixuan Hui, University of Science and Technology of China, China</i>
16:30-16:45	IC255	Design and Analysis of a Propagation Counteraction Model in Social Media Information <i>Hao Yaohui, Information Engineering University, China</i>
16:45-17:00	IC312	Methodology for the organization and application of satellite telemetry data based on cloud database <i>Binhan Xiao, Aerospace Information Research Institute, Chinese Academy of Sciences, China,</i>
17:00-17:15	IC343	FRCS: Congestion Control in Datacenter Networks Based on Fair Rate Calculation by Switches <i>Zheng Tan, University of Science and Technology of China, China</i>
17:15-17:30	IC437	Multi-UPF Traffic Prediction of 5G Core Network with Multi-Task Learning and Multi-core Parallel Computing <i>Yonghe Su, China United Network Communications Group Corporation Limited, China</i>
17:30-17:45	IC500	Based-TCPN Resilience Evaluation of SFC with Dynamic Heterogeneous Redundant Structure Towards 6G Networks <i>Deqiang Zhou, Information Engineering University, China</i>
17:45-18:00	IC334	Accelerating the Commissioning Process of Wi-SUN FAN Nodes <i>Jun Yao, Signify China Investment Co., Ltd., China</i>





## ORAL SESSION 11

### Oral Session 11: Resource Allocation and Management in Communication Networks

Chairperson: Assoc. Prof. Bo Li, Ningxia University, China

15:40-17:40

Saturday, December 14

4F 吉打厅 Kedah

Time	Paper ID	Speech Title & Presenter
15:40-15:55	IC059	A Lattice-based Single-Domain DAA Protocol for Smart Grid Scenarios <i>Jiaorui Shen, Southeast University, China</i>
15:55-16:10	IC134	Joint Optimization of Node Selection and Resource Allocation for Sharded Blockchain <i>Xuan Wang, Beijing University of Technology, China</i>
16:10-16:25	IC270	A Nested DRL-based Method for Power Allocation and AP Sleep Control in Cell-Free Massive MIMO Systems <i>Xiukun Xu, Southeast University, China</i>
16:25-16:40	IC282	Resource-Aware Heterogeneous Cluster Scheduling System for Deep Neural Network Training Tasks <i>Xiaoqing Gao, Sun Yat-sen University, China</i>
16:40-16:55	IC320	Two-timescale Transmit Power Minimization in Semi-Passive IRS-Aided ISAC Systems <i>Jingwen Wu, University of Science and Technology of China, China</i>
16:55-17:10	IC394	An Efficient Attention Mechanism Based Neural Network for CSI Feedback in Massive MIMO System <i>Ran Li, Department of Wireless and Terminal Technology, China Mobile Research Institute, China</i>
17:10-17:25	IC471	Error Probability minimization for Short-Packet Backscatter Communications <i>Gaohe Liu, the State Grid Gansu Electric Power Dingxi Power Company, China</i>
17:25-17:40	IC514	Cooperative Resource Overbooking Based Application Placement in Mobile Edge Computing for Internet of Things <i>Zhichu Zhang, Nanjing Forestry University, China</i>







## ORAL SESSION 14

<p><b>Oral Session 14: Satellite Communications and Space-Air-Ground Integrated Networks</b></p> <p>Chairperson: Assoc. Prof. Kefeng Guo, Space Engineering University, China / Nanjing University of Aeronautics and Astronautics, China</p>	<p><b>13:00-15:30</b></p> <p><b>Sunday, December 15</b></p> <p>2F 槟城厅 Penang</p>
---	--

Time	Paper ID	Speech Title & Presenter
13:00-13:20	Invited Talk (IC409)	Dynamic Transmission and Spectrum Scheduling for Air-Ground Collaborative Communications <b>Assoc. Prof. Yang Huang, Nanjing University of Aeronautics and Astronautics, China</b>
13:20-13:40	Invited Talk (IC1003)	Joint Opportunistic Scheduling and Power Optimization for Covert Satellite Terrestrial Integrated Networks <b>Assoc. Prof. Kefeng Guo, Space Engineering University, China/ Nanjing University of Aeronautics and Astronautics, China</b>
13:40-14:00	Invited Talk	Coordinated Task-planning for Multi-autonomous Satellites <b>Assoc. Prof. Xin Nie, Wuhan Institute of Technology, China</b>
14:00-14:15	IC153	A Time-Frequency Synchronization for Ka-band Inter Satellite Link of the Navigation Satellite System <i>Yong Shangguan, Southeast University, China</i>
14:15-14:30	IC175	Collaborative Space-Time Anti-Jamming for the Uplink of Satellite Communications <i>Zhaobin Qian, Xi'an Jiaotong University, China</i>
14:30-14:45	IC124	Research and Implementation of Log-based Anomaly Detection Platform Based on ELK+Kafka <i>Shuai Xu, Institute of Computer Application China Academy of Engineering Physics, China</i>
14:45-15:00	IC227	Edge Computing-enabled Real-time Resource Allocation System based on Satellite Cluster <i>Zhenyu Shan, Beijing University of Posts and Telecommunications, China</i>
15:00-15:15	IC389	Research on Topology Management Methods for Large-Scale Satellite Networks <i>Liang Qiao, Beijing Institute of Spacecraft System Engineering, China</i>
15:15-15:30	IC407	Service Continuity Guarantee for Coordinated Optimization of Offloading and Migration in LEO Satellite Computing Power Networks <i>Xu Wang, Beijing University of Posts and Telecommunications, China</i>

## ORAL SESSION 15

**Oral Session 15: Information Security, Protocol Authentication and Network Analysis in IoT System**

**13:00-15:10**

**Sunday, December 15**

Chairperson: Assoc. Prof. Guobing Li, Xi'an Jiaotong University, China

2F 文莱厅 Brunei Darussalam

Time	Paper ID	Speech Title & Presenter
13:00-13:20	Invited Talk	Random Access in IoT Networks: A Graph Signal Processing Perspective <b>Assoc. Prof. Guobing Li</b> , Xi'an Jiaotong University, China
13:20-13:40	Invited Talk	A systematic architecture for communication-perception-computing-security in IoV <b>Asst. Prof. Kan Yu</b> , Beijing University of Posts and Telecommunications, China
13:40-13:55	IC091	An Intrusion Detection System for the Internet of Vehicles Based on Multi-level Hybrid Feature Analysis <i>Xiaojun Yang, Guangzhou University, China</i>
13:55-14:10	IC103	Distributed Intelligent Scheduling for Multi-level eMBB Services in IoT <i>Ruiqi Li, Beijing University of Technology, China</i>
14:10-14:25	IC328	Effective Secrecy Throughput Maximization for WPT Enabled IoT in the FBL Regime <i>Ning Guo, Wuhan University, China</i>
14:25-14:40	IC393	Travel Distance Aware ISAC Enabled IoV: An Intelligent Power Allocation Solution <i>Cong Liu, School of Computer Science, Shaanxi Normal University, China</i>
14:40-14:55	IC454	Cryptanalysis of Two Lightweight Authentication Protocols for IoT Environments <i>Feifei Wang, Chongqing University of Posts and Telecommunications, China</i>
14:55-15:10	IC513	Network Coded Multiple Access Enhanced Vehicular Visible Light Communications <i>Yuheng Zhang, Technology and Engineering Center for Space Utilization, University of Chinese Academy of Sciences, China</i>



## ORAL SESSION 16

### Oral Session 16: Electronics and Communication Engineering

Chairperson: Dr. Jiangang Wen, Zhejiang Gongshang University, China

**13:00-15:05**

**Sunday, December 15**

4F 吉打厅 Kedah

Time	Paper ID	Speech Title & Presenter
13:00-13:20	Invited Talk	MIG Detectors: Basic Theory and Applications <i><b>Dr. Xiaoqiang Hua</b>, National University of Defense Technology, China</i>
13:20-13:35	IC066	Length-variable Prototype Filter Design for the PAPR-reduced FBMC System <i>Jiangang Wen, Zhejiang Gongshang University, China</i>
13:35-13:50	IC020	Neural Network Accelerator Architecture Designed for Next Generation Communication Systems <i>Wenhao Cai, Zhongxing Telecommunication Equipment Corporation, ZTE, China</i>
13:50-14:05	IC056	An Anomaly Detection Method for Conveyor System Based on Digital Twin <i>Runyu Zhao, Ningbo University, China</i>
14:05-14:20	IC363	Design of ISAC directional modulation exploring reconfigurable intelligent surface <i>Bo Zhang, Tianjin Normal University, China</i>
14:20-14:35	IC412	Carrier Phase Localization with Single Antenna : A Virtual Array Approach <i>JInghui Han, University of Science and Technology of China, China</i>
14:35-14:50	IC421	Joint Localization Algorithm Based on TDoA and Carrier Phase with ARP Error Calibration <i>Zeli Zhang, Beijing University of Posts and Telecommunications, China</i>
14:50-15:05	IC434	Deep Learning for Movable Antenna Precoding in 2D MISO Communication System <i>Chenfei Xie, University of Electronic Science and Technology of China, China</i>



