

CONFERENCE PROGRAM

ICCC

2021 the 7th International Conference
on Computer and Communications

2021 年第七届计算机与通信国际会议

December 10-13, 2021

Chengdu, China 中国 成都

Sponsored by



四川省電子學會
Sichuan Institute of Electronics

Hosted by



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Conference Committee	04
Welcome Message	10
General Information	11
Zoom Pre-test	13
Agenda Overview	16
Keynote Speaker	20
Invited Speaker	26
Tutorial	28
Parallel Session	
SATURDAY, DEC. 11, ONSITE SESSION	
Onsite 1: Communication and Information Engineering.....	29
Onsite 2: Communication Principle and Space Communication.....	30
Onsite 3: Computer Network and Communication Security	31
Onsite 4: Microwave Technology and Antenna Design	32
Onsite 5: Computer Computing and Electronic Engineering	33
Onsite 6: Image Analysis and Methods.....	34
Poster 1: Image Processing and Information Technology	35
Poster 2: Communication Engineering and Application	36
SUNDAY, DEC. 12, ONLINE SESSION	
Online 1: Coding Theory and Technology	37
Online 2: Computer Theory and Application	38
Online 3: Computer Network and Communication Security <i>(1 invited speech included)</i>	39
Online 4: Channel Estimation and Antenna Design	40
Online 5: Electronic and Communication Engineering.....	41
Online 6: IOT and Future Communication Technology	42
Online 7: Space-Earth Integration Network and technology.....	43
Online 8: Modulation Theory and Technology	44
Online 9: Data Routing Algorithm and Design	45
Online 10: Object Detection and Video Processing.....	46
Online 11: Satellite Engineering and Space Communication.....	47
Online 12: Network Model and Network Resource Management	48
Online 13: Image Analysis and Methods <i>(1 invited speech included)</i>	49
Online 14: Signal Acquisition and Analysis	50
MONDAY, DEC. 13, ONLINE SESSION	
Online 15: Computer Model and Mathematical Calculation.....	51
Online 16: Communication and Information System	52
Online 17: Computer and Electrical Engineering	53
Online 18: Optical Communication and Optical Network.....	54

TABLE OF CONTENT

Online 19: Software and Data Engineering	55
Online 20: Image Classification <i>(1 invited speech included)</i>	56
Online 21: Knowledge and Information Engineering	57
Online 22: Wireless Sensor Network and Wireless Communication	58
Online 23: Digital Image Processing and Application <i>(1 invited speech included)</i>	59
Online 24: Advanced Blockchain Technology and Security Management	60
Online 25: Algorithm Design, Optimization and Calculation.....	61
Online 26: Machine Learning and Neural Networks	62
Online 27: Mobile Computing and High-Performance Computing.....	63
Online 28: Modern Cryptography and Information Security	64
Online 29: Signal Detection and Recognition.....	65
Online 30: 3D Model and Image Inspection	66
Online 31: Target Detection	67
Online 32: Face Recognition and Image Recognition <i>(1 invited speech included)</i>	68
Online 33: Unmanned System and Intelligent Control Technology.....	69
Online 34: Electronic Information Engineering and Application	70

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WELCOME MESSAGE

On behalf of the conference committees, I am pleased to welcome you to attend the 7th International Conference on Computer and Communications (ICCC 2021), held in Chengdu, China during Dec. 10-13, 2021, sponsored by Sichuan Institute of Electronics (SIE), China. ICCC 2021 is supported by Southwest Jiaotong University, University of Electronic Science and Technology of China, Sichuan University, Research Institute of Big Data Analytics @ Xi'an Jiaotong-Liverpool University, Beijing Jiaotong University, Nagoya Institute of Technology (NITech, Japan), Northeast Electric Power University, and Jiangsu University of Science and Technology.

ICCC is initiated in 2015, this year marks the 7th anniversary of ICCC conference. Under this special pandemic situation, ICCC 2021 is held with hybrid online and offline for the safety and well-being of all participants. 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 4000 conference participants in the last six years.

The program this year was comprised of 6 keynote lectures, 5 invited speeches, and the paper presentations were grouped into 40 oral sessions, and 2 poster 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.

Last but not least, we truly hope this conference will provide each one of you with not only a good platform for networking opportunities and interactions with other delegates from both the academics and industry, but also a memorable experience of your stay in Chengdu. At last, we appreciate your participation and support. 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,



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

For On-site Meetings

◆Conference Venue



成都帝盛酒店 Dorsett Chengdu

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◆Time Zone

GMT+8H / China Standard Time (CST)

◆Weather

Chengdu Forecast Temperatures from Dec. 10 to 13

9~14°C Partly Cloudy

◆Onsite Registration

Arrive at the hotel lobby, registration desk → Inform the conference staff of your paper ID → Sign-in → collect your conference kit.

◆Devices Provided by the Organizers

Laptops (with MS-Office & Adobe Reader) / Projectors & Screen / Laser Sticks

◆Materials Provided by the Presenters

*Onsite Oral Session: PowerPoint or PDF files.

*Online Oral Session: PowerPoint or PDF files.

*Onsite Poster Session: A1 (Length: 841mm, width:594mm)-sized poster. Please submit your poster by email and the conference organizer will help print and post it on site.

◆Duration of Each Presentation

Onsite/Online Oral Session: 12min for presentation, 3min for Q&A (15min for each paper).

Poster Session: 8min for presentation, 2min for Q&A (10min each paper).

◆Attention

※ Please wear your delegate badge (name tag) for all the conference activities. Lending your participant card to others is not allowed.

※ Please take good care of your valuables at any time during the conference. The conference organizer does not assume any responsibility for the loss of personal belongings of the participants during conference day.

※ Wear a Mask. Make sure your mask fits well with the nose clip. Avoid hands shaking and Skin-to-skin contact.

◆Contacts

ICCC 2021: iccc2015@vip.163.com / +86-13086600000



For Online Meetings

Zoom Guidance

Sign-in

To sign in, use your **Zoom**, **Google**, or **Facebook** account. You can also log in using **SSO**. Or you can click **Sign Up Free**.

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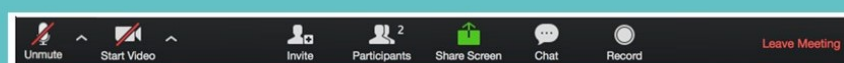
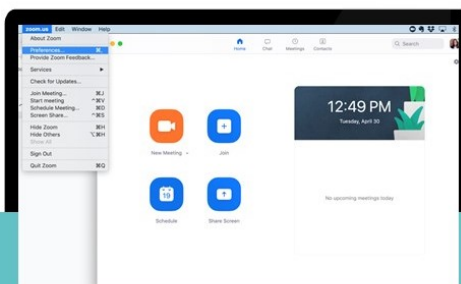
Each meeting has a unique **9, 10, or 11-digit** number called a **meeting ID** that will be required to join a Zoom meeting.

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Assistant 1

For any questions on the meeting day, you can text privately to "Assistant 1" for help.



Audio muted and video off (both indicated by a red slash).

Click to open the Participants box. This will allow you to "Raise Hand".

To share screen or contents.

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F	829 8380 0562	https://us02web.zoom.us/j/82983800562
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◆ Name Setting before Entry

Keynote Speaker: Keynote-Name

Author: Paper ID-Name

Committee: Position-Name

Listener: Listener-Name

◆ Zoom Pre-Test on December 9 (Thur.)-10 (Fri.)

[See page 12 for details.](#)

※ Participants who are going to do an **online presentation** are required to join the Zoom pre-test on December 10. Start from 9:30 A.M.

※ Please download the [Zoom App](#) and prepare your presentation slides before you take the pre-test.

※ Duration: 3~5 minutes apiece. Free to leave after your rehearsal is done.

◆ Note

※ The meeting room normally will open 30 minutes before the scheduled time. Please enter the room 10-15 minutes earlier.

※ For online participants, the certificate will be sent to you by e-mail after the conference.

◆ 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.

For ALL Online Presentations

※Participants who are going to do an online presentation are required to join the Zoom pre-test on Dec. 9-10.
Duration: 3~5 minutes apiece. Free to leave after your rehearsal is done. (所有作线上报告的参会者, 均需参加 12 月 9-10 日安排的 Zoom 测试, 以确保之后的线上会议有序进行。每篇文章 3-5 分钟, 完成即可离开 Zoom 会议室。)

December 09 (Thur.) Room B: 893 7247 0884 https://us02web.zoom.us/j/89372470884							
09:30~10:20	10:20~11:10	11:10~12:00	13:30~14:20	14:20~15:10	15:10~16:00	16:00~16:50	16:50~17:40
C322	C063	C328	C196	C027	C083	C026	C096
C036	C188	C183	C394	C304	C032	C220	C060+C061
C053	C289	C171	C195	C023	C245	C447	C194
C292	C296	C098	C219	C177	C299	C379	C057
C003	C189	C352	C075	C344	C477	C389	C101
C478	C431	C514	C294	C433	C181	C402	C426
C383	C479	C234	C115	C450	C121	C022	C161
C048	C480	C104	C367	C460	C099	C130	C1006
C489	C486	C1018	C498	C046	C126	C473	C042
C371	C347	C1003	C256	C207	C264	C442	C341
C204	C355		C462	C452	C312	C228	C034

December 09 (Thur.) Room C: 813 2093 9916 https://us02web.zoom.us/j/81320939916							
09:30~10:20	10:20~11:10	11:10~12:00	13:30~14:20	14:20~15:10	15:10~16:00	16:00~16:50	16:50~17:40
C481	C102	C093	C150	C049	C273	C456	C258
C399	C252	C345	C039	C495	C082	C356	C152
C232	C342	C143	C055	C203	C315	C225	C067
C287	C050	C122	C468	C125	C200	C1004+C141	C281
C378	C158	C457	C375	C165	C229	C377	C303
C410	C235	C336	C275	C154	C205	C397	C279
C508	C105	C148	C282	C359	C307	C490	C335
C155	C276	C041	C133	C011	C441	C314	C044
C376	C491	C180	C239	C127	C417	C316	C251
C135	C326	C388	C1005	C360	C285	C440	C238

ZOOM PRE-TEST

December 10 (Fri.) Room B: 893 7247 0884 https://us02web.zoom.us/j/89372470884							
09:30~10:20	10:20~11:10	11:10~12:00	13:30~14:20	14:20~15:10	15:10~16:00	16:00~16:50	16:50~17:40
C072	C363	C117	C1015	C139	C182	C250	C466
C051	C030+C114	C362	C040	C261	C190	C157	C422
C437	C366	C025	C357	C066	C293	C197	C248
C079	C380	C108	C391	C037	C517	C170	C106
C100	C047	C401	C400	C263	C085	C295	C434
C209	C365	C403	C463	C274	C033	C321	C318
C451	C464	C428	C469	C384	C138	C458	C449
C349	C488	C162	C175+C413	C020	C247	C519	C500
C482	C266	C240	C124	C311	C435	C097	C467
C136	C485	C192	C436	C062	C271	C112	C159
C475	C054	C325	C132	C329	C301	C242	C1013


December 10 (Fri.) Room C: 813 2093 9916 https://us02web.zoom.us/j/81320939916							
09:30~10:20	10:20~11:10	11:10~12:00	13:30~14:20	14:20~15:10	15:10~16:00	16:00~16:50	16:50~17:40
C081	C068	C073+C351	C1011	C474	C160	C283	C142
C077	C339	C210	C424	C408	C518	C317	C499
C382	C217	C092	C080	C327	C043	C120	C015
C324	C031	C390	C226	C179	C432	C131	C084
C103	C334	C405	C516	C310	C088	C246	C249
C147	C395	C461	C306	C407	C118	C425	C404
C305	C236	C504	C107	C506	C243	C259	C297
C503	C071	C087	C444	C218	C291	C340	C231
C446	C017	C496	C465	C019	C412	C373	C448
C1007	C319	C009	C472	C116	C470	C166	C1014
C411	C483	C439	C513	C330	C1002	C476	C364

Floor Plan



Session Time	December 10 Friday (GMT+8)	Venue
10:00~17:00	Registration & Conference Kits Collection	成都帝盛酒店 Dorsett Chengdu < Lobby, Level 1>
09:30~18:00	Zoom Pre-test for Online Presentations see page 12	Room B: 893 7247 0884 Room C: 813 2093 9916
16:00	Tutorial: What is HyFi? An Introduction to Hybrid LiFi and WiFi Networks	Room D: 825 7760 2341

	Onsite & Online 现场+线上
	Onsite 现场
	Online 线上

Session Time	December 11 Saturday (GMT+8)		Dorsett Ballroom 帝盛厅 7F	Room A: 962 9919 4800 https://zoom.us/j/96299194800
Conf. Host	Organizing Committee Co-Chair - Prof. Yang Yang, Sichuan University, China			 <i>ICCC Live Broadcast</i>
08:50~09:00	Welcome Address: Mrs. Tao Xiang, the Secretary General of Sichuan Institute of Electronics, China			
09:00~09:10	Opening Remarks: General Chair - Prof. Yulin Wang, Wuhan University, China			
09:10~09:20	TPC Chair Address: Conf. Co-Chair - Prof. Tianrui Li, Southwest Jiaotong University China COMMITTEE GROUP PHOTO			
09:20~10:05	Keynote Speech I: Beyond the Moore's Law: Technology Trends and the Challenging Prof. Jianguo Ma, Guangdong University of Technology, China			
10:05~10:40	COFFEE BREAK			
Conference Host	Conf. Program Chair - Prof. Jingsha He, Beijing University of Technology, China			
10:40~11:25	Keynote Speech II: Intelligent Fabric Agents in 6G Smart Space Prof. Min Chen, Huazhong University of Science and Technology, China			
11:25~12:10	Keynote Speech III: An Online Learning Approach to Network Application Optimization with Guarantee Prof. John C.S. Lui, The Chinese University of Hong Kong, Hong Kong (China)			
12:10~13:30	GROUP PHOTO 12:10-12:30 BUFFET LUNCH Yue Rong Café 悦蓉咖啡厅 2F 12:30-13:30			
	Meeting Room 会议室 3A, 7F Room A: 962 9919 4800	Meeting Room 会议室 3B, 7F Room B: 893 7247 0884	Meeting Room 会议室 9, 5F Room C: 813 2093 9916	Meeting Room 会议室 10, 5F
13:30~16:00	Onsite Session 1 Communication and Information Engineering C286, C443, C419, C332, C387, C370, C164, C358, C1009, C014	Onsite Session 2 Communication Principle and Space Communication C091, C421, C268, C038, C076, C455, C333, C277, C510	Onsite Session 3 Computer Network and Communication Security C149, C227, C415, C505, C244, C078, C233, C298, C343, C052, C509	Poster Session 1 Image Processing and Information Technology C163, C070, C005, C511, C398, C254, C110, C145, C113, C111
16:00~16:15	Coffee Break			

	Meeting Room 会议室 3A, 7F Room A: 962 9919 4800	Meeting Room 会议室 3B, 7F Room B: 893 7247 0884	Meeting Room 会议室 9, 5F Room C: 813 2093 9916	Meeting Room 会议室 10, 5F
16:15~18:45	Onsite Session 4 Microwave Technology and Antenna Design C223, C502, C368, C445, C224, C222, C416, C058, C221	Onsite Session 5 Computer Computing and Electronic Engineering C369, C320, C346, C354, C186, C492, C418, C454, C140, C288	Onsite Session 6 Image Analysis and Methods C438, C1008, C471, C069, C021, C024, C172, C065	Poster Session 2 Communication Engineering and Application C059, C272, C034, C134, C202, C459, C045, C137, C153
18:45~21:00	BUFFET DINNER Yue Rong Café 悦蓉咖啡厅 2F			

Session Time	December 12 Sunday (GMT+8)			Room A: 962 9919 4800 Link: https://zoom.us/j/96299194800			
Conf. Host	Conf. General Chair - Prof. Sheng-Uei Guan, Xi'an Jiaotong-Liverpool University, China						
09:00~09:20	Opening Remarks: <i>Conf. General Chairs</i> Prof. Sheng-Uei Guan, Xi'an Jiaotong-Liverpool University, China & Prof. Yutaka Ishibashi, Nagoya Institute of Technology, Japan						
09:20~10:05	Keynote Speech IV: <i>Integrated Multifunction System – A Game-Changing Technology for Future Wireless</i> Prof. Ke Wu, Polytechnique Montreal, Canada						
10:05~10:50	Keynote Speech V: <i>Borrowing Arrows with Thatched Boats: The Art of Defeating Reactive Jammers in IoT Networks</i> Prof. Dusit Niyato, Nanyang Technological University, Singapore						
10:50~11:10	GROUP PHOTO / BREAK TIME						
11:10~11:55	Keynote Speech VI: <i>Deep Learning for Physical Layer Communications: An Attempt towards 6G</i> Prof. Feifei Gao, Tsinghua University, China						
11:55~13:30	BREAK TIME						
	Room A 962 9919 4800	Room B 893 7247 0884	Room C 813 2093 9916	Room D 825 7760 2341	Room E 825 5149 1923	Room F 829 8380 0562	Room G 838 2213 4909
13:30~16:15	Online Session 1 Coding Theory and Technology C322, C036, C053, C292, C003, C478, C383, C048, C489, C371	Online Session 2 Computer Theory and Application C063, C188, C289, C296, C189, C431, C479, C480, C486, C347, C355	Online Session 3 Computer Network and Communication Security Invited Talk-Wenhui Yi C328, C183, C171, C098, C352, C514, C234, C104, C1018, C1003	Online Session 4 Channel Estimation and Antenna Design C196, C394, C195, C219, C075, C294, C115, C367, C498, C256, C462	Online Session 5 Electronic and Communication Engineering C027, C304, C023, C177, C344, C433, C450, C460, C046, C207, C452	Online Session 6 IOT and Future Communication Technology C083, C032, C245, C299, C477, C181, C121, C099, C126, C264, C312	Online Session 7 Space-Earth Integration Network and technology C026, C220, C447, C379, C389, C402, C022, C130, C473, C442, C228
16:15~16:30	BREAK TIME						

	Room A 962 9919 4800	Room B 893 7247 0884	Room C 813 2093 9916	Room D 825 7760 2341	Room E 825 5149 1923	Room F 829 8380 0562	Room G 838 2213 4909
16:30~19:00	Online Session 8 Modulation Theory and Technology C096, C060, C194, C057, C101, C426, C161, C061, C1006, C034	Online Session 9 Data Routing Algorithm and Design C481, C399, C232, C287, C378, C410, C508, C155, C376, C135	Online Session 10 Object Detection and Video Processing C102, C252, C342, C050, C158, C235, C105, C276, C491, C326	Online Session 11 Satellite Engineering and Space Communication C093, C345, C143, C122, C457, C336, C148, C041, C180, C388	Online Session 12 Network Model and Network Resource Management C150, C039, C055, C468, C375, C275, C282, C239, C1005	Online Session 13 Image Analysis and Methods Invited Talk-Yabin Xu C049, C495, C203, C125, C165, C154, C359, C011, C127, C360, C184	Online Session 14 Signal Acquisition and Analysis C273, C082, C315, C200, C229, C205, C307, C441, C417, C238

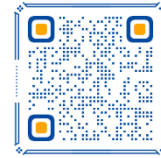
Session Time	December 13 Monday (GMT+8)						
	Room A 962 9919 4800	Room B 893 7247 0884	Room C 813 2093 9916	Room D 825 7760 2341	Room E 825 5149 1923	Room F 829 8380 0562	Room G 838 2213 4909
09:30~12:15	Online Session 15 Computer Model and Mathematical Calculation C285, C456, C356, C225, C1004, C377, C397, C490, C314, C316, C440	Online Session 16 Communication and Information System C258, C152, C067, C281, C303, C279, C335, C044, C251, C141, C042	Online Session 17 Computer and Electrical Engineering C072, C051, C437, C079, C100, C209, C451, C349, C482, C136, C475	Online Session 18 Optical Communication and Optical Network C363, C030, C366, C380, C047, C365, C464, C488, C266, C114	Online Session 19 Software and Data Engineering C117, C362, C025, C108, C401, C403, C428, C162, C240, C192, C325	Online Session 20 Image Classification Invited Talk-Wei Zou C1015, C040, C357, C391, C400, C463, C469, C175, C124, C436, C132	Online Session 21 Knowledge and Information Engineering C139, C261, C066, C037, C263, C274, C384, C020, C311, C062
12:15~13:30	BREAK TIME						
13:30~16:00	Online Session 22 Wireless Sensor Network and Wireless Communication C182, C190, C293, C517, C085, C033, C138, C247, C435, C271	Online Session 23 Digital Image Processing and Application Invited Talk-Xiwen Zhang C250, C157, C197, C170, C295, C321, C413, C458, C519	Online Session 24 Advanced Blockchain Technology and Security Management C466, C422, C248, C106, C434, C318, C449, C500	Online Session 25 Algorithm Design, Optimization and Calculation C467, C159, C1013, C097, C112, C301, C329, C485, C204, C341	Online Session 26 Machine Learning and Neural Networks C133, C081, C077, C382, C324, C103, C147, C305, C503, C446, C1007	Online Session 27 Mobile Computing and High-Performance Computing C068, C339, C217, C031, C334, C395, C236, C071, C017, C319	Online Session 28 Modern Cryptography and Information Security C073, C210, C092, C390, C405, C461, C504, C087, C351, C496
16:00~16:15	BREAK TIME						