## ORAL SESSION 17

### Oral Session 17: Digital Image and Signal Analysis

Chairperson: Assoc. Prof. Jing Yang, Guizhou University, China

**16:00-18:15**

**Sunday, December 15**

2F 檳榔嶼厅 Penang Island

Time	Paper ID	Speech Title & Presenter
16:00-16:20	Invited Talk	Image and Text Guided Network for Compositional Zero-Shot Learning <b>Assoc. Prof. Jing Yang</b> , Guizhou University, China
16:20-16:40	Invited Talk	Automatic Crown Extraction and Biomass Estimation Based on UAV Images <b>Prof. Weili Kou</b> , Southwest Forestry University, China
16:40-17:00	Invited Talk (IC137)	Dual-polarized RF Tags for Orientation Estimation of Underground Pipelines <b>Prof. Tong Hao</b> , Tongji University, China
17:00-17:15	IC181	A New SAR Autofocus Method Based on Error Coefficient Optimization Junyu Wei, National University of Defense Technology, China
17:15-17:30	IC244	Privacy Protection for Image Sensors using Convolutional Neural Network and Generative Adversarial Nets Shihao Tang, Guizhou University, China
17:30-17:45	IC253	LASAR Imaging Algorithm Based on Keystone Transform and Beamforming Principle Kun Ma, Huaqiao University, China
17:45-18:00	IC1002	A fast low-rank approximation for sparse recovery using self-learning strategy Zhen Chen, University of Macau, China
18:00-18:15	IC292	Method for Real Time Abnormal State Detection of Non cooperative Air Targets Based on Deep Learning Huafei Zheng, Institute of Electronic Engineering, China Academy of Engineering Physics, China

# ORAL SESSION 18

## Oral Session 18: Machine Learning and Security Management in Modern Information Systems

**16:00-17:55**

**Sunday, December 15**

Chairperson: Assoc. Prof. Salabat Khan, Qilu Institute of Technology, China & Shenzhen University, China

2F 檳城厅 Penang

Time	Paper ID	Speech Title & Presenter
16:00-16:20	Invited Talk	X.509 Public Key Infrastructure, Certificate Revocation, and Their Modern Implementation on Blockchain and Ledger Technologies <b>Assoc. Prof. Salabat Khan</b> , <i>Qilu Institute of Technology, China &amp; Shenzhen University, China</i>
16:20-16:40	Invited Talk	Using Large Language Models to Automate Network Control and Management <b>Dr. Cen Wang</b> , <i>KDDI Research, Inc., Japan</i>
16:40-16:55	IC415	Intelligent Hierarchical Neighbor Cell Planning Based on Neural Network <i>Shao Peng, ZTE Corporation, China</i>
16:55-17:10	IC499	Nesterov Momentum based Optimization Algorithm for Deep Learning <i>Zhiyong Qiu, Shandong Massive Information Technology Research Institute, China</i>
17:10-17:25	IC345	Anomaly Detection of Nodes in Cloud based on Transfer Learning <i>Hao Wu, Beijing University of Posts and Telecommunications, China</i>
17:25-17:40	IC384	A Lyapunov optimization strategy with deep reinforcement learning in cloud-edge collaborative service offloading scenarios <i>Peiyan Yuan, Henan Normal University, China</i>
17:40-17:55	IC262	Lattice based Double-layer Traceable Aggregate Signature Scheme for Smart Grid <i>Xinhui Liu, Southeast University, China</i>



## ORAL SESSION 19

<b>Oral Session 19: Mobile Communication and Wireless Data Transmission</b>		<b>16:00-17:50</b>
Chairperson: Assoc. Prof. Bo Zhang, Tianjin Normal University, China		<b>Sunday, December 15</b>
		2F 文莱厅 Brunei Darussalam
Time	Paper ID	Speech Title & Presenter
16:00-16:20	Invited Talk	Design of a Simultaneous Information and Power Transfer System Based on a Modulating Feature of Magnetron <b><i>Prof. Yang Yang, Sichuan University, China</i></b>
16:20-16:35	IC362	Waveform Design for Integrated Sensing and Communication Based on Hybrid Beamforming <i>Bo Zhang, Tianjin Normal University, China</i>
16:35-16:50	IC348	A Spatio-Temporal Fusion Localization Scheme Based on Carrier Phase Tracking <i>Jinghui Han, University of Science and Technology of China, China</i>
16:50-17:05	IC340	Hybrid Beamforming Design for Multi-Functional RIS-Aided mmWave MIMO Systems <i>Xue Rong, Beijing University of Posts and Telecommunications, China</i>
17:05-17:20	IC044	Digital Twin with Delay-Optimal Relay-Assisted Federated Learning <i>Yongyi Tang, East China Normal University, China</i>
17:20-17:35	IC425	5G Passive Positioning Based on Channel Decoding and Measurement <i>Yuting Li, Beijing University of Posts and Telecommunications, China</i>
17:35-17:50	IC093	Design of multipath evacuation method based on network flow model and ripple spreading algorithm <i>Yingfei Zhang, Civil Aviation University of China, China</i>





# POSTER SESSION 1

<b>Poster Session 1: Wireless Communication and Data Transmission Technology</b> Chairperson: Prof. Yong Jia, Chengdu University of Technology, China	<b>13:00-15:30</b> <b>Sunday, December 15</b> 2F 清迈厅 Chiang Mai
--	---

Frame No.	Paper ID	Speech Title & Presenter
1	IC049	Max-Min Throughput Design for Wireless Body Area Network with Backscatter Communication <i>Shilong Zhou, Zhongyuan University of Technology, China</i>
2	IC171	Design of HII and OI for Dynamic Interference Coordination in UAV Communication Networks <i>Feilong Li, Beijing University of Technology, China</i>
3	IC205	Optimal Scheduling of Multi-Source Multi-Destination Links in Multi-UAV Assisted Ad Hoc Networks <i>Jinwei Wang, Army Engineering University of PLA, China</i>
4	IC274	Design and Implementation of a High-Performance Baseband Receiver Cache and Time Synchronization for Satellite Communication <i>Junyue Liu, Beijing University of Posts and Telecommunications, China</i>
5	IC275	Beam Hopping and Power Allocation of LEO Multi-Satellite Communication Network Based on Multi-Agent DQN Algorithm <i>Jiarui Wen, Beijing University of Posts and Telecommunications, China</i>
6	IC279	Efficient FPGA Implementation of Phase Offset Estimation and Compensation for 5G Based LEO Satellite Communication System <i>Wenkang He, Beijing University of Posts and Telecommunications, China</i>
7	IC447	Joint Communication and Computing Resource Allocation for Cell-Free-Enabled MEC Networks <i>Xi Zhou, Southeast University, China</i>
8	IC476	A Receiver System for WiFi-6 Communication using GaAs pHEMT Process <i>Tingwei Gong, Hangzhou Dianzi University, China</i>
9	IC484	Covert Communications in Spectrum-Sharing Networks with Multi-Antenna Transmitter <i>Zhiyi Du, National University of Defense Technology, China</i>
10	IC520	Joint Trajectory and Power Optimization for UAV- Assisted Communication Networks <i>Lin Yang, Army Engineering University of PLA, China</i>
11	IC1011	Design and Implementation of DOA Estimation System Based on Software Defined Radio <i>Zhang Adong, Xi'an University of Posts and Telecommunications, China</i>





- 12 IC046 Resource Allocation in UAV edge computing Communication System  
*Yuxuan Li, Space Engineering University, China*
  - 13 IC197 An Efficient Modeling and Analysis Approach for mmWave UAV-Assisted Network Under Jamming Conditions  
*Xingchen Wei, Army Engineering University of PLA, China*
  - 14 IC228 AirSim-based Multi-UAV Collaborative Exploration by Aggregating Actions  
*Ke Wang, Zhejiang University, China*
  - 15 IC381 A Model Based on LSTM And Data Augmentation For Network Traffic Prediction With Few Samples  
*Zhiyang Jin, Shanghai Jiao Tong University, China*
  - 16 IC503 An Improved Beam Switching Genetic Algorithm for LEO Multi-beam Satellite Constellation  
*Li Jiang, China Academy of Space Technology (Xi'an), China*
  - 17 IC047 Classification of UAVs Utilizing STFT Features of RF Fingerprints and ASPConv-ResNet34 Network  
*Yu Xu, Chongqing radio monitoring station, China*
  - 18 IC525 Response Time Analysis for Real-Time DAG Tasks Under Partitioned Scheduling  
*Yumeng Chen, University of Electronic Science and Technology of China, China*
- 