	Room A 962 9919 4800	Room B 893 7247 0884	Room C 813 2093 9916	Room D 825 7760 2341	Room E 825 5149 1923	Room F 829 8380 0562
16:15~19:00	Online Session 29 Signal Detection and Recognition C1011, C424, C080, C226, C516, C306, C107, C444, C465, C472, C513	Online Session 30 3D Model and Image Inspection C474, C408, C327, C179, C310, C407, C506, C218, C019, C116, C330	Online Session 31 Target Detection C160, C518, C043, C432, C088, C118, C243, C291, C412, C470, C1002	Online Session 32 Face Recognition and Image Recognition Invited Talk–Chutisant Kerdvibulvech C283, C317, C120, C131, C246, C425, C259, C340, C373	Online Session 33 Unmanned System and Intelligent Control Technology C142, C499, C015, C084, C249, C404, C297, C231	Online Session 34 Electronic Information Engineering and Application C166, C476, C448, C1014, C411, C483, C009, C364, C054, C242, C439
19:30~20:00	CLOSING SESSION & BEST PAPER AWARDING 2021 Room A: 962 9919 4800					

Saturday, December 11

09:20~10:05 Dorsett Ballroom 帝盛厅 7F

Room A: 962 9919 4800

Link: <https://zoom.us/j/96299194800>

ICCC Live Broadcast



Beyond the Moore's Law: Technology Trends and the Challenging

Jianguo Ma

Professor, Fellow of the IEEE, Guangdong University of Technology, China

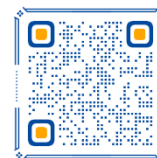
There two keys for the Moore's Law: Everything is predictable and the fabrication cost per transistor is declining 40% per year as keeping the same performances. Unfortunately, starting from 90nm technology note the cost of making the transistor cannot keep the Moore's Law and even, then the note reached to 28nm technology the cost is at the minimum. Further decreasing the seizes the cost is increasing dramatically, that is so-called the 'End of Moore's Law'. The trends of beyond the Moore's Law are application-driven, accelerated-technology innovations (ATI) will become the key. The new driven-motors will be Automotive chips, Industrial-application specific integrated circuits (IASIC), and the healthcare ICs.

Bio: Jianguo Ma (Fellow, IEEE) received the B.Sc. and M.Sc. degrees from Lanzhou University, Lanzhou, China, in 1982 and 1988, respectively, and the Ph.D. degree in engineering from Duisburg University, Duisburg, Germany, in 1996. He was a Post-Doctoral Fellow with the Technical University of Nova Scotia, Halifax, NS, Canada, from 1996 to 1997. He was a Faculty Member with Nanyang Technological University, Singapore, from 1997 to 2005, where he was also the Founding Director of the Center for Integrated Circuits and Systems. From 2005 to 2009, he was with the University of Electronic Science and Technology of China, Chengdu, China. He has been the Technical Director with the Tianjin IC Design Center since 2008, where he has been the Dean of the School of Electronic Information Engineering, Tianjin University, from 2009 to 2016. He is currently with the School of Computer Science and Technology, Guangdong University of Technology, Guangzhou, China. He has authored or coauthored about 245 technical articles, 6 U.S. patents granted and 15 filed/granted China patents, and 2 books. His current research interests include RFICs and RF integrated systems for wireless, RF device characterization modeling, monolithic microwave integrated circuit (MMIC), RF/microwave circuits and systems, and electromagnetic interference (EMI) in wireless, radio frequency identification (RFID), and wireless sensing networks. Dr. Ma is currently serving as a member of the Editorial Board for the Proceedings of the IEEE. He served as the Associate Editor for the IEEE Microwave and Components Letters from 2004 to 2005. He was a recipient of the prestigious Changjiang (Yangtze) Scholar Award of the Ministry of Education of China in 2007. He was also a recipient of the Distinguished Young Investigator Award of the National Natural Science Foundation of China in 2006.

Saturday, December 11

10:40~11:25 Dorsett Ballroom 帝盛厅 7F

Room A: 962 9919 4800

Link: <https://zoom.us/j/96299194800>*ICCC Live Broadcast*

Intelligent Fabric Agents in 6G Smart Space

Min Chen

Professor, Fellow of the IEEE, Huazhong University of Science and Technology, China

In 6G network, the realization of a terminal intelligence for cognizing user's need via embedded AI algorithms, to support ultra-low latency, non-intrusive and immersive service experience, is a new challenge compared to the existing 5G technologies. This talk introduces the development of various functional fabrics, which have provided brand-new thoughts for generating valuable "fabric" data interconnected by edge clouds and visualization system to embrace 6G digital intelligent world. In this talk, the smart fabric space empowered by intelligent fabric agents, is presented to deliver multidimensional sensory data and interactive information for enabling various 6G smart space applications in sport, healthcare and medical scenarios.

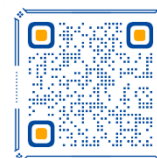
Bio: Min Chen is a full professor in School of Computer Science and Technology at Huazhong University of Science and Technology (HUST) since Feb. 2012. He is the director of Embedded and Pervasive Computing (EPIC) Lab, and the director of Data Engineering Institute at HUST. He is the founding Chair of IEEE Computer Society (CS) Special Technical Communities (STC) on Big Data. He was an assistant professor in School of Computer Science and Engineering at Seoul National University (SNU). He worked as a Post-Doctoral Fellow in Department of Electrical and Computer Engineering at University of British Columbia (UBC) for three years. Before joining UBC, he was a Post-Doctoral Fellow at SNU for one and half years. He has 300+ publications, including 200+ SCI papers, 100+ IEEE Trans./Journal papers, 34 ESI highly cited papers and 12 ESI hot papers. He has published 12 books, including Cognitive Computing and Deep Learning (2018) with China Machine Press and Big Data Analytics for Cloud/IoT and Cognitive Computing (2017) with Wiley. His Google Scholar Citations reached 28,500+ with an h-index of 82 and i10-index of 250. His top paper was cited 3,200+ times. He was selected as Highly Cited Researcher at 2018, 2019 and 2020. He got IEEE Communications Society Fred W. Ellersick Prize in 2017, and the IEEE Jack Neubauer Memorial Award in 2019. His research focuses on cognitive computing, 5G Networks, wearable computing, big data analytics, robotics, machine learning, deep learning, emotion detection, and mobile edge computing, etc. Min Chen is a Fellow of IEEE.

Saturday, December 11

11:25~12:10 Dorsett Ballroom 帝盛厅 7F

Room A: 962 9919 4800

Link: <https://zoom.us/j/96299194800>



ICCC Live Broadcast



An Online Learning Approach to Network Application Optimization with Guarantee

John C.S. Lui

Professor, Fellow of ACM, Fellow of IEEE, The Chinese University of Hong Kong, Hong Kong

Network application optimization is essential for improving the performance of the application as well as its user experience. The network application parameters are crucial in making proper decisions for network application optimizations. However, many existing works are impractical by assuming a priori knowledge of the parameters which are usually unknown and need to be estimated. There have been studies that consider optimizing network application in an online learning context using multi-armed bandit models. However, existing frameworks are problematic as they only consider to find the optimal decisions to minimize the regret, but neglect the constraints (or guarantee) requirements which may be excessively violated. In this work, we first propose a novel online learning framework for network application optimizations with guarantee. To the best of our knowledge, we are the first to formulate the stochastic constrained multi-armed bandit model with time-varying “multi-level rewards” by taking both “regret” and “violation” into consideration. We are also the first to design a constrained bandit policy, Learning with Minimum Guarantee (LMG), with provable sub-linear regret and violation bounds. We illustrate how our framework can be applied to several emerging network application optimizations, namely, (1) opportunistic multichannel selection, (2) data-guaranteed crowdsensing, and (3) stability-guaranteed crowdsourced transcoding. To show the effectiveness of LMG in optimizing these applications with different minimum requirements, we also conduct extensive simulations by comparing LMG with existing state-of-the-art policies.

Bio: John C.S. Lui is currently the Choh-Ming Li Chair Professor in the CSE Department at The Chinese University of Hong Kong (CUHK). He received his Ph.D. in Computer Science from UCLA. His current research interests are in network sciences with large data implications, machine learning on large data analytics, network/system/mobile security, network economics, large scale distributed systems and performance evaluation theory. Currently, John is the senior editor in the IEEE/ACM Transactions on Networking, and has been serving in the editorial board of IEEE Transactions on Mobile Computing, ACM Transactions on Modeling and Performance Evaluation of Computing Systems, IEEE Transactions on Computers, IEEE Transactions on Parallel and Distributed Systems, Journal of Performance Evaluation, Journal of Network Science and International Journal of Network Security. He is a member of the review panel in the IEEE Koji Kobayashi Computers and Communications Award committee, and has served at the IEEE Fellow Review Committee. He received various departmental teaching awards and the CUHK Vice-Chancellor's Exemplary Teaching Award, as well as the CUHK Faculty of Engineering Research Excellence Award. He is an elected member of the IFIP WG 7.3, Fellow of ACM, Fellow of IEEE, Senior Research Fellow of the Croucher Foundation and was the past chair of the ACM SIGMETRICS (2011-2015). His personal interests include films and general reading.

Sunday, December 12

09:20~10:05

Room A: 962 9919 4800

Link: <https://zoom.us/j/96299194800>*ICCC Live Broadcast*

Integrated Multifunction System – A Game-Changing Technology for Future Wireless

Ke Wu

Professor, Fellow of the IEEE, Polytechnique Montreal, Canada

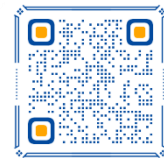
Recent research and development of hardware architectures and technologies over MHz-through-THz frequency range have generated a significant momentum for future wireless applications. This leap forward is being propelled by the organic fusion of multiple functions and the scalable integration of multiple technologies through heterogeneous materials and innovative processes. This presentation begins with the overview of fundamental wireless functionalities. Emerging diversity scenarios and integration solutions in wireless technologies are reviewed in connection with performance and efficiency. Technological roadmap is highlighted with reference to enabling and building technological elements, ranging from current and emerging compound materials to evolving and beyond CMOS, and from developing substrate integrations to future electromagnetic techniques. The talk provides a brief tour of the state-of-the-art and future wireless systems featured by multifunctional interplay and integrated architecture with power efficiency and spectrum diversity for ultimate intelligence. Challenging issues and future directions of wireless technology and system development including xG and beyond are discussed.

Bio: Dr. Ke Wu is Endowed Industrial Research Chair in Future Wireless Technologies and Professor of Electrical Engineering at École Polytechnique (University of Montreal). He was the Canada Research Chair in RF and millimeter-wave engineering. He has been Director of the Poly-Grames Research Center and the Founding Director of the Center for Radiofrequency Electronics Research of Quebec. He held/holds visiting/honorary professorships at various universities around the world. Dr. Wu has graduated over 66 Ph.D. and 91 M.Sc. Students. He has authored/co-authored over 1300 referred papers, and a number of books and book chapters and filed more than 50 patents. Dr. Wu was the general chair of the 2012 IEEE MTT-S International Microwave Symposium. He was the 2016 President of the IEEE Microwave Theory and Techniques Society (MTT-S). He also served as the inaugural North-American representative in the General Assembly of the European Microwave Association. He was the recipient of many awards and prizes including the inaugural IEEE MTT-S Outstanding Young Engineer Award, 2004 Fessenden Medal of the IEEE Canada, 2009 Thomas W. Eadie Medal from the Royal Society of Canada, Queen Elizabeth II Diamond Jubilee Medal, 2013 Award of Merit of Federation of Chinese Canadian Professionals, 2014 IEEE MTT-S Microwave Application Award, the 2014 Marie-Victorin Prize (Prix du Quebec), 2015 Prix d'Excellence en Recherche et Innovation of Polytechnique Montréal, 2015 IEEE Montreal Section Gold Medal of Achievement, and 2019 IEEE MTT-S Microwave Prize. He was an IEEE MTT-S Distinguished Microwave Lecturer. Dr. Ke Wu is a Fellow of the IEEE, Canadian Academy of Engineering and Royal Society of Canada.

Sunday, December 12

10:05~10:50

Room A: 962 9919 4800

Link: <https://zoom.us/j/96299194800>*ICCC Live Broadcast*

Borrowing Arrows with Thatched Boats: The Art of Defeating Reactive Jammers in IoT Networks

Dusit Niyato

Professor, Fellow of the IEEE, Nanyang Technological University, Singapore

In this presentation, we introduce a novel deception strategy which is inspired by the "Borrowing Arrows with Thatched Boats" (Cǎo chuán jiè jiàn 草船借箭) strategy, one of the most famous military tactics in the history noted in historical fiction series A Romance of Three Kingdoms. The purpose is to defeat reactive jamming attacks for low-power Internet-of-Things (IoT) networks. Our proposed strategy allows resource-constrained IoT devices to be able to defeat powerful reactive jammers by leveraging their own jamming signals. More specifically, by stimulating the jammer to attack the channel through transmitting fake transmissions, the IoT system can not only undermine the jammer's power, but also harvest energy or utilize jamming signals as a communication means to transmit data through using Radio Frequency (RF) energy harvesting and ambient backscatter techniques, respectively. Furthermore, we develop a low-cost deep reinforcement learning framework that enables the hardware constrained IoT device to quickly obtain an optimal defense policy without requiring any information about the jammer in advance. Simulation results reveal that our proposed framework can not only be very effective in defeating reactive jamming attacks, but also leverage jammer's power to enhance system performance for the IoT network.

Bio: Dusit Niyato is currently a professor in the School of Computer Science and Engineering, Nanyang Technological University, Singapore. He received B.E. from King Mongkuk's Institute of Technology Ladkrabang (KMITL), Thailand in 1999 and Ph.D. in Electrical and Computer Engineering from the University of Manitoba, Canada in 2008. He has published more than 600 technical papers in the area of wireless and mobile networking, and is an inventor of four US and German patents. He won the Best Young Researcher Award of IEEE Communications Society (ComSoc) Asia Pacific (AP) and The 2011 IEEE Communications Society Fred W. Ellersick Prize Paper Award. Currently, he is serving as an editor-in-chief of IEEE Communications Surveys and Tutorials, an area editor of IEEE Transactions on Wireless Communications (Radio Management and Multiple Access), an associate editor of IEEE Transactions on Mobile Computing, IEEE Transactions on Vehicular Technology, IEEE Transactions on Cognitive Communications and Networking, and IEEE Wireless Communications. He was a guest editor of IEEE Journal on Selected Areas on Communications. He was a Distinguished Lecturer of the IEEE Communications Society for 2016-2017. He was named the 2020-2017 highly cited researcher in computer science. He is a Fellow of IEEE.

Sunday, December 12

11:10~11:55

Room A: 962 9919 4800

Link: <https://zoom.us/j/96299194800>*ICCC Live Broadcast*

Deep Learning for Physical Layer Communications: An Attempt towards 6G

Feifei Gao

Associate Professor, Fellow of the IEEE, Tsinghua University, China

Merging artificial intelligence in to the system design has appeared as a new trend in wireless communications areas and has been deemed as one of the 6G technologies. In this talk, we will present how to apply the deep neural network (DNN) for various aspects of physical layer communications design, including the channel estimation, channel prediction, channel feedback, data detection, and beamforming, etc. We will also present a promising new approach that is driven by both the communications data and the communication models. It will be seen that the DNN can be used to enhance the performance of the existing technologies once there is model mismatch. More interestingly, we will show that applying DNN can deal with the conventionally unsolvable problems, thanks to the universal approximation capability of DNN. With the well-defined propagation model in communication areas, we also attempt to explain the DNN under the scenario of channel estimation and reach a strong conclusion that DNN can always provide the asymptotically optimal channel estimations. We have also built test-bed to show the effectiveness of the AI aided wireless communications. In all, DNN is shown to be a very powerful tool for communications and would make the communications protocols more intelligently. Nevertheless, as a new born stuff, one should carefully select suitable scenarios for applying DNN rather than simply spreading it everywhere.

Bio: Feifei Gao received the B.Eng. degree from Xi'an Jiaotong University, China in 2002, the M.Sc. degree from McMaster University, Canada in 2004, and the Ph.D. degree from National University of Singapore in 2007. He was a Research Fellow with the Institute for Infocomm Research (I2R), A*STAR, Singapore in 2008 and an Assistant Professor with the School of Engineering and Science, Jacobs University, Bremen, Germany from 2009 to 2010. In 2011, he joined the Department of Automation, Tsinghua University, China, where he is currently an Associate Professor.

Prof. Gao's research interest include signal processing for communications, array signal processing, convex optimizations, and artificial intelligence assisted communications. He has authored/ coauthored more than 150 refereed IEEE journal papers and more than 150 IEEE conference proceeding papers that are cited more than 8000 times in Google Scholar.

Prof. Gao has served as an Editor of IEEE Transactions on Wireless Communications, IEEE Journal of Selected Topics in Signal Processing (Lead Guest Editor), IEEE Transactions on Cognitive Communications and Networking, IEEE Signal Processing Letters, IEEE Communications Letters, IEEE Wireless Communications Letters, and China Communications. He has also served as the symposium co-chair for 2019 IEEE Conference on Communications (ICC), 2018 IEEE Vehicular Technology Conference Spring (VTC), 2015 IEEE Conference on Communications (ICC), 2014 IEEE Global Communications Conference (GLOBECOM), 2014 IEEE Vehicular Technology Conference Fall (VTC), as well as Technical Committee Members for more than 50 IEEE conferences.



Wenhui Yi

Associate Professor, Xi'an Jiaotong University, China

Wenhui Yi received the B.S., M.S., and Ph.D. degree from Xi'an Jiaotong University in 1996, 1999, and 2004 respectively. He was a Research Fellow in University of Akron, USA from 2007 to 2008. He was a visiting scholar in Massachusetts Institute of Technology from 2011 to 2013. He joined School of Electronics and Information Science and Engineering, Xi'an Jiaotong University in 2001, where he is currently an Associate Professor. Prof. Yi's current research interests include carbon-nanotube-based integrated circuits and computers, and THz generation from carbon nanotubes.

<13:30~13:50, Dec. 12> Room C: 813 2093 9916. <https://us02web.zoom.us/j/81320939916>

Carbon-Nanotube-Based Integrated Circuits: From Field-Effect Transistors to All Carbon Nanotube Computers

It is widely accepted that the scaling of silicon-based integrated circuits which offers historical energy-efficiency benefits will come to an end in near future. Alternative technologies maintaining advances in computing power and energy efficiency are highly desirable. With the continuously rapid development of carbon-nanotube-based integrated circuits, it is anticipated that carbon-nanotube-based integrated circuits would be one of the most promising candidates. Here, we review the advances, and explore the potential of carbonnanotube-based integrated circuits. We also examine the development of high purity semiconducting carbon nanotubes (s-SWCNTs) and CMOS field-effect transistors based on s-SWCNTs. Beyond the achievements and perspectives, the challenges in realizing carbonnanotube-based large-scale integrated circuits and all carbon nanotube computers are also considered.



Yabin Xu

Professor, Beijing Information Science and Technology University, China

Prof. Ya-bin Xu, Director, Big data security technology research institute, Beijing Information Science and Technology University. Professor, Computer school, Beijing information science and technology university. Research interests: big data security and privacy protection, social network and security, future network and security. A senior member of China computer society, the Internet branch committee member. Member of China association of artificial intelligence. Member of China communication association, cloud computing and big data branch committee member, education and popularization branch committee member. Published more than 100 papers in SCI journals, EI journals, Chinese core journals and international academic conference.

<16:30~16:50, Dec. 12> Room F: 829 8380 0562. <https://us02web.zoom.us/j/82983800562>

Copyright Protection Method of Big Data Based on Color Image Watermark

Data watermarking technology is an effective means of copyright protection of big data. In order to embed more real and effective color image watermarking information, firstly, based on JPEG image coding standard algorithm, the color image is compressed without affecting the image quality, so as to reduce the embedded watermark information. Then, the watermark is embedded in two dimensions: data tuple and attribute. Finally, under the constraint of data usability, the lowest bit of watermark embedding is calculated and the data is changed to complete the watermark bit embedding. In order to verify the copyright ownership of big data, this paper also presents the corresponding watermark extraction method. Watermark extraction is the reverse process of watermark embedding. First, traverse all tuples and attributes to extract the possible embedded bit values in each attribute element. Then, the actual embedded watermark bit string is determined by majority voting strategy, and the color image is restored after decoding the watermark bit string. Experimental results show that our proposed method can extract color image watermarking information under different attack conditions, the robustness of watermark is high, and the comprehensive effect of data watermark is better than the existing methods.



Wei Zou

Associate Professor, Soochow University, China

Dr Wei Zou is currently an associate professor at the School of Electronics and Information Engineering, Soochow University. He is also the deputy director of Department of Communication Engineering. He worked as a Research Assistant in Hong Kong Polytechnic University in 2006. He was awarded a scholarship under the State Scholarship Fund to study in the University of Sydney as a joint PhD student from 2008 to 2010. He has published a number of impact research papers in the flagship journals of SPIE, BMC, and OSA. His current research interests include image reconstruction, medical imaging, and image processing.

<09:30~09:50, Dec. 13> Room F: 829 8380 0562. <https://us02web.zoom.us/j/82983800562>

Fluorescent Molecular Tomographic Image Reconstruction

Optical molecular imaging has been receiving much attention due to its nonionizing, low cost, and high sensitivity. Among the optical molecular imaging modalities, fluorescence molecular tomography (FMT) plays an extremely important role because of its abilities to reconstruct the spatial distribution of optical parameters, the fluorescent yield, the fluorescent lifetime, etc. In this talk, we will focus on the two problems involved in FMT reconstruction: the forward problem and the inverse problem. We will also present the efficient algorithms for image reconstruction of FMT.