## POSTER SESSION 2

### Poster Session 2: Information Network and Data Security

Chairperson: Dr. Wenhao Luo, Tongji University, China

13:00-15:30

Sunday, December 15

2F 素林厅 Surin Conf. Room

Frame No.	Paper ID	Speech Title & Presenter
1	IC054	Optimisation of Bandwidth Allocation in Backscatter Communication Based on Stackelberg Game and Dual Pricing <i>Yulei Dong, Zhongyuan University of Technology, China</i>
2	IC087	Fuzz Testing of Stateful Network Protocols Based on Multi-Armed Bandit Variant <i>Yi Zhang, University of Science and Technology of China, China</i>
3	IC097	Hybrid Time-Triggered and Event-Triggered Flow Scheduling for Time-Sensitive Networking (TSN) <i>Yiming Xu, University of Chinese Academy of Sciences, China</i>
4	IC099	Optimization Scheme for Outage Probability of Long-Distance data Transmission Based on Resonant-Motion Under Malicious Jamming <i>Dengyun Hou, Army Engineering University of PLA, China</i>
5	IC225	Polling Resource Scheduling for Internet of Vehicles Based on U-Net Semantic Segmentation <i>Junjie Wang, Nanjing University of Aeronautics and Astronautics, China</i>
6	IC236	Temporal-Difference Learning Aided Task Offloading in Air-Ground Networks <i>Siyuan Meng, Nanjing University of Aeronautics and Astronautics, China</i>
7	IC280	Distributed Beam Pattern Design Scheme in Multi-satellite System <i>Ruoqi Chen, Beijing University of Posts and Telecommunications, China</i>
8	IC335	Hybrid Trusted Quantum Key Distribution Network Routing Scheme for Power Grid Environment <i>Jun Luo, Hangzhou Branch, State Grid Zhejiang Electric Power Company, China</i>
9	IC347	Spiking neural network based nonlinear equalizer for optical communication <i>Dewen Chen, Beijing University of Posts and Telecommunications, China</i>
10	IC418	Spectrally Efficient Communication System Based on Combined Chirp in Low SNR Environment <i>Yijing Wang, School of Information Science and Engineering, Southeast University, China</i>
11	IC483	The Research and Implementation of NAS Signaling Decryption for 5G-R <i>Rui Dai, Beijing Jiaotong University, China</i>
12	IC486	Efficient Range Search for Hamming Distance Using Function Secret Sharing <i>Yuyi Li, Southwest Jiaotong University, China</i>





- 13 IC102 Technical Features and Coverage Performance Simulation of Low-Earth Orbit Mega-Constellation  
*SUN Xiya, Space Engineering University, China*
  - 14 IC1007 Blockchain-Based Intelligent E-commerce Platform for Enhancing Customer Experience in Telecom Operators  
*Zhengguang Zheng, China Mobile Internet Co., Ltd., China*
  - 15 IC464 Exploration of Large Language Model Application in University Information Service Systems  
*Jun Pan, Zhejiang University, China*
  - 16 IC341 Monitoring Forest Changes in Yunnan Province Using Landsat 8 and Random Forest on GEE  
*Peichun Suo, Yunnan Medical Health Vocational College, China*
- 





# POSTER SESSION 3

<b>Poster Session 3: Computer Models and Artificial Intelligence in Modern Information Systems</b> Chairperson: Assoc. Prof. Bo Li, Ningxia University, China	<b>16:00-18:15</b> <b>Sunday, December 15</b> 2F 清迈厅 Chiang Mai
--	---

Frame No.	Paper ID	Speech Title & Presenter
1	IC030	Graph Attention Autoencoder Aided Unsupervised Community Detection for Relieving Alert Fatigue <i>Yudan Wang, University of Science and Technology of China, China</i>
2	IC082	Quantum Generative Adversarial Network Enhancement Method Based on Quantum Principal Component Analysis <i>Quangong Ma, Information Engineering University, China</i>
3	IC110	Unknown DGAs Detection Based on TextCNN and Autoencoder <i>Yudan Wang, University of Science and Technology of China, China</i>
4	IC143	Research on the Application of Machine Learning in Credit Loan Scoring <i>Xingwen Zhao, Zhejiang Financial College, China</i>
5	IC187	A Joint Graph Neural Model for Chinese Domain Event and Relation Extraction with Character-Word Fusion <i>Jingxiong Qiu, Southwest Jiaotong University, China</i>
6	IC200	A Novel Code Update Method for FPGA Based on PCIe Slots <i>Maoxing Zheng, National Innovation Center of High Speed Train, China</i>
7	IC231	Trajectory Planning and Control Method of Space Servo Manipulator System <i>Qian Zhang, Northwestern Polytechnical University, China</i>
8	IC238	Modeling of All-Vanadium Redox Battery Based on Dual Stream Network with Attention Mechanism <i>Jiajie Zhu, Shanghai Jiao Tong University, China</i>
9	IC323	Chinese named entity recognition based on lexicon information enhancement and adaptive adversarial training <i>Shuhai Wang, Southwest Jiaotong University, China</i>
10	IC376	Classification Performance Optimization Method Based on Semi-supervised Federated Learning and Dual-domain Knowledge Distillation <i>Haolin Han, Beijing University of Posts and Telecommunications, China</i>
11	IC353	Loss-Convergence-Driven Federated Learning with Energy Optimization: A Stackelberg Game Approach <i>Yanbo Fang, Qinghai University, China</i>
12	IC438	Research on High-dimensional Matrix Multiplication in Machine Learning for MEC <i>Fan Ke, University of Science and Technology of China, China</i>





- 13      IC444      Three-Stage Framework for Predicting Fault Modes and Remaining Useful Life in Aircraft Engines  
*Zhicong Ren, Shanghai Jiao Tong University, China*
  - 14      IC455      Multi-Agent Collaboration for Autonomous Systems Based on Implicit Strategy Prediction and Prioritization  
*Xuanguang Wu, School of Microelectronics and Communication Engineering, Chongqing University, China*
  - 15      IC480      A Microwave Oven Dish Recommendation System based on Multi-perspective Dialogue-Recommended Dual-stream Contrast Fusion  
*Qingpeng Wen, School of Computer Science and Technology, Guangdong University of Technology, China*
  - 16      IC508      Combine Pre-trained Language Model and Classical Recommendation Network for Conversational Recommender Systems  
*Yan Zhang, Zhejiang University, China*
- 





## POSTER SESSION 4

### Poster Session 4: Digital Image Analysis and Signal Processing

Chairperson: Assoc. Prof. Yi Zhao, Chang'an University, China

**16:00-18:15**

**Sunday, December 15**

2F 素林厅 Surin Conf. Room

Frame No.	Paper ID	Speech Title & Presenter
1	IC195	Improved YOLOv5 Model Based Specific Bolt Detection for Automobile Manufacturing <i>Zhengxin Ma, Zhongyuan University, China</i>
2	IC264	An Embedded ZigBee Identification System Based on LMS Filter <i>Ang Gao, Southeast University, China</i>
3	IC309	Research on ISAR Image of High Frequency Ground Wave Radar in Large Sea Scene <i>Conghui Qi, Xihua University, China</i>
4	IC1012	Research on Gesture Recognition Based on Millimeter Wave Radar <i>Li Yang, Xi'an University of Posts and Telecommunications, China</i>
5	IC002	A Deep Learning-Based Algorithm for Multi-Feature Processing and Signal Detection <i>Haoran Ji, Hunan University, China</i>
6	IC136	Robust Adaptive Beamforming based on Low Complexity Interference plus Noise Covariance Matrix Reconstruction <i>Chengyu Zhang, Army Engineering University of PLA, China</i>
7	IC165	A Novel Unsupervised Frequency Recognition Method For SSVEP-based BCIs Using Adaptive Updating and Transfer Learning Strategy <i>Manqi Lin, South China University of Technology, China</i>
8	IC265	On the Asymptotic Equivalence of Singular Values for Block Circulant and Block Toeplitz Matrices <i>Zhenjie Hou, University of Science and Technology of China, China</i>
9	IC268	An On-Chip Temperature Sensor and its Application in Millimeter-Wave Low Noise Amplifier <i>Ran Zhang, Southwest China Institute of Electronic Technology, China</i>
10	IC286	Blind Classification of Linear Block Codes Based on Multi-dimensional Features <i>Yuanqing Wang, College of Electronic Engineering, National University of Defense Technology, China</i>
11	IC422	High-Fidelity Phase Reconstruction via Neural Networks in Shack-Hartmann Wavefront Sensing <i>Haobai Li, Southeast University, Nanjing</i>
12	IC449	A C-SLAM Method Based on Improved Lightweight Feature Extractor <i>Ziang Zhao, Army Engineering University of PLA, China</i>





- 13      IC106      Graphical Auto-encoder Based Fault Cases Clustering with Multi-feature Fusion  
*Yulan Wang, Southwest Jiaotong University, China*
  
  - 14      IC332      An airport video information fusion method based on A-SMGCS  
*Kai Wang, The 2nd Research Institute, Civil Aviation Administration of China, China*
  
  - 15      IC493      A Spatio-Temporal Trajectory Segmentation Framework Considering Vessel Anomaly Behaviors  
*Xinxin Zhang, College of Electronic Science and Technology, National University of Defense Technology, China*
  
  - 16      IC512      A Flexible Ultra-Wideband Bandpass Filter Based on Stepped Impedance Multi-mode Resonator  
*Jie Zhang, Beijing University of Posts and Telecommunications, China*
  
  - 17      IC368      ELPG: End-to-End Latency Prediction for Deep-Learning Model Inference on Edge Devices  
*Wenhao Zhao, Shanghai Jiao Tong University, China*
- 





# ONLINE SESSION 1

## Online Session 1: Computer System and Software Design

**13:00-15:15**

Chairperson: Prof. Jianwei Zhang, Dalian University of Technology, China

**Sunday, December 15**

Room A: 897 7177 9506

Time	Paper ID	Speech Title & Presenter
13:00-13:15	IC319	Storage Analysis and Evaluation of Multiple Supercomputers: Findings, Insights and Suggestions <i>Wenxiang Yang, China Aerodynamics Research and Development Center, China</i>
13:15-13:30	IC040	DS-PPO: A Reinforcement Learning Method for Wargaming <i>Shun Li, Shenyang Institute of Computing Technology Chinese Academy of Science, China</i>
13:30-13:45	IC150	Linear Complexity of Memory Sequence <i>Bing Qiao, Shanghai University, China</i>
13:45-14:00	IC182	Enhancing Web Service Composition Security with Formal Methods <i>Li Bao, Inner Mongolia University of Technology, China</i>
14:00-14:15	IC248	Research and implementation of front-end component virtualization asynchronous rendering method based on cache mechanism <i>Qiaoliang Yang, University of Chinese Academy of Sciences, China</i>
14:15-14:30	IC013	Bringing efficiency and applicability to user-defined functions by Web Assembly <i>Jingdi Wu, Beijing University of Posts and Telecommunications, China</i>
14:30-14:45	IC179	A Bi-Path Continuous Convolutional Network for Efficient Lagrangian Fluid Simulation <i>Yifan Wang, Beijing University of Technology, China</i>
14:45-15:00	IC322	The Hyers-Ulam stability for high-order linear differential equations with constant coefficients <i>Jingtao Deng, University of Science and Technology Liaoning, Anshan, China</i>
15:00-15:15	IC128	Research on TD3-based Offloading Strategies for Complex Tasks in MEC Systems <i>Shuai Wang, University of Chinese Academy of Sciences, China</i>









## ONLINE SESSION 3

<b>Online Session 3: Data-Driven Data Model and Algorithm</b>	<b>13:00-16:00</b>
Chairperson: Assoc. Prof. Mansoor Khan, Qilu Institute of Technology, China	<b>Sunday, December 15</b>
	Room C: 885 7036 3576

Time	Paper ID	Speech Title & Presenter
13:00-13:15	IC315	Data-driven highway traffic flow analysis <i>Jie Yang, Northeastern University, China</i>
13:15-13:30	IC023	R-LSTM algorithm for imputation of air quality data based on sample screening <i>Hao Zhang, Shenyang Institute of Computing Technology, Chinese Academy of Sciences &amp; University of Chinese Academy of Sciences, China</i>
13:30-13:45	IC017	Technical Research on Missing Value Imputation for Atmospheric Quality Data Based on Improved GAIN <i>Ruhao Liu, Shenyang University of Chemical Technology, China</i>
13:45-14:00	IC156	A Resignation Prediction Method Based on KTE-SMOTE <i>Huaqiong Zhao, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China</i>
14:00-14:15	IC192	Research on a Clinical Data Classification Model Based on BERT, Bi-LSTM, and Attention Mechanism <i>Han Wang, University of Chinese Academy of Sciences, China</i>
14:15-14:30	IC085	A model for large-scale fish dataset classification: SIM-CONV <i>Yuanyi Wu, Shenyang institute of computing technology; University of Chinese Academy of Sciences, China</i>
14:30-14:45	IC310	Forecasting Returns for High Frequency Cryptocurrency WebSocket Data <i>Krishnaveni Katta, University of Houston, USA</i>
14:45-15:00	IC490	Data-Driven Analysis of Skeet Shooting Training: Multi-Modal Data Collection and Lake-Warehouse Unified Architecture Design <i>Xulong Shu, Shenyang Institute of Computing Technology Chinese Academy of Sciences, University of Chinese Academy of Sciences, China</i>
15:00-15:15	IC505	A distributed data integration fault tolerant platform for performance optimization in shooting sports <i>Ze Li, Shenyang Institute of Computing Technology, University of Chinese Academy of Sciences, China</i>
15:15-15:30	IC159	Development and Application of Multi-source Data Governance Platform Based on Medical Research System <i>Yucheng Meng, University of Chinese Academy of Sciences, China</i>
15:30-15:45	IC378	Stacked HRDGL: A Fast Hybrid Model for Real-Time Network Intrusion Detection <i>Rana Muhammad Rashid, Northwestern Polytechnical University, China</i>
15:45-16:00	IC498	Fusion-based automated domain ontology construction method <i>Chang Liu, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, University of Chinese Academy of Sciences, Shenyang, China</i>



# ONLINE SESSION 4

## Online Session 4: Next Generation Artificial Intelligence Theory and Key Technologies

13:00-15:30

Sunday, December 15

Chairperson: Dr. Yiming Lei, Peking University, China

Room D: 886 5305 2977

Time	Paper ID	Speech Title & Presenter
13:00-13:15	IC300	Development An Application of Artificial Intelligence Literacy Through BERT-Based Knowledge Engineering <i>Yan Li, University of Nottingham Ningbo China, China</i>
13:15-13:30	IC1006	An Artificial Intelligence Based Method for Bartending <i>Haoru Li, University of Illinois Urbana-Champaign, USA</i>
13:30-13:45	IC391	MJSCHED: A Moldable Job Scheduling Algorithm in Heterogeneous Resource Environment <i>Zhao Tianhai, Northwestern Polytechnical University, China</i>
13:45-14:00	IC468	Perspectives on Artificial Intelligence Integration in Higher Education: Moral Implications and Data Privacy Concerns <i>Sakib Hasan, Beijing Institute of Technology, China</i>
14:00-14:15	IC086	Hierarchical Multi-Domain Fusion Gait Recognition Method Based on FMCW Radar <i>Li Dong, Yunnan University, China</i>
14:15-14:30	IC154	Spatial temporal transpose convolutional networks for action recognition <i>Ying Bai, Shenyang Institute of Computing Technology Chinese Academy of Sciences, China</i>
14:30-14:45	IC157	An improved text similarity calculation method combining TF-IDF and LexRank <i>Wentao Yan, Shenyang Institute of Computing Technology, Chinese Academy of Science, China</i>
14:45-15:00	IC170	Data-to-Text: A Constrained Approach to Diverse Candidate Text Generation and Ranking <i>Elias Lemuye Jimale, UESTC, China</i>
15:00-15:15	IC511	Enhancing End-to-End Speech Emotion Recognition Using Dual-Stream with Multi-Task Learning <i>Feichong Peng, City University of Macau, China</i>
15:15-15:30	IC081	Chinese resume named entity recognition based on ChineseBERT <i>Shuai Han, University of Chinese Academy of Sciences, China</i>



## ONLINE SESSION 5

### Online Session 5: Cloud-Based Data Sharing Model and Information Security

Chairperson: Dr. Xu Sen, Shenyang University of Chemical Technology, Key Laboratory of Industrial Intelligence Technology on Chemical Process of Liaoning Province, China

13:00-16:00

Sunday, December 15

Room E: 810 2192 5287

Time	Paper ID	Speech Title & Presenter
13:00-13:15	IC217	Sparse Multiuser Signatures for Massive Grant-Free Transmissions <i>Linfei Huang, Beijing University of Posts and Telecommunications, China</i>
13:15-13:30	IC117	Zero-trust single-package authorization authentication scheme supporting privacy protection and traceability <i>Junyuan Zhao, Information Engineering University, China</i>
13:30-13:45	IC105	STRL: Writer-Independent Offline Signature Verification with Transformers and Self-Supervised Representation Learning <i>Qianxi Shi, Beijing University of Posts and Telecommunications, China</i>
13:45-14:00	IC242	Security-Enhanced Data Sharing Model for Cloud-Edge Collaborative Network <i>Sensen Li, Information Engineering University, China</i>
14:00-14:15	IC419	SEQD: An Optimized Approach for Microservice Function Chain Placement in Satellite Edge Clouds <i>Yunlong Liu, Beijing University of Posts and Telecommunications, China</i>
14:15-14:30	IC233	Optimization scheme of micro-front-end architecture based on dynamic cloud Components and Web Components <i>Sunlong Tao, University of Chinese Academy of Sciences, China</i>
14:30-14:45	IC060	Cloud Auditing with Efficiently Updatable Designated Verifier <i>Longlong Cao, Southeast University, China</i>
14:45-15:00	IC516	SF-DQN: A Cloud-Edge Collaborative Online Task Offloading Framework Based on SwiftFormer and Reinforcement Learning in Industrial Scenarios <i>Longyi Liu, Shenyang Institute of Computing Technology Chinese Academy of Science, University of Chinese Academy of Sciences, China</i>
15:00-15:15	IC208	Frontend Component Adaptation Based on X-means Algorithm <i>Hongsheng Yu, University of Chinese Academy of Sciences, China</i>
15:15-15:30	IC152	A Visual Crawler Based on Collection Template Configuration <i>Zhengtian Cui, University of Chinese Academy of Sciences, China</i>
15:30-15:45	IC432	The Hierarchical Learning for Energy saving of Base Stations <i>Yuchen Zhuang, Beijing University of Posts and Telecommunication, China</i>
15:45-16:00	IC485	An Efficient Verifiable Aggregation Scheme with Privacy-enhanced in Federated Learning <i>Qianwen Li, Southwest Jiaotong University, China</i>



## ONLINE SESSION 6

### Online Session 6: Large Language Model and Natural Language Processing

Chairperson: Prof. Xiangkui Jiang, Xi'an University of Posts and Telecommunications, China