Xiwen Zhang

Professor, Beijing Language and Culture University, China

Xiwen Zhang is currently a full professor in Department of Digital Media, School of Information Science, the Beijing Language and Culture University. He worked as an associated professor at the Human-computer interaction Laboratory, Institute of Software, Chinese Academy of Sciences from 2002 to 2007. Prof. Zhang's research interests include pattern recognition, computer vision, and their applications in digital image, digital video, as well as digital ink. Prof. Zhang has published over 60 refereed journal and conference papers in his research areas. His SCI paper are published in Pattern Recognition, IEEE Transactions on Systems, Man, and Cybernetics - Part B: Cybernetics, Computer-Aided Design.

<13:30~13:50, Dec. 13> Room B: 893 7247 0884. <https://us02web.zoom.us/j/89372470884>

Intelligently Extracting Information from Digital Ink Chinese Text by Junior International Students

Chinese characters have complex structures. Their writing plays an import role in learning Chinese. Junior international students can use digital pen to record their handwriting as digital ink. Various information can be extracted from the digital ink text, such as text line, Chinese characters, stroke errors, shape normalization. Some intelligent methods are used to extract information in our work, such as adaptive segmentation based on histogram, classification using Hidden Markov Model and Hidden Conditional Random Field, stroke matching using Genetic Algorithm, evaluating the normalization for entire characters and their components using knowledge bases. Digital ink is a new media compared with digital image and digital video. It is captured using digital pen from handwriting and freehand drawing. Various digital pens are used with pads, smart phones, papers. Point samples are captured by digital pens, containing positions, time stamp, and pressures. Digital ink can capture more information in handwriting with less data. [More details](#)



Chutisant Kerdvibulvech

Associate Professor, National Institute of Development Administration, Thailand

Chutisant Kerdvibulvech is currently the Director of Information Technology Center, National Institute of Development Administration (NIDA), Bangkok, Thailand. He was selected to be one of the 10 most promising PhD scholars around the world to appear in the book entitled "Secrets of Promising PhD Scholars Revealed" by Enzed Publishing House Ltd, New Zealand. He received B.Eng. (Honors) in Computer Engineering from Chulalongkorn University, Bangkok, Thailand, M.Sc.Eng. and Ph.D. in Computer Engineering from Keio University, Tokyo, Japan. His research interests include computer vision, artificial intelligence, augmented reality, and metaverse.

<16:15~16:35, Dec. 13> Room D: 825 7760 2341. <https://us02web.zoom.us/j/82577602341>

Artificial Intelligence on Computer and Communications for Image Analytics

Artificial Intelligence for image analytics is now a popular growing field in information technology, computer science, and communication. In this talk, we introduce real-world applications of artificial intelligence on computer and communications for image analytics in recent years. Our recent works of artificial intelligence for image analytics and augmented reality are also presented. We then explore the possibilities of utilizing of artificial intelligence and big data for image analytics to solve some critical and/or important pain points of today's people, such as technical supports in engineering, health and medical issues, social media analytics for communication, image violence detections, and some specific problems during the COVID-19 pandemic. Finally, we give a conclusion and present a future scenario for artificial intelligence on computer and communications for image analytics in this new digital era.

FRIDAY, DEC. 10 Start from 16:00

Room D: 825 7760 2341 | <https://us02web.zoom.us/j/82577602341>

Title: What is HyFi? An Introduction to Hybrid LiFi and WiFi Networks

Presenter:	Xiping Wu
Affiliation:	University College Dublin, Ireland
Short bio:	<p>Xiping Wu received the Ph.D. degree from the University of Edinburgh in 2015. He is currently an Assistant Professor in the School of Electrical and Electronic Engineering at University College Dublin (UCD). Prior to joining UCD, he was a Research Fellow at University of Oxford. His main research interests are in the areas of 6G mobile communications, optical wireless communications (OWC) and the Internet of Things (IoT). A particular focus is on developing hybrid networks that integrate OWC and radio frequency (RF), empowered by software-defined networking (SDN) and artificial intelligence (AI). He has authored or co-authored over 50 journal and conference articles in these areas, attracting more than 1000 citations with a google scholar h-index of 19. He is a Senior Member of IEEE and a regular reviewer for multiple prestigious journals and conferences. He was a technical program committee member for IEEE GLOBECOM 2020 and IEEE VTC Fall 2018. He also served as a session chair for IEEE conferences including IEEE WCNC 2017, IEEE PIMRC 2015, IEEE ICC 2014, etc.</p>
Description:	<p>To tackle the rapidly growing number of mobile devices and their expanding demands for Internet services, network convergence is envisaged to integrate different technology domains in the 6G era. For indoor wireless communications, one promising approach is to coordinate light fidelity (LiFi) and wireless fidelity (WiFi), namely hybrid LiFi and WiFi networks (HyFi). This emerging hybrid network, which combines the high-speed data transmission of LiFi and the ubiquitous coverage of WiFi, would redefine the network architecture and potentially enhance network capacity as well as flexibility. This tutorial will present a comprehensive introduction to HyFi, starting with the system framework in terms of network architectures, cell deployments, multiple access and modulation schemes, illumination requirements and backhaul. Afterwards, key performance metrics and recent achievements are summarized to demonstrate the superiority of HyFi against stand-alone networks. Further, the unique challenges facing HyFi are elaborated on four key research topics: user behavior modeling, interference management, handover, and load balancing. Finally, the potential of HyFi in the application areas is presented, exemplified by indoor positioning and physical layer security.</p>

Expected audience:

Background of audience: wireless communications

Expected number of attendees: 30

SATURDAY, DEC. 11

13:30~16:00 | Meeting Room 会议室 3A, 7F

Room A: 962 9919 4800 | <https://zoom.us/j/96299194800>

Onsite Session 1: Communication and Information Engineering

Session Chair: Prof. Ming Jiang, Sun Yat-sen University, China

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C286	A Low-complexity Variational Bayesian Learning Algorithm on Channel Estimation Using Group Sparse Structure Sheng Zhang , CAS Key Laboratory of Wireless-Optical Communications, USTC, China
13:45~14:00	C443	Radio Modulation Classification Using STFT Spectrogram and CNN Yi Zhong , Southwest China Research Institute of Electronic Equipment, China
14:00~14:15	C419	Channel Characteristics for 5G in Urban Rail Station at 3.5 GHz Based on Ray-Tracing Pei Tang , China Railway Siyuan Survey and Design Group Co., LTD., China
14:15~14:30	C332	Joint Line Search and ALS Channel Estimation for Intelligent Reflective Surface Assisted MIMO System Jiye Luo , Southwest Jiaotong University, China
14:30~14:45	C387	Inter-Cluster Interference Minimization Based Nonlinear Precoder for MIMO-NOMA Systems Jia Zhang , Xi'an Jiaotong University, China
14:45~15:00	C370	Low Complexity Hybrid Beamforming for Intelligent Reflecting Surface Aided Communication Systems with One-Bit DACs Yuan Huang , Jinan University, China
15:00~15:15	C164	Asynchronous Hybrid Indoor Positioning System Based on Inertial Navigation and Pseudo-Miller-coding Aided Visible Light Positioning Ming Jiang , Sun Yat-sen University, China
15:15~15:30	C358	Available Closed-Form Solutions for the K(K > 3) Interference Alignment System Weihua Liu , Zhengzhou University of Light Industry, China
15:30~15:45	C1009	Analysis of Self-assembly Cooperative Link Technology of Helicopter-borne UAV Bee Ming-ming GUO , Army Aviation Institute, China
15:45~16:00	C014	A2C Deep Reinforcement Learning-based MEC Network for Offloading and Resource Allocation Haoran Cui , Beijing University of Posts and Telecommunications, China

SATURDAY, DEC. 11

13:30~15:45 | Meeting Room 会议室 3B, 7F

Room B: 893 7247 0884 | <https://us02web.zoom.us/j/89372470884>

Onsite Session 2: Communication Principle and Space Communication

Session Chair:

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C091	Fast and Efficient Physical Layer Secret Key Generation over Static Wireless Channels Jie Tang , <i>University of Electronic Science and Technology of China, China</i>
13:45~14:00	C421	A hybrid AES encryption for IOT using Adversarial Network Yi Zhao , <i>Chang'An University, China</i>
14:00~14:15	C268	User selection and Leakage-based precoding for coordinated dual-satellite system Xinqian Wang , <i>University of Science And Technology Of China, China</i>
14:15~14:30	C038	A Handover Strategy Based on User Dynamic Preference for LEO Satellite YiHan Lei , <i>He'nan Province Key Laboratory of Information Security, China</i>
14:30~14:45	C076	A Low-Complexity CP-Free OFDM Design For NB- IoT Networks Wentong Han , <i>Shandong University, China</i>
14:45~15:00	C455	Demand-based Scheduling with Sum-rate Maximization for Multiuser Multibeam Satellite Systems Na Li , <i>University of Science and Technology of China, China</i>
15:00~15:15	C333	Joint DOA and TOA Estimation for Multipath OFDM Signals Based on Gram Matrix Tong Yu , <i>University of Science and Technology of China, China</i>
15:15~15:30	C277	A variable step-size mixed modulated Lagrange explicit time delay estimation algorithm Qiang Tang , <i>Strategic Support Force Information Engineering University, China</i>
15:30~15:45	C510	A Joint PAPR Suppression Scheme of DSSS-GFDM System using DFT Precoding and Clipping for Satellite Communications Huanyu Liu , <i>Sun Yat-sen University, China</i>

SATURDAY, DEC. 11

13:30~16:15 | Meeting Room 会议室 9, 5F

Room C: 813 2093 9916 | <https://us02web.zoom.us/j/81320939916>

Onsite Session 3: Computer Network and Communication Security

Session Chair:

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C149	Layered Security Multicast Algorithm based on Security Energy Efficiency Maximization in SCMA Networks Lei Chen , Criminal Investigation Police University of China, china
13:45~14:00	C227	Stochastic Perturbation-based Physical-Layer Secret Key Generation in Quasi-Static Scene Jianghao Jiao , Southeast University, China
14:00~14:15	C415	Research on Automated Cyber Asset Scanning Tools based on Cybersecurity Knowledge Graph Xiaofeng Zhong , National University of Defense Technology, China
14:15~14:30	C505	Website Security Assessment for Xizang Universities Using ANFIS-PSO Model Pengju Zhou , Xizang Minzu University, China
14:30~14:45	C244	An Approach to Transmitting URLLC Data with Different Latency Requirements over eMBB Services Based on Deep Reinforcement Learning Xiangyu Zhu , Southeast University, China
14:45~15:00	C078	Joint Resource Allocation for Online and Offline Tasks in Data Centers Liwan Lin , State Key Laboratory of Integrated Service Networks, Xidian University, China
15:00~15:15	C233	Formalization of the Secrecy Capacity in Non-degraded Wiretap Channel Xing Guo , Southeast University, China
15:15~15:30	C298	MTdt:Enabling Meta-Transactions for Data Tracking of Industrial Workflow Minghao Tang , University of Chinese Academy of Sciences, China
15:30~15:45	C343	KMRE: An Efficient and Compatible Runtime to Execute Android Application on Linux System Xiaodong Liu , National University of Defense Technology, China
15:45~16:00	C052	Mobility-aware Predictive Computation Offloading and Task Scheduling for Mobile Edge Computing Networks Huixin Li , Beijing University of Technology, Beijing, China
16:00~16:15	C509	Handover Authentication Mechanism Based on Consensus and Ticket for Space Information Network Mengda Han , He'nan Province Key Laboratory, China