16:00-18:15

Sunday, December 15

Room A: 897 7177 9506

Time	Paper ID	Speech Title & Presenter
16:00-16:15	IC155	Acoustic unit-based system empowering accent correction across low-resource languages <i>Wei Wang, Minzu University of China, China</i>
16:15-16:30	IC211	TS-PTLM: Enhancing General Time Series Analysis with Pre-trained Language Models <i>Xianyao Ye, Southwest Jiaotong University, China</i>
16:30-16:45	IC313	LIGHT-TABLE-CHAIN: Simplifying and Enhancing Chain-Based Table Reasoning <i>Wenda Liu, University of Chinese Academy of Sciences; Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China</i>
16:45-17:00	IC430	A research on gas safety knowledge graph and retrieval-augmented generation mechanism based on large language model <i>Zhaoming Zheng, Shenzhen University, China</i>
17:00-17:15	IC462	Multifaceted Assessment and Resolution of Hallucinations in Large Visual-Language Models <i>Guiyong Chang, Institute of Computing Technology, Chinese Academy of Sciences; University of Chinese Academy of Sciences, China</i>
17:15-17:30	IC518	Athlete-LLMs: A Specialized Large Language Model for Athlete Psychology <i>Tao Yang, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China</i>
17:30-17:45	IC100	Question-Enhanced for Semantic Representation in Fine-Tuning Pre-trained Encoding Models for Chinese Event Argument Extraction <i>Yulong Liang, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China</i>
17:45-18:00	IC488	Keyword-Enhanced Semantic Retrieval and Multi-Dimensional Relevance Ranking in RAG <i>Guoyu Wang, Shenyang Institute of Computing Technology Chinese Academy of Sciences, University of Chinese Academy of Sciences, China</i>
18:00-18:15	IC218	Cross-platform emotion analysis and hot word mining method based on live broadcast room bullet screen <i>Ningze Li, Shenyang Institute of Computing Technology, Chinese Academy of Science, China</i>





## ONLINE SESSION 7

### Online Session 7: Complex System Anomaly Detection and Methods

16:00-18:15

Chairperson: Assoc. Prof. Siye Wang, Beijing University of Posts and Telecommunication, China

Sunday, December 15

Room B: 824 8503 5970

Time	Paper ID	Speech Title & Presenter
16:00-16:15	IC050	GMCB: An Efficient and Light Graph Analysis Model for Detecting Carpet Bombing DDoS Attacks <i>Zhen Huang, University of Chinese Academy of Sciences; Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China</i>
16:15-16:30	IC065	Research on anomaly detection method of power generation data based on isolation forest <i>HongYan Fan, Shenyang University, China</i>
16:30-16:45	IC118	GLMLog: Log Anomaly Detection Method Based on ChatGLM <i>Xiaomei Yang, Information engineering University, China</i>
16:45-17:00	IC144	Reconstruction-based Spectrogram Augmentation for Anomalous Sound Detection System <i>Ke Zhao, University of Chinese Academy of Science, China</i>
17:00-17:15	IC361	An Intrusion Detection Method Based on Transfer Component Analysis and an Extreme Learning Machine <i>Baoqiu Yang, Harbin Engineering University, China</i>
17:15-17:30	IC404	Investigations on Disk Performance Indices and Their Statistical Learning for Storage Cluster Disk Fail-Slow Detection <i>Wang Shi, Lenovo, China</i>
17:30-17:45	IC146	An Improved Object Detection Algorithm Based on YOLOv10 <i>Song Xiao, Shenyang Institute of Computing Technology, University of Chinese Academy of Sciences, China</i>
17:45-18:00	IC147	Machine Learning-Powered Anomaly Detection in Wireless Sensor Networks: A Survey <i>Wang Xin, The Information and Communication Company of State Grid Xinjiang Electric Power Co., Ltd. Xinjiang, China</i>
18:00-18:15	IC051	Foreign Object in Coal Belt Conveyor Detection and Tracking Based on Improved YOLOv9 and Bytetrack <i>Die Hu, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China</i>





## ONLINE SESSION 8

### Online Session 8: Algorithm Design and Optimization

Chairperson: Assoc. Prof. Shuzhu Shi, Wuhan University, China

**16:00-18:35**

**Sunday, December 15**

Room C: 885 7036 3576

Time	Paper ID	Speech Title & Presenter
16:00-16:20	Invited Talk	Harnessing the Peak Performance of Computational Intelligence Optimization Algorithms <b>Assoc. Prof. Nikola Ivkovic</b> , University of Zagreb, Croatia,
16:20-16:35	IC034	A Multiple Objective Particle Swarm Optimization Algorithm for Time Series Segmentation <i>Mengsheng Cui, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, University of Chinese Academy of Sciences, China</i>
16:35-16:50	IC041	A Practical Byzantine Fault Tolerance Algorithm Based on Reputation Scoring Mechanism and Dynamic Timeout Mechanism <i>RuiJun Zheng, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China</i>
16:50-17:05	IC104	Improved Genetic Algorithm Based Task Allocation for AGV Warehousing and Logistics with Adjustable Load <i>Jian Xu, Beijing University of Technology, China</i>
17:05-17:20	IC318	Study on the Approximation Method to Determine Health Evaluation Indicators of CNC Drive Based on Rough Set Theory and Genetic Algorithm <i>Jiafeng Zhu, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China</i>
17:20-17:35	IC321	A Comprehensive Comparative Analysis of Metaheuristic Algorithms Rooted in Mathematical Principles <i>Jiaming Yuan, University of Science and Technology Liaoning, China</i>
17:35-17:50	IC222	An optimized Diff algorithm based on Myers <i>Yanming Xin, University of Chinese Academy of Sciences, China</i>
17:50-18:05	IC324	Comparative analysis of the Performance of Recent Optimization Algorithms in Solving Engineering Problems <i>Deng Jingtao, Liaoning University of Science and Technology, China</i>
18:05-18:20	IC399	Integrating adaptive reference vectors with differential evolution algorithm for multi-objective service composition <i>Yuhong Yan, Chongqing Normal University, China</i>
18:20-18:35	IC433	CT-PBFT: A Comprehensive Trust-Based Practical Byzantine Consensus Algorithm <i>Yufei He, Tongji University, China</i>





## ONLINE SESSION 9

### Online Session 9: System Model and Calculation

Chairperson: Assoc. Prof. Yanhui Guo, Beijing University of Posts and Telecommunications, China

16:00-18:35

Sunday, December 15

Room D: 886 5305 2977

Time	Paper ID	Speech Title & Presenter
16:00-16:20	Invited Talk	Forecasting of Complex Industrial Time Series Problems: A Novel Approach by using Reinforcement learning <i>Dr. Isma Hamid, National Textile University, Pakistan</i>
16:20-16:35	IC088	A LSTM-MSGNET Model for Remaining Useful Life of Lubricating Oil Prediction <i>Donglei Wu, University of Chinese Academy of Sciences, China</i>
16:35-16:50	IC257	Model Division-based SeComm: Energy Consumption Minimization by Exploring Semantic Information Similarities <i>Guo Cheng, University of Science and Technology of China, China</i>
16:50-17:05	IC1014	Online Learning Customer Churn Prediction Model Based on GA-XGBoost <i>Xuhai Xiong, Shenyang Institute of Computing Technology and University of Chinese Academy of Sciences</i>
17:05-17:20	IC465	Matrix Optimization Algorithm for WebGL-Based 3D Visualization Construction Models <i>Yue Liu, Shenyang Institute of Computing Technology, University of Chinese Academy of Sciences, China</i>
17:20-17:35	IC470	Photovoltaic Power Prediction Based on Multi Model Integration <i>Mingsheng Suo, University of Chinese Academy of Sciences, China</i>
17:35-17:50	IC209	Construction of Audit Virtual Simulation Teaching and Training System Based on Unity 3D <i>Fangshuai Xing, Shenyang Institute of Computing Technology, University of Chinese Academy of Sciences, China</i>
17:50-18:05	IC380	Design and Research of a PLC Simulation Training System Based on EtherCAT <i>Yunzhi Ma, University of Chinese Academy of Sciences, China</i>
18:05-18:20	IC003	An Improved DEC Algorithm for Time Series Clustering Task <i>Yufei Li, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, University of Chinese Academy of Sciences Shenyang, China</i>
18:20-18:35	IC383	Spatio-temporal traffic prediction under multi-scale dynamic convolution <i>Ruoyi Wen, Yunnan Yunling Highway Science And Technology Co., Ltd., China</i>









# ONLINE SESSION 11

## Online Session 11: Intelligent Image Analysis and Processing Method

09:00-11:30

Chairperson: Assoc. Prof. Jun Xu, Nanjing Normal University, China

**Monday, December 16**

Room A: 897 7177 9506

Time	Paper ID	Speech Title & Presenter
09:00-09:15	IC504	A Parameter Decoupling Approach in Personalized Federated Learning for Gastric Cancer Pathology Classification <i>Yiyue Jiang, South China Normal University, Guangzhou, China</i>
09:15-09:30	IC213	Cross-cultural Expression Spotting Method based on Optical Flow and Sliding Window <i>Lanxiang Jiang, Communication University of China, China</i>
09:30-09:45	IC429	Lightweight Attention Graph Convolutional Network for Two-person Interaction Recognition <i>Ziyang Dong, Beijing University of Posts and Telecommunications, China</i>
09:45-10:00	IC135	Implementation of a Hip Fracture Classification Network Based on CT Tomography Scans <i>Meng Yang, University of Chinese Academy of Science, China</i>
10:00-10:15	IC372	A Quantitative 3D Reconstruction Evaluation Method Based on Blender <i>Zijun Zhou, City University of Macau, China</i>
10:15-10:30	IC442	Enhanced Fusion of AMR Graph Representations for Event Argument Extraction <i>Mengjie Gao, Beijing University of Posts and Telecommunications, China</i>
10:30-10:45	IC006	Mixed Multi-Scale and Channel Attention Representations for Concealed Object Segmentation <i>Zhongkuan Mao, Henan University, China</i>
10:45-11:00	IC206	KDA-UNet: A Deep Learning Framework for Segmentation in Medical Imaging <i>Mingyang Hao, University of Chinese Academy of Science, China</i>
11:00-11:15	IC068	Improving Urban Landscape Semantic Segmentation Using CBAM in DeepLabV3 <i>Bo Li, Xi'an University of Posts and Telecommunications, China</i>
11:15-11:30	IC045	A 3D Swin Transformer Fusion Network for Brain tumor segmentation <i>Hongyu Yao, Chengdu University of Technology, China</i>