SATURDAY, DEC. 11

16:15~18:30 | Meeting Room 会议室 3A, 7F

Room A: 962 9919 4800 | <https://zoom.us/j/96299194800>

Onsite Session 4: Microwave Technology and Antenna Design

Session Chair:

Time	Paper ID	Speech Title & Presenter
16:15~16:30	C223	Ultra-wideband OAM Antenna Based on Circular Phased-array Conical Dielectric Resonator Lingzhi Zhao , Ningxia University, China
16:30~16:45	C502	Simulation of Interaction of Folded Waveguide Space Traveling Wave Tubes with Derivative-free Mixed-integer Based NEWUOA Algorithm Shuoran Li , The 12th Research Institute of China Electronics Technology Group Corporation, China
16:45~17:00	C368	Weighted Sum Rate Maximization for Intelligent Reflecting Surface Assisted Multiuser System with Low-Resolution DACs Si Li , Jinan University, China
17:00~17:15	C445	Semi-supervised t-SNE for Millimeter-wave Wireless Localization. Junquan Deng , National University of Defense Technology, China
17:15~17:30	C224	A Single-fed Octagonal OAM Antenna Based on CMT Yanni Wang , Ningxia University, China
17:30~17:45	C222	An AFSS-based Multipattern Reconfigurable 5G Antenna Yanpeng Zhang , Ningxia University, Yinchuan, China
17:45~18:00	C416	Path Loss in Metro Train in mm-wave Band with Consideration of Human Body Effect Pei Tang , China Railway Siyuan Survey and Design Group Co., LTD, China
18:00~18:15	C058	Higher Resolution in Range and Velocity for Automotive Radar Meiru Zhang , University of Electronic Science and Technology of China, China
18:15~18:30	C221	Design of Frequency Reconfigurable Antenna Based on Metasurface Yijie Yuan , Ningxia University, China

SATURDAY, DEC. 11

16:15~18:45 | Meeting Room 会议室 3B, 7F

Room B: 893 7247 0884 | <https://us02web.zoom.us/j/89372470884>

Onsite Session 5: Computer Computing and Electronic Engineering

Session Chair:

Time	Paper ID	Speech Title & Presenter
16:15~16:30	C369	Secure Rate Maximization for Reconfigurable Intelligent Surface Assisted Transmission with Low-resolution DACs Kexin Li , Jinan University, China
16:30~16:45	C320	A Scalable CNN Accelerator with FPGA On-board Resource Optimization for Semantic Segmentation Chao Wang , Hangzhou Dianzi University, China
16:45~17:00	C346	IsDenseNet: A framework for Complex Power Quality Disturbances Detection Jun Ma , Hunan University, China
17:00~17:15	C354	A Methodology Based on Deep Reinforcement Learning to Autonomous Driving with Double Q-Learning Zhicong Liu , Southeast University, China
17:15~17:30	C186	The trust evaluation and anomaly detection model of industrial control equipment based on multi-service and multi-attribute Wang Chen , Shenyang Institute of Automation, Chinese Academy of Sciences and Shenyang University of Chemical Technology, China
17:30~17:45	C492	Joint Trajectory Planning and Resource Allocation for UAV-assisted Information Collection Chenchen Wang , Beihang University, China
17:45~18:00	C418	Visibility Prediction Based on XGBoost And Markov Chain Combined Model Hui Tang , Shenzhen Institute of Information Technology, China
18:00~18:15	C454	Dynamic Scheduling Algorithm Based on Random Distribution for Mimic Defense System Hongyu Lin , Southeast University, China
18:15~18:30	C140	A Differentially Private SVD Recommendation Algorithm with User Tags Zehua Li , Shaanxi Normal University, Xi'an, China
18:30~18:45	C288	HEP: Heuristic Similarity Calculation based on the Minimum Entropy Principle Jinhua Yang , Nanjing University of Posts and Telecommunications, China

SATURDAY, DEC. 11

16:15~18:15 | Meeting Room 会议室 9, 5F

Room C: 813 2093 9916 | <https://us02web.zoom.us/j/81320939916>

Onsite Session 6: Image Analysis and Methods

Session Chair: Dr. Tao Ma, Institute of Computer Application, China Academy of Engineering Physics, China

Time	Paper ID	Speech Title & Presenter
16:15~16:30	C438	An Improved YOLOv4 Target Detection Algorithm Combined with DCA Xuelian Wu , Southwest Jiaotong University, China
16:30~16:45	C1008	HEVC Chroma Component Prediction Algorithm Based on Luminance Template Matching Dan Luo , Sichuan University, China
16:45~17:00	C471	Learn from Each Other: Comparison and Fusion for Medical Segmentation Loss Guanqun Sun , Hangzhou Medical College, China
17:00~17:15	C069	A Dendritic Neuron Model for Breast Cancer Classification Weixiang Xu , Jiangsu Ocean University, China
17:15~17:30	C021	Infrared and Visible Image Fusion via Total Variation and Alternating Direction Method of Multipliers Tao Ma , Institute of Computer, Application China Academy of Engineering Physics, China
17:30~17:45	C024	Efficient Single Image De-raining Using Multi-scale Depthwise Separable Dilated Convolution Zheng Chen , Harbin Engineering University, China
17:45~18:00	C172	A Class Attendance System Based on Cloud Face Recognition for Multi-users Xinlei Feng , Wenzhou-Kean University, China
18:00~18:15	C065	Energy-Efficient UAV Communication with 3D Trajectory Optimization Zixuan Guan , Beijing University of Posts and Telecommunications, China

SATURDAY, DEC. 11

13:30~15:10 | Meeting Room 会议室 10, 5F

Poster Session 1: Image Processing and Information Technology

Session Chair:

Time	Paper ID	Speech Title & Presenter
13:30~13:40	C163	Sentiment Analysis Based on Bi-Dual Inference Yujian Zhou , Xihua University, China
13:40~13:50	C070	A 3D Smooth Mobility Model Based on Semi-random Circular Movement for FANETs Jize Mi , Beijing University of Posts and Telecommunications, China
13:50~14:00	C005	A Method of Information Fusion for the Civil Aviation ASTERIX Data and Airport Surface Video Surveillance Min Wu , The Second Research Institute, Civil Aviation Administration of China, China
14:00~14:10	C511	Enhanced DIBR Framework for Free Viewpoint Video Song Gu , Peking University, Shenzhen Graduate School, China
14:10~14:20	C398	CFFusion: Cross Framework for Multi focus Image Fusion Chengchao Wang , Yunnan University, China
14:20~14:30	C254	Blockchain-based Supervised Anonymous Cross-domain Authentication Scheme Wenyi Wu , Southeast University, China
14:30~14:40	C110	Weak ties Discovery Based on Network Representation Learning and Structural Features Ruilin Hu , Xihua University, China
14:40~14:50	C145	Uncle Incentivization Mechanism Adjustment against Selfish Mining in Ethereum Lu Ding , University of Electronic Science and Technology of China, China
14:50~15:00	C113	A Method for Suppressing the Fluctuation of Aircraft Taxiing Posture Fan Yang , The Second Research Institute of CAAC, China
15:00~15:10	C111	Stance Detection Using Multi-Attention Based Bidirectional GRU Peng Jia , Xihua University, China

SATURDAY, DEC. 11

16:15~17:35 | Meeting Room 会议室 10, 5F

Poster Session 2: Communication Engineering and Application

Session Chair:

Time	Paper ID	Speech Title & Presenter
16:15~16:25	C059	Design of High Performance SIW Filter in Millimeter Wave Band Xinhe Shi , University of Science and Technology of China, China
16:25~16:35	C272	A Design Algorithm of Fractional Delay Filter based on Second-order Cone Programming Zhang Rubin , East China Research Institute of Electronic Engineering, China
16:35~16:45	C134	An Ellipsoidal Luneburg Lens Antenna for Gain Enhancement and Beam Scanning Bochao Wang , University of Science and Technology of China, China
16:45~16:55	C202	Malware Detection Using an Improved Active Learning Approach Huang Na , Beijing Topsec Science & Technology Inc., China
16:55~17:05	C459	Intelligent Knowledge Modeling and Distributed Database Constructing for Intelligent Radar Countermeasure Zhaoxiang Su , Beijing Institute of Technology, China
17:05~17:15	C045	Finding Important Edges in Networks through Local Information En-Yu Yu , University of Electronic Science and Technology of China, China
17:15~17:25	C137	Influence of Atmospheric Turbulence on States of Vortex Beams Carrying Orbital Angular Momentum Shutian Luo , University of Electronic Science and Technology of China, China
17:25~17:35	C153	Research of Speech Biomarkers for Stress Recognition using Linear and Nonlinear Features Min Guo , Northwest Minzu University, China

SUNDAY, DEC. 12

13:30~16:00 | Room A: 962 9919 4800 | <https://zoom.us/j/96299194800>

Online Session 1: Coding Theory and Technology

Session Chair: Dr. Paulo Batista, University of Évora, Portugal

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C322	Reducing Search Complexity of Dynamic SC-Flip Decoding for Polar Codes Xinyuan Qiao , Nanjing University, China
13:45~14:00	C036	An Optimized Algorithm of Balise Message Decoding Shuzheng Yang , Beijing University of Posts and Telecommunications, China
14:00~14:15	C053	Deep Motion Vector Prediction for Versatile Video Coding Kexin Wu , Fuzhou University, China
14:15~14:30	C292	A GenAlg Optimization of Length-Scalable QC-LDPC Codes Yunxiao Liu , Southeast University, China
14:30~14:45	C003	Improved CA-SCL Decoding of Polar Codes Based on Perturbation Zhongze Du , Institute of Computing Technology, Chinese Academy of Sciences, China
14:45~15:00	C478	An Optimation on Iterative Weighing Coefficient of Three Dimensional Turbo Product Code Zhao Ning , Zhengzhou University, China
15:00~15:15	C383	McEliece Coding Method based on LDPC Code with Application to Physical Layer Security Yiran Xing , University of Science and Technology Beijing, Beijing, China
15:15~15:30	C048	COTR: Convolution in Transformer Network for End to End Polyp Detection Zhiqiang Shen , Fuzhou University, China
15:30~15:45	C489	Application of A Time-Frequency Synchronization Method in DFT-Precoded Underwater Acoustic OFDM System Zihao Wang , Hangzhou Applied Acoustic Research Institute, China
15:45~16:00	C371	Low-Complexity Error Correction Algorithm for Cyclic Redundancy Codes Weisong Liang , Beijing University of Technology Beijing, China