# ONLINE SESSION 12

## Online Session 12: Digital Image Processing and Application

Chairperson: Dr. Qi Li, Beijing University of Technology, China

09:00-11:45

Monday, December 16

Room B: 824 8503 5970

Time	Paper ID	Speech Title & Presenter
09:00-09:15	IC016	A Color Image Encryption Algorithm Based on Chaos Theory for R, G, B Cross layer Uniform Shuffle <i>Jilong Xu, Shenyang Institute of Computing Technology Chinese Academy of Sciences, China</i>
09:15-09:30	IC043	Improved DOG Algorithm for Edge Enhancement of Images on ASICs <i>Lu Hanzhao, Dalian University of Technology, China</i>
09:30-09:45	IC127	CL-MIL: Multi-Instance Learning on Whole-Slide Images with Self-supervised Contrastive Learning <i>Dongying Liu, Shenyang Institute of Computing Technology Chinese Academy of Science; University of Chinese Academy of Sciences, China</i>
09:45-10:00	IC052	CAAVM-TransUNet: Integrating Context Anchor Attention with Transformer U-Net for Single Image Dehazing <i>Hongwei Zeng, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China</i>
10:00-10:15	IC371	Lightweight U-Net Image Dehazing Network for Remote Airport Tower Control <i>Qiaozhu Ren, Donghua University, China</i>
10:15-10:30	IC515	Remote Sensing Image Compression Using ResNet and SEBlock <i>Han Wang, Sichuan University, China</i>
10:30-10:45	IC140	Hybrid Cross Modality Feature Fusion <i>Zhipeng Zhang, University of Chinese Academy of Sciences, China</i>
10:45-11:00	IC190	Scene Graph Generation based on Depth Information and Feature Enhancement <i>Jiyang Liao, Sichuan University, China</i>
11:00-11:15	IC482	Multi-scale Feature Fusion for Low-light Image Enhancement in the RAW Domain <i>Bojian Song, Shenyang Institute of Computing Technology, Chinese Academy of Science; University of Chinese Academy of Sciences; Shenyang, China</i>
11:15-11:30	IC141	Complex Scene Random Bin Picking Algorithm Based on YOLOv8-TripletAttention <i>Songjie Zhou, University of Chinese Academy of Sciences, China</i>
11:30-11:45	IC492	GRS-Wav2lip: General speech-driven lip synthesis in the wild <i>Junda Wu, Shenyang Institute of Computing Technology Chinese Academy of Sciences, University of Chinese Academy of Sciences, China</i>



## ONLINE SESSION 13

**Online Session 13: Pattern Recognition and Algorithm**

Chairperson: Assoc. Prof. Mengmeng Liao, Shanghai University, China

**09:00-11:30**

**Monday, December 16**

Room C: 885 7036 3576

Time	Paper ID	Speech Title & Presenter
09:00-09:15	IC078	Algorithm for Workpiece Recognition under Complex Conditions based on Improved YOLOv8 <i>Zhaoqing Jiang, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, University of Chinese Academy of Sciences, China</i>
09:15-09:30	IC111	Improved action recognition algorithm for video surveillance based on Pose3D <i>Chao Yang, University of Chinese Academy of Sciences, China</i>
09:30-09:45	IC304	Pedestrian Behavior Recognition on Roads Based on Deep Learning <i>San Zhang, University of Chinese Academy of Sciences, China</i>
09:45-10:00	IC379	Skin Lesion Recognition and Classification Based on Deep Learning <i>Juan Qiu, Chongqing University of Posts and Telecommunications, China</i>
10:00-10:15	IC435	YOLO v8_CAT: Enhancing Small Object Detection in Traffic Light Recognition with Combined Attention Mechanism <i>Zhihao Su, Zhujiang College, South China Agricultural University, China</i>
10:15-10:30	IC080	Electrostatic Sensing-Based Human Activity Recognition <i>Zhenxing Wang, Shanghai Polytechnic University, China</i>
10:30-10:45	IC158	Identification and Analysis of Risky Driving Behaviors at Intersections Based on Vehicle Trajectories <i>Yongjia Wang, Zhao Bian (Shanghai) Technology Co., Ltd., China</i>
10:45-11:00	IC387	Soft Global-Local Representation Learning and Labeling for Cross-Domain Facial Expression Recognition <i>Jiyuan Lin, Sun Yat-sen University, China</i>
11:00-11:15	IC491	Optimizing Real-Time Emotion Recognition: A YOLO v.8 Deep Learning Solution for Facial Expression Analysis <i>Farman Ullah, South China Normal University (SCNU), China</i>
11:15-11:30	IC055	DMT Airborne Cloud Particle Image Shape Recognition and its Application <i>Guodong Jing, CMA Weather Modification Centre, China</i>



## ONLINE SESSION 14

### Online Session 14: Image Detection Model and Algorithm

09:00-11:30

Chairperson: Asst. Prof. Farhan Amin, Yeungnam University, South Korea

Monday, December 16

Room D: 886 5305 2977

Time	Paper ID	Speech Title & Presenter
09:00-09:15	IC025	DB-YOLOv8 Model: Object Detection in Complex Scenarios <i>Shun Li, Shenyang Institute of Computing Technology, Chinese Academy of Science, China</i>
09:15-09:30	IC094	Leveraging CNN for Automated Lesion Detection in Stroke MRI Scans <i>Huang Ruijie, Beijing Normal University-Hong Kong Baptist University United International College, China</i>
09:30-09:45	IC183	An Automatic Tooth Position and Dental Disease Detection Algorithm Based on YOLOv8 <i>Ke Diao, Shenyang Institute of Computing Technology Chinese Academy of Sciences, China</i>
09:45-10:00	IC202	High-precision Detection and Classification of Pneumonia Cases Based on Optimized ResNet <i>Mao Shenghan, University of Electronic Science and Technology of China, China</i>
10:00-10:15	IC366	A Comparative Study of CNN, ViT, and ResNet50 for Pneumonia Detection in Medical Imaging <i>Zixu Kuang, University of Electronic Science and Technology of China, China</i>
10:15-10:30	IC212	Lightweight Object Detection Method Based on Improved YOLOv8 <i>Hao Wu, Shenyang Institute of Computing Technology, Chinese Academy of Sciences, University of Chinese Academy of Sciences, China</i>
10:30-10:45	IC243	Research on Fabric Defect Detection Algorithm Based on Improved YOLOv8s <i>Shanshan Liu, Jinan Vocational College, China</i>
10:45-11:00	IC039	Improved YOLOv8 For Small Object Detection in Aerial Drone Images <i>Yi Liu, Chengdu University of Technology, China</i>
11:00-11:15	IC256	YOLOv5s-DDC: A Rapid Detection Network for Strip Steel Surface Defects Based on Deformable Convolution with Coordinate Attention and Distribution Shifting Convolution <i>Weiyi Gao, Chongqing University of Posts and Telecommunications, China</i>
11:15-11:30	IC436	Enhancing Multi-Scale Object Detection with YOLOv8 and Residual Feature Pyramid Networks for Real-Time <i>Zhihao Su, Zhujiang College, South China Agricultural University, China</i>





## ONLINE SESSION 15

### Online Session 15: Vision-Based Intelligent Information System Design and Multimedia Technology

09:00-11:10

Monday, December 16

Chairperson: Dr. Jingxuan Wei, Shenyang Institute of Computing Technology  
Chinese Academy of Sciences, China

Room E: 810 2192 5287

Time	Paper ID	Speech Title & Presenter
09:00-09:20	Invited Talk (IC193)	TRAINS: Train and Passenger Real-time Analytics and Integration Network System Using NeuRaiSyA with BhaiCha Algorithm and PINNs Applications <b>Assoc. Prof. Bhai Nhuraisha Deplomo</b> , University of Makati, Mapua University, Philippines
09:20-09:40	Invited Talk	Three views for intelligently extracting and generating information from multimedia <b>Prof. Xiwen Zhang</b> , Beijing Language and Culture University, China
09:40-09:55	IC201	Video Super-Resolution Based on Multi-Flow Guided Deformable Alignment and Temporal-Spatial Fusion <i>Jialong Liu, Shenyang Institute of Computing Technology, Chinese Academy of Science; University of Chinese Academy of Sciences Shenyang, China</i>
09:55-10:10	IC220	Distortion-Resistant Dynamic Bitrate Adaptive Transmission for 360-Degree Panoramic Video <i>Siqi Zhang, University of Science and Technology of China, China</i>
10:10-10:25	IC126	MACLog: Multi-Algorithm Collaborative Log Parsing Approach <i>Chao Wang, Information engineering University, Zhengzhou, China</i>
10:25-10:40	IC289	nDrain: A Robust Log Template Mining Algorithm <i>Bin Guan, Zhongyuan University of Technology, China</i>
10:40-10:55	IC246	Design of a mental health question-answering system based on a knowledge graph <i>Wuqiang Tang, Shenyang Institute of Computing Technology, Chinese Academy of Science, China</i>
10:55-11:10	IC496	Multi-View Fuzzy Clustering Based on Adaptive Local Neighbor Information <i>Xiangxiang Zhang, Harbin University of Science and Technology, China</i>