SUNDAY, DEC. 12

13:30~16:15 | Room B: 893 7247 0884 | <https://us02web.zoom.us/j/89372470884>

Online Session 2: Computer Theory and Application

Session Chair: Asst. Prof. Changjiang Zhang, Beijing Normal University - Hong Kong Baptist University
United International College, China

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C063	A Real-time Detection Method of Available Backhaul Capacity in UDN With Backhaul Constraint Xiaorui Ji , <i>Beijing University of Posts and Telecommunications, China</i>
13:45~14:00	C188	Blind Regularized Constant Modulus Multiuser Detection via a Newton Algorithm Ying Liu , <i>Shenzhen University, China</i>
14:00~14:15	C289	Region-and-Attention Network for Semantic Segmentation Rui Wang , <i>Beijing University of Posts and Telecommunications, China</i>
14:15~14:30	C296	Performance Analysis of Repetition-based Grant-free Access for URLLC Nana Zhang , <i>Southeast University, China</i>
14:30~14:45	C189	CSI-Based Violent Behavior Detection Method Huan Liu , <i>Yunnan University, China</i>
14:45~15:00	C431	Dual Branch Relation Network with Feature Weighting for Few-Shot Learning Yifan Tong , <i>Beijing University of Posts and Telecommunications, China</i>
15:00~15:15	C479	A Joint Entity-Relation Extraction Method with Sparse Parameter Sharing Architecture Dierong Chen , <i>Communication University of China, China</i>
15:15~15:30	C480	Composite Evolutionary GAN for Natural Language Generation with Temper Control Fanglei Sun , <i>South China University of Technology, China</i>
15:30~15:45	C486	A Multi-Version Spatio-Temporal Indexing Method Based on Clipped Minimum Bounding Boxes Jingzhi Cao , <i>National University of Defense Technology, China</i>
15:45~16:00	C347	The Common Ancestor Time Estimation of SARS-CoV-2 Based on Phylogenetic Analysis Yang Lu , <i>Beijing University of Posts and Telecommunications, China</i>
16:00~16:15	C355	tMPH: A Client-only Multisource Multipath HTTP Solution for Android Applications Qingchen Zhao , <i>University of Science and Technology of China, China</i>

SUNDAY, DEC. 12

13:30~16:20 | Room C: 813 2093 9916 | <https://us02web.zoom.us/j/81320939916>

Online Session 3: Computer Network and Communication Security

Session Chair: Assoc. Prof. Wenhui Yi, Xi'an Jiaotong University, China

Time	Paper ID	Speech Title & Presenter
13:30~13:50	Invited Talk	Carbon-Nanotube-Based Integrated Circuits: From Field-Effect Transistors to All Carbon Nanotube Computers Assoc. Prof. Wenhui Yi , Xi'an Jiaotong University, China
13:50~14:05	C328	A Network Architecture Containing Both Push and Pull Semantics Jianming Que , Peking University, China
14:05~14:20	C183	Research and design of high performance VPN Security System Based on VPP Xiaogang Wei , State Grid Electric Power Research Institute, China
14:20~14:35	C171	IRS-Assisted Secure Communications Against Simultaneous Jamming and Eavesdropping Yifu Sun , National University of Defense Technology, China
14:35~14:50	C098	Identification of Key Nodes in Complex Networks Qiao Lilin , Beijing University of Posts and Telecommunications, Beijing, China
14:50~15:05	C352	Limit-Caching: A Caching Scheme Based on Limited Content Popularity in ICN Hongyu Guo , Peking University, China
15:05~15:20	C514	Old Wine in A New Bottle: A Homogeneous Fraud Sites Discovery Framework Wei Xia , Institute of Information Engineering, Chinese Academy of Sciences; School of Cyber Security, University of Chinese Academy of Sciences, China
15:20~15:35	C234	Design of Time-Triggered service processing flow on Ethernet end system Zhihai Zheng , State Key Laboratory of the Integrated Services Networks, Xidian University, China
15:35~15:50	C104	An Efficient Authenticated Key Agreement Protocol for D2D Communication Sensen Li , Zhengzhou Information Science and Technology Institute, China
15:50~16:05	C1018	A Survey on Methodologies and Techniques for IPv6 Network Alias Resolution Mengfan Liu , Zhengzhou University, China
16:05~16:20	C1003	Effect evaluation of network protection based on Fuzzy-AHP Chen Ping , Army Engineering University of PLA, China

SUNDAY, DEC. 12

13:30~16:15 | Room D: 825 7760 2341 | <https://us02web.zoom.us/j/82577602341>

Online Session 4: Channel Estimation and Antenna Design

Session Chair: Assoc. Prof. Yipeng Li, The 54th Research Institute of CETC, China

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C196	Improved Dynamic Artificial Potential Field Method Based on Remote Sensing of Internet of Vehicles and Prediction Ji Gao , <i>Nanjing University of Aeronautics and Astronautics, China</i>
13:45~14:00	C394	An Effective Integrated Communication and Localization Method Based on Digital Phased Array Antenna Yipeng Li , <i>The 54th Research Institute of China Electronics Technology Group Corporation, China</i>
14:00~14:15	C195	Flexible Monopole Antenna for IoT Applications: A Survey Muhammad Usama Raza , <i>Changzhou University, China</i>
14:15~14:30	C219	Multi-antenna Array-based AoA Estimation Using Bluetooth Low Energy for Indoor Positioning Shuai He , <i>Beijing University of Posts and Telecommunications (BUPT), China</i>
14:30~14:45	C075	Measurements and Characteristics for Vehicle to Everything Channel in Tunnel Scenario at 5.9GHZ Zhaoyang Su , <i>School of Electronic and Information Engineering, Beijing Jiaotong University, Beijing, China</i>
14:45~15:00	C294	Finite Blocklength NOMA on SWIPT-Enabled Energy Harvesting Relay with Hardware Impairments Qingwen Wang , <i>Yangzhou University, China</i>
15:00~15:15	C115	The Upper Bound of Capacity for Multi-Mode Networking with Multi-beam Antenna Array Yuhua Wang , <i>Army Engineering University of PLA, China</i>
15:15~15:30	C367	Code-Aided Blind Iterative Channel Estimation for OFDM Systems Jiaxuan Li , <i>Beijing Institute of Technology, China</i>
15:30~15:45	C498	Leveraging Ensemble Learning for Side Channel Analysis on Masked AES Feng Gao , <i>Zhengzhou University, China</i>
15:45~16:00	C256	Image Encryption Methods in Deep Joint Source Channel Coding: A Review and Performance Evaluation Jialong Xu , <i>Beijing Jiaotong University, China</i>
16:00~16:15	C462	Link Scheduling for Multiple-Directional Antennas in Ad hoc Network: A Quasi-order Theoretic Viewpoint Shuai Cheng , <i>Army Engineering University of PLA, China</i>

SUNDAY, DEC. 12

13:30~16:15 | Room E: 825 5149 1923 | <https://us02web.zoom.us/j/82551491923>

Online Session 5: Electronic and Communication Engineering

Session Chair: Assoc. Prof. Jian Dang, Southeast University, China

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C027	Beam Domain Oversampling with Pruned FFT for Virtual Massive MIMO in FDD Systems Pengju Wang , <i>Zhongyuan University of Technology, China</i>
13:45~14:00	C304	Efficient Channel Estimation for Multi-User MIMO Multi-Relay Communication Systems Jiali Cao , <i>Communication University of China, China</i>
14:00~14:15	C023	A Simplified Beamforming Assisted SM-MIMO Scheme with Blind Linear Detection Jingyi Miao , <i>University of Electronic Science and Technology of China, China</i>
14:15~14:30	C177	PARAFAC-Based Channel Estimation for Relay Assisted mmWave Massive MIMO Systems Siyu Ye , <i>Communication University of China, China</i>
14:30~14:45	C344	Design of UAT transceiver based on ZIF architecture Chen Jiaming , <i>University of Electronic Science and Technology of China, China</i>
14:45~15:00	C433	Implementation of Adaptive Airborne SAR Motion Compensation Algorithm based on FPGA Ke Wang , <i>Beijing Institute of Technology, China</i>
15:00~15:15	C450	Research on Network Management Technology of Power Line Carrier Communication in Low-Voltage Distribution Network Based on Digital Twin Jinhong Chen , <i>Jiangmen Power Supply Bureau of Guangdong Power Grid Co., Ltd., China</i>
15:15~15:30	C460	A C&W-based attack algorithm for End-to-End communication systems Cao Qiuyu , <i>Southeast University, China</i>
15:30~15:45	C046	On Adaptive Network Deployment for Visible Light Communications Xiping Wu , <i>University College Dublin, Ireland</i>
15:45~16:00	C207	Defensive Distillation Based End-to-end Auto-encoder Communication System Qiaochu Gao , <i>Peking University, China</i>
16:00~16:15	C452	Application of Multi-mode Heterogeneous Communication in Low-Voltage Distribution Network Zhirong Peng , <i>Jiangmen Power Supply Bureau of Guangdong Power Grid Co., Ltd., China</i>

SUNDAY, DEC. 12

13:30~16:15 | Room F: 829 8380 0562 | <https://us02web.zoom.us/j/82983800562>

Online Session 6: IOT and Future Communication Technology

Session Chair: Dr. Nanxi Li, China Telecom, China

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C083	The KICK-OFF of 6G Research Worldwide: An Overview Wei Jiang , German Research Center for Artificial Intelligence, DFKI, Germany
13:45~14:00	C032	Coverage Enhancement for 5G NR Networks: Solutions, Specification Impact and Performance Analysis Nanxi Li , China Telecom Research Institute, China
14:00~14:15	C245	Genetic Algorithm for LTE and WiFi Networks in 5G Heterogeneous Environment Yuewei Lin , Qingdao University of Science and Technology, China
14:15~14:30	C299	Resource Allocation for 5G URLLC in Cooperative Industrial Networks Pingchao Wang , Southeast University, China
14:30~14:45	C477	Slicing Allocation Optimization Based on MEC Service-Aware in 5G Smart Grids Enabled Surveillance System Chao Ma , State Grid, Hebei Information & Telecommunication Branch, China
14:45~15:00	C181	Design of Truly Unmanned Smart Parking Lots Based on Xinghai IoT Platform Shuguo Li , Shenzhen Xinghai IoT Science & Technology Corporation, China
15:00~15:15	C121	Resource Allocation and Optimization for UAV-Assisted IoT Based on MEC and Blockchain Chengze Zhao , Beijing University of Technology, P.R. China
15:15~15:30	C099	Research on Location Mechanism of Electric Internet of Things based on IPv6 Yaming Wen , Global Energy Interconnection Research Institute Co.,Ltd., China
15:30~15:45	C126	A Blockchain Based Privacy-Preserving Incentive Mechanism for Internet of Vehicles in Satellite-Terrestrial Crowdsensing Zhuojia Ma , Beijing University of Posts and Telecommunications, China
15:45~16:00	C264	Priority Based Adaptive MAC Protocol for UAV Ad Hoc Networks Xinglin Mou , National Mobile Communications Research Laboratory, Southeast University, Nanjing, China
16:00~16:15	C312	Dynamic missing data recovery method with low complexity in internet of things Xiaoxiang Song , Army Engineering University of PLA, China