# ONLINE SESSION 16

## Online Session 16: Data Center Network, Network Security and Data Storage

13:00-15:35

Monday, December 16

Chairperson: Assoc. Prof. Ye Tian, University of Science and Technology of China, China

Room A: 897 7177 9506

Time	Paper ID	Speech Title & Presenter
13:00-13:20	Invited Talk	An Antiferromagnetic MRAM-Based Processing-In-Memory System for Efficient Bit-Level Operations of Quantized Convolutional Neural Networks <i>Dr. Yueting Li, Beihang Univeristy, China</i>
13:20-13:35	IC074	A Buffer-aided Cooperative NOMA Scheme with Improved Physical Layer Security <i>Jianglong Li, Southwest China Institute of Electronic Technology, China</i>
13:35-13:50	IC250	A Distributed Storage Method Based on Elasticsearch and MinIO Cluster Federation <i>Weixing Lu, University of Chinese Academy of Sciences, China</i>
13:50-14:05	IC033	DNS Service Optimization through In-Network Caching on Programmable Switches <i>Fan Yang, University of science and Technology of China, China</i>
14:05-14:20	IC038	TimesKAN: A Generic Backbone Network for Time Series Prediction Based on Kolmogorov-Arnold Networks <i>Zong Wang, Shenyang Institute of Computing Technology, University of Chinese Academy of Sciences, China</i>
14:20-14:35	IC210	Credit R: Enhancing Credit Based Congestion Control in Cross Data Center Networks <i>Lunsheng Li, University of Science and Technology of China, China</i>
14:35-14:50	IC161	Adaptive Gateway Traffic Scheduling Algorithm Based on Multidimensional Information <i>Jinlong Li, University of Chinese Academy of Science, China</i>
14:50-15:05	IC079	Intelligent Node Selection for Ad Hoc Networks-Assisted CBTC Systems Based on Proximal Policy Optimization <i>Sixing Ma, Beijing University of Technology, China</i>
15:05-15:20	IC290	Analysis and Optimization of Hierarchical ID-based Encryption for MQTT <i>Congcong Zhan, Electric Power Research Institute of Guangdong Power Grid Co., Ltd., China</i>
15:20-15:35	IC164	Blockchain Technology Promoting Data Privacy Protection and Sharing in Communication Networks <i>Ting Xie, Dalian Neusoft University of Information, China</i>



# ONLINE SESSION 18

<b>Online Session 18: Communication Network Resource Allocation and Management</b>	<b>13:00-15:40</b>
Chairperson: Dr. Jiaxin Zhang, Beijing University of Posts and Telecommunications, China	<b>Monday, December 16</b>
	Room C: 885 7036 3576

Time	Paper ID	Speech Title & Presenter
13:00-13:20	Invited Talk	Collaborative Allocation and Intelligent Optimization of Service-Driven Cloud Radio Access Network Resources <i><b>Assoc. Prof. Chao Fang</b>, Beijing University of Technology, China,</i>
13:20-13:40	Invited Talk (IC473)	Resource Allocation Strategy Based on the BCPF Algorithm for Visible Light Communication <i><b>Assoc. Prof. Liwei Yang</b>, China Agricultural University, China</i>
13:40-13:55	IC416	On Channel Coverage of MIMO Systems <i>Haitao Ge, Southeast University, China</i>
13:55-14:10	IC234	A DRL Agent for Federated Learning Resource Allocation in the Internet of Things <i>Yue Sun, Ocean University of China, China</i>
14:10-14:25	IC283	Joint User Association and Resource Allocation for Communication-Efficient Hybrid Federated Learning <i>Tie Li, Beijing University of Posts and Telecommunications, China</i>
14:25-14:40	IC417	A Multi-Objective Optimization based LEO Satellite Beam Hopping Resource Allocation Algorithm <i>Yifan Zhai, Harbin Institute of Technology Harbin, China</i>
14:40-14:55	IC333	Research on Resource Continuous Scheduling Method Based on Multi-Objective Optimization for Smart Grids IoT Networks <i>Wenliang Cheng, Beijing University of Posts and Telecommunications, China</i>
14:55-15:10	IC406	Semantic QoS-aware Resource Allocation for IoV Computation Offloading using Layer Enhanced Whale Optimization Algorithm <i>Caitong Tang, Beijing University of Posts and Telecommunications, China</i>
15:10-15:25	IC510	Joint Optimization of Scalable Encoding Setting and Resource Allocation for Wireless Video Multicast <i>Siyu Xie, Hefei University of Technology, China</i>
15:25-15:40	IC251	Generative Model for Joint Resource Management in Multi-Cell Multi-Carrier NOMA Networks <i>Amayika Kakati, Chongqing University of posts and telecommunications, China</i>





## ONLINE SESSION 19

### Online Session 19: UAV-Assisted Communication and Satellite Communication System

13:00-15:35

Monday, December 16

Chairperson: Dr. Haihan Li, Beijing Research Institute of Telemetry, China  
Aerospace Science and Technology Corporation, China

Room D: 886 5305 2977

Time	Paper ID	Speech Title & Presenter
13:00-13:20	Invited Talk	Integrated Computing and Networking for LEO Satellite Mega-Constellations <i>Dr. Qinqin Tang, Beijing University of Posts and Telecommunications, China</i>
13:20-13:35	IC011	GNSS+ VCXO +Atomic Clock: Applied to Communication and Navigation Fusion Satellites' Time and Frequency System <i>Yun Zhou, Northwestern Polytechnical University, China; China Academy of Space Technology (Xi'an), China</i>
13:35-13:50	IC076	Simulation Research on Link Handover Strategy and Link Characteristics of Satellite Constellations <i>Ning Ge, Tsinghua University, China</i>
13:50-14:05	IC230	Task Migration in LEO Satellite Networks: A Multi-Agent Reinforcement Learning Approach <i>Yuanjing Ma, Beijing University of Posts and Telecommunications, China</i>
14:05-14:20	IC194	Covert Communication Against UAV Surveillance via Integrated Sensing and Communication System <i>Tao Wang, Fuzhou University, China</i>
14:20-14:35	IC125	Path Planning for RIS-Assisted UAV: Phase Shift, Scheduling and Trajectory Optimization <i>Xueying Zhao, Beijing University of Posts and Telecommunications, China</i>
14:35-14:50	IC402	Modeling the Dynamic Network for Determined Communication of UAV Swarm <i>Qin Chen &amp; School of Communication and Information Engineering, Chongqing University of Posts and Telecommunications, China</i>
14:50-15:05	IC224	A Hybrid Particle Swarm Optimization Algorithm for Multi-objective UAV Swarm Topology Shaping <i>Jiqing Ma, University of Science and Technology of China, China</i>
15:05-15:20	IC424	Joint Latency-Energy Cost Optimization for asynchronous UAV-assisted Mobile Edge Computing in Cognitive Emergency Network <i>Yuankun Luan, University of Science and Technology Beijing, China</i>
15:20-15:35	IC317	Secrecy Rate Maximization for a MISO-ISAC System with Multiple Eavesdropping Targets <i>Huiqin Du, Jinan University, China</i>





# ONLINE SESSION 20

<b>Online Session 20: Communication and Signal System</b>	<b>13:00-16:20</b>
Chairperson: Prof. Baofeng Yang, Nanjing University of Posts and Telecommunications, China	<b>Monday, December 16</b>
	Room E: 810 2192 5287

Time	Paper ID	Speech Title & Presenter
13:00-13:20	Invited Talk	Rethinking Hardware Impairments in RIS-Assisted Systems <i>Dr. Ke Wang, Macao Polytechnic University, China</i>
13:20-13:35	IC467	A Lightweight Signaling Solution Based on MQTT for Peer to Peer Video Call System <i>Chengjie Liu, Shenyang Institute of Computing Technology, Chinese Academy of Science; University of Chinese Academy of Sciences Shenyang, China</i>
13:35-13:50	IC098	Domain-Specific Load Balancing for Accelerating Gradient Synchronization Communication in Large Model Training <i>Changlong Dong, Nanjing University of Aeronautics and Astronautics, China</i>
13:50-14:05	IC337	Low Complexity PAPR Reduction Algorithm of OTFS Signal for Integrated Sensing and Communications Systems <i>Rui Xu, Nanjing University of Science and Technology, China</i>
14:05-14:20	IC073	Performance Enhancement for IRS-aided NOMA Networks with Underlay D2D Communications <i>Jianglong Li, Southwest China Institute of Electronic Technology, China</i>
14:20-14:35	IC203	Robust and Low-Complexity Secure Beamforming for Distributed RIS-aided mmWave Systems with Limited Feedback <i>Qingqing Tu, University of Electronic Science and Technology of China, China</i>
14:35-14:50	IC070	Energy Consumption Optimization for 5G Base Stations Based on Deep Reinforcement Learning <i>Han Zhibo, Beijing Key Laboratory of Work Safety Intelligent Monitor, Beijing University of Posts and Telecommunications, China</i>
14:50-15:05	IC458	Energy Spreading Transform Based Iterative Equalization for Faster-Than-Nyquist Signaling <i>Yutao Jiang, Chongqing Three Gorges University, China</i>
15:05-15:20	IC291	Design and Implementation of Wireless Communication Systems for Self-developed SDR Hardware Platforms and Simulink <i>Tianling Li, Communication University of China, China,</i>
15:20-15:35	IC396	Over-the-Air Federated Edge Learning with Error-Feedback One-Bit Quantization and Power Control <i>Yuding Liu, Zhejiang University, China</i>
15:35-15:50	IC012	A Radio Frequency Fingerprint Identification Method for Wireless Devices Based on Multi-Feature Fusion <i>Hanqiang Luo, Chengdu University of Technology, China</i>





---

15:50-16:05	IC067	DRL-Based Joint Relay Selection and Power Allocation Strategy in Full-duplex Eavesdropping Channels <i>Hao Bai, Beijing University of Posts and Telecommunications, China, Beijing University of Posts and Telecommunications, China</i>
16:05-16:20	IC356	Adaptive Energy-Efficient Named Data Networking in VANETs <i>Muhammad Aurang Zeb Khan, University of Science and Technology of China, Hefei, Anhui, China</i>

---





## ONLINE SESSION 21

### Online Session 21: Modern Internet of Things and Communication System Performance Analysis

**16:00-18:45**

**Monday, December 16**

Chairperson: Assoc. Prof. Lin Zhou, Huaqiao University, China

Room A: 897 7177 9506

Time	Paper ID	Speech Title & Presenter
16:00-16:15	IC130	A Novel Method for Data Aggregation in Internet of Things (IoT) Networks Using Colored Petri Net (CPN) Modeling and Reinforcement Learning (RL) <i>Mohammad Naserameri, University of Tehran, Iran</i>
16:15-16:30	IC267	Cyber Resilience based Threat Hunting for Electric Internet of Things <i>Yilin Kang, Purple Mountain Laboratories, China</i>
16:30-16:45	IC355	Research on Federated Learning Algorithms for Marine Internet of Things <i>Jiuyao Su, Dalian Maritime University, China</i>
16:45-17:00	IC401	An Enhanced WSN Node Localization Approach in IoT <i>Yuanyuan Pu, Chongqing University of Posts and Telecommunications, China</i>
17:00-17:15	IC420	Trusted Secret Sharing Scheme with Verifiable Computation Based on On-Chain and Off-Chain Collaboration for IoT <i>Cui Zhang, Beijing University of Posts and Telecommunications, China</i>
17:15-17:30	IC295	Multi-Step Online Scheduling to Improve Schedulability for In-vehicle Time-Sensitive Networking <i>Conghui Li, Beijing University of Posts and Telecommunications, China</i>
17:30-17:45	IC373	Collaborative Cloud-Edge Channel Prediction for Dynamic Industrial Wireless Networks: An Obstacle-Aware Channel Transformative Architecture <i>Kaibo Jin, Henan University, China</i>
17:45-18:00	IC160	Vector Quantized Diffusion Model-Based Joint Source-Channel Coding for Task-Oriented Agent Communication <i>Guojun He, Huazhong University of Science and Technology, China</i>
18:00-18:15	IC369	Low-Complexity Equalization for STBC-OCDM System under Doubly Dispersive Channels <i>Yuchen Dong, Southeast University, China</i>
18:15-18:30	IC479	Performance Analysis of Orthogonal Chirp Division Multiplexing System with Zero-Forcing Receiver over Multi-path Fading Channels <i>Zecheng Li, Southeast University, China</i>
18:30-18:45	IC469	Towards Smarter Cities: An Adaptive AIoT Solution with Dynamic Sensor Group Selection for Real-Time Traffic Monitoring and Energy Efficiency <i>Hira Khyzer, Northwestern Polytechnical University, China</i>





## ONLINE SESSION 23

### Online Session 23: Signal-Based Electronic System and Positioning Technology

16:00-18:15

Monday, December 16

Chairperson: Dr. Wenji Li, China Academy of Space Technology, China

Room C: 885 7036 3576

Time	Paper ID	Speech Title & Presenter
16:00-16:15	IC024	Wavelet Denoising Parameter Selection Method Based on Generalized Cross-Validation (GCV) <i>Peng Yuanhui, Chengdu University of Technology, China</i>
16:15-16:30	IC169	Enhancing Multi-Speaker Audio Generation with Limited Samples Based on Acoustic Signals <i>BeiJin, University of Chinese Academy of Sciences, China</i>
16:30-16:45	IC173	EEGTCW: Electroencephalogram-based Chinese Words Decoding <i>Sibo Zhang, University of Chinese Academy of Sciences, China</i>
16:45-17:00	IC301	Accelerating Transformer Architectures for Automatic Modulation Classification via Gated Activation Patch Selection <i>Xitong Pu, University of Electronic Science and Technology of China, China</i>
17:00-17:15	IC107	Intergrated Sensing and Communications ISAC in 5G Advanced for High Precison Localization and Tracking of Vessels at Sea <i>Zhen Huang, University of Chinese Academy of Sciences; Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China</i>
17:15-17:30	IC306	An Interference Sources Localization Method Using ADS-B Data for GNSS <i>Jiaoxian Yin, Xi'an Jiaotong University, China</i>
17:30-17:45	IC428	Adaptive Topology Construction for Heterogeneous UAV Clusters in Dynamic Localization Tasks <i>Yixuan Li, Tongji University, China</i>
17:45-18:00	IC414	MIMO and RIS-Assisted Localization Method in 6G Terahertz Systems <i>Yongyan Li, School of Information and Communication Engineering, Communication University of China, China</i>
18:00-18:15	IC057	Modeling and Optimizing the 5G RRC State Machine to Reduce Terminal Energy Consumption <i>Jingbo Yang, Yantai Vocational College, China</i>





# ONE-DAY TOUR in Chengdu city

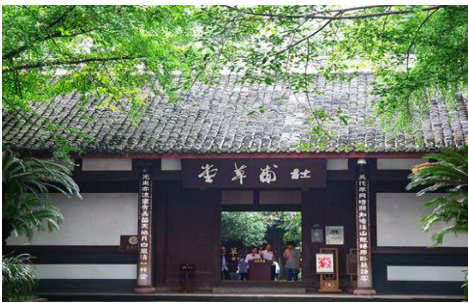
<b>Monday, December 16, 2024</b> One-day Tour in Chengdu city	
08:00~08:10	Meet up at 1F Lobby <成都望江宾馆 Wangjiang Hotel>
08:10-12:00	Chengdu Research Base of Giant Panda Breeding 成都大熊猫繁育研究基地
12:00-13:30	Lunch Time
13:30-15:00	Du Fu Thatched Cottage 杜甫草堂
15:00-17:00	Jinli Street 锦里古街
17:00	Back to <成都望江宾馆 Wangjiang Hotel>

\* The lunch and tourism entrance tickets are already included in the registration.

Registration for one-day tour closes at **5:00 PM, December 9 (UTC+8h)**, cost is 80 USD/550 元 each person.

Payment link: <http://confsys.iconf.org/online-payment/890003173>

Please send your name and ID number (身份证号), or passport number along with the proof of payment to [iccc2015@vip.163.com](mailto:iccc2015@vip.163.com) for confirmation. Thanks.







## DELEGATE LIST

- Hongyan Cui, *Beijing University of Posts and Telecommunications, China*  
Xinkun Zheng, *Huazhong University of Science and Technology, China*  
Liushun Hu, *National University of Defense Technology, China*  
Boyu Wan, *The Sixty-Third Research Institute National University of Defense Technology, China*  
Yiming Zhang, *Qinghai University, China*  
Yening Lv, *Zhejiang University, China*  
Yipei Xu, *Tongji University, China*  
Xinyu Chen, *Chongqing University of Technology, China*  
Yong Chen, *The Sixty-Third Research Institute National University of Defense Technology, China*  
Yicheng Zhao, *Army Engineering University of PLA, China*  
Xiuqiong Chen, *Renmin University of China, China*  
Mingxue Quan, *Renmin University of China, China*  
Yiquan Yang, *Sichuan University, China*  
Maryam Cheraghy, *Wenzhou-Kean University, China*  
Jiangnan Wu, *Chongqing Radio Monitoring Station, China*  
Xingyue Wu, *Chongqing Radio Monitoring Station, China*  
Jiahao Liao, *Chongqing Radio Monitoring Station, China*





Co-Sponsored by



四川省電子學會  
Sichuan Institute of Electronics



四川省電子學會  
Sichuan Institute of Electronics  
青年人才工作委員會  
Youth Talent Work Committee



Hosted by



西南交通大学  
Southwest Jiaotong University



电子科技大学  
University of Electronic Science and Technology of China



四川大学  
SICHUAN UNIVERSITY



成都理工大学  
Chengdu University of Technology



成都信息工程大学  
Chengdu University of Information Technology

Patrons



Research Institute of  
Big Data Analytics  
Xi'an Jiaotong-Liverpool University  
西安利物浦大学



北京交通大学  
BEIJING JIAOTONG UNIVERSITY



东北电力大学  
Northeast Dianli University



江苏科技大学  
jiangsu university of science and technology