SUNDAY, DEC. 12

13:30~16:15 | Room G: 838 2213 4909 | <https://us02web.zoom.us/j/83822134909>

Online Session 7: Space-Earth Integration Network and technology

Session Chair: Dr. Salabat Khan, Shenzhen University, China

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C026	Research on a Technical Scheme of Family Group Customer Value Evaluation Zhongxian Xu , China Mobile Research Institute, China
13:45~14:00	C220	Research on the Application of Polar Codes in Underwater Acoustic Communication Zhang Meng , Xidian University, China
14:00~14:15	C447	Discussion on the Development Direction of Intelligent Integrated Space TT&C Network Wei Zhang , Space Engineering University, China
14:15~14:30	C379	Cooperative Caching Scheme based on Hawkes Popularity Prediction in Vehicular Networks Yanhua Sun , Beijing University of Technology, China
14:30~14:45	C389	A New System to Construct Dense Map with Pyramid Stereo Matching Network and ORB-SLAM2 Junchao Zhu , Army Engineering University of PLA, China
14:45~15:00	C402	Orchestrating Probabilistic In-band Network Telemetry for Network Monitoring Jiangyu Pan , University of Science and Technology of China, China
15:00~15:15	C022	Performance Analysis of Train-Ground Communication System for Vacuum Tube High-speed Flying Train Botao Han , Beijing Jiaotong University, China
15:15~15:30	C130	An Incentive Mechanism for Computation Offloading in Satellite-Terrestrial Internet of Vehicles Xingyu Zhang , Beijing University of Posts and Telecommunications, China
15:30~15:45	C473	Analyzing V2I Channel and Spatial Consistency through Simulation Mingmin Liu , Yunnan Normal University, China
15:45~16:00	C442	Transmit Antenna Combination Optimization and Detection Algorithm for Joint-Mapping-Based Variable Active Antenna Spatial Modulation System Binghai Li , DongHua University, China
16:00~16:15	C228	Intelligent path planning algorithm for cooperative traversal task of multiple unmanned ground vehicles Lixiong Zhang , Army Engineering University of PLA, China

SUNDAY, DEC. 12

16:30~19:00 | Room A: 962 9919 4800 | <https://zoom.us/j/96299194800>

Online Session 8: Modulation Theory and Technology

Session Chair:

Time	Paper ID	Speech Title & Presenter
16:30~16:45	C096	Custom Convolutional Layer Designs for CNN Based Automatic Modulation Classification Solution Yali Guo , Soochow University, China
16:45~17:00	C060	Modulation Recognition based on Lightweight Residual Network via Hybrid Pruning Heng Ji , University of Electronic Science and Technology of China, China
17:00~17:15	C194	Modulation Division based User Grouping Communication for Massive SIMO in IIoT Xiaodan Hu , Zhengzhou University, China
17:15~17:30	C057	Density-Based Spatial Clustering of Applications with Noise for Modulation Order Blind-Detection in Non-Orthogonal Multiple Access Hao Zhang , Beijing University of Posts and Telecommunications, China
17:30~17:45	C101	A Transformer -based CTDNN Structure for Automatic Modulation Recognition Weisi Kong , Xidian University, China
17:45~18:00	C426	8-12GHz Pre-matched Load Modulation Balanced Power Amplifier Zheng Yin , Nanjing Electronic Devices Institute, China
18:00~18:15	C161	A Modulation Division Based Physical Layer Authentication in Wireless Communication Systems Ningning Xie , Zhengzhou University, China
18:15~18:30	C061	Modulation Recognition based on Lightweight Residual Network via Binary Quantization Heng Ji , University of Electronic Science and Technology of China, China
18:30~18:45	C1006	Communication Network Nodes Importance Based on Improved Artificial Immune Algorithm Yulong Song , Army Engineering University of PLA, China
18:45~19:00	C034	Design of Transponder Message Transmission Mechanism Based on Error Correction Code BCH Xiaoyu Liu , Beijing University of Posts and Telecommunications, China

SUNDAY, DEC. 12

16:30~19:00 | Room B: 893 7247 0884 | <https://us02web.zoom.us/j/89372470884>

Online Session 9: Data Routing Algorithm and Design

Session Chair:

Time	Paper ID	Speech Title & Presenter
16:30~16:45	C481	A Hybrid Routing Algorithm based on Destruction Resistance Cost and Reliability in Flying Ad-Hoc Networks Kun Guo , Beijing University of Posts and Telecommunications, China
16:45~17:00	C399	A Q-Learning based routing algorithm for software defined vehicular network (SDVN) Yiwei Wang , Faculty of Information Technology, Beijing University of Technology, China
17:00~17:15	C232	Design of a Routing Protocol with Minimum End-to-End Delay in MR-MC Network Ming Liu , Beijing University of Posts and Telecommunications, China
17:15~17:30	C287	Dynamic Reliability Based Multicast Routing Scheme of Power Line Communication Networks Lin Liu , State Grid Dalian Electric Power Supply Company, China
17:30~17:45	C378	A Grid-Based Virtual Routing Algorithm for UAV Systems in Three-Dimensional Space Xin Zhao , Beijing University of Posts and Telecommunications, China
17:45~18:00	C410	LEACH-ICM: An Intra-Cluster multi-hop energy efficient routing protocol for WSN Jiaming Zhang , Dalian Polytechnic University, China
18:00~18:15	C508	A Segment List Selection Algorithm Based on Delay in Segment Routing Lirong Lai , State Key Laboratory of Networking and Switching Technology, Beijing University of Posts and Telecommunications, China
18:15~18:30	C155	Mobile Internet-oriented Data Preprocessing for Static Routes in Scenic Spots Miao Hong , Beihang Beidou Application Research Institute of Jinhua, China
18:30~18:45	C376	Stackelberg Game-Based High-Reliability Uplink Proactive Multi-Association Transmission for URLLC Zhaoli Zeng , Beijing University of Posts and Telecommunications, China
18:45~19:00	C135	Genetic-Based Cluster Routing Algorithm for Wireless Sensor Networks Guo Jin , Beijing University of Posts and Telecommunications, China

SUNDAY, DEC. 12

16:30~19:00 | Room C: 813 2093 9916 | <https://us02web.zoom.us/j/81320939916>

Online Session 10: Object Detection and Video Processing

Session Chair: Dr. Manuel B. Garcia, FEU Institute of Technology, Philippines

Time	Paper ID	Speech Title & Presenter
16:30~16:45	C102	Infrared Image Brightness Correction for TIR Object Tracking Xiaosong Wang , <i>Beijing University of Posts and Telecommunications, China</i>
16:45~17:00	C252	Small Moving Object Detection and Tracking Based on Event Singals Yuanjun Shu , <i>The Second Research Institute of CAAC, China</i>
17:00~17:15	C342	Key-Point Based Distribution Probability Optimization for Object Detection in Remote Sensing Images Yufei Wang , <i>Henan University, Kaifeng, China</i>
17:15~17:30	C050	SiamPBN: Point-based Siamese Network for Rotating Objects Tracking Chen Yang , <i>University of Chinese Academy of Sciences, China</i>
17:30~17:45	C158	Smart Community Construction System Architecture Based on Five-viewing Demands Yutian Zheng , <i>Shenzhen Xinghai IoT Science & Technology Corporation, China</i>
17:45~18:00	C235	An Unequal Error Protection Scheme of H.265 Video Stream in Unmanned Aerial Vehicle System Yue Zhang , <i>Beijing Institute of Technology, China</i>
18:00~18:15	C105	Compressed Video Quality Metric Based on Just-Noticeable-Difference and Saliency-aware Blocking Detection Zheng Wang , <i>Fuzhou University, China</i>
18:15~18:30	C276	Dupopt: A Redundancy Video Analysis Mechanism Wenwen Li , <i>Beijing Jiaotong University, China</i>
18:30~18:45	C491	Enhanced Bidirectional Propagation Network for Video Super-Resolution Da Zhang , <i>University of Science and Technology of China, China</i>
18:45~19:00	C326	Global-local Feature Aggregation Strategy with Optimal Probability for Video Object Detection Yunlong Fan , <i>PLA Strategic Support Force Information Engineering University, China</i>

SUNDAY, DEC. 12

16:30~19:00 | Room D: 825 7760 2341 | <https://us02web.zoom.us/j/82577602341>

Online Session 11: Satellite Engineering and Space Communication

Session Chair: Dr. Cheng Wang, Beijing University of Posts and Telecommunications, China

Time	Paper ID	Speech Title & Presenter
16:30~16:45	C093	Joint Beamforming and Phase Shift Design for IRS-Assisted MISO SWIPT System with Finite-Alphabet Inputs Zhen Liu , <i>University of Electronic Science and Technology of China, China</i>
16:45~17:00	C345	Waveform Design for Dual-functional Radar and Communication Design Based on Conditional MI Jingyu He , <i>University of Science and Technology of China, China</i>
17:00~17:15	C143	A FPGA-based Design and Implementation of Satellite Ground Fusion Downlink Yang Shi , <i>Beijing University of Posts and Telecommunications, China</i>
17:15~17:30	C122	A Privacy-Preserving Incentive Mechanism in Satellite-Terrestrial Crowdsensing Boxiang Zhu , <i>Beijing University of Posts and Telecommunications, China</i>
17:30~17:45	C457	ECC-based Hybrid Beamforming Algorithm in MmWave Communication Qianqian Shen , <i>University of Science and Technology Beijing, China</i>
17:45~18:00	C336	Analysis of Satellite Interference Source Location Algorithm Hui Yan , <i>Nanjing University of Posts and Telecommunications, China</i>
18:00~18:15	C148	Leakage Minimization Based Precoding for Multi-beam Satellite Communications with Phase Noise and Carrier Frequency Offset Yan Gu , <i>National Mobile Communications Research Laboratory, Southeast University, China</i>
18:15~18:30	C041	Design and Implementation of Congestion-Control Strategy for LEO Satellite Based on NS3 Jinling Chen , <i>Beijing University of Posts and Telecommunications, China</i>
18:30~18:45	C180	Research on Space-Time Block Code Technology in MIMO System Conglin Pan , <i>Nanjing University of Science and Technology, China</i>
18:45~19:00	C388	A Spatial Resource Allocation Method in Massive MIMO-LEO Satellite Communications Ding Xiang , <i>Army Engineering University of PLA, China</i>

SUNDAY, DEC. 12

16:30~18:45 | Room E: 825 5149 1923 | <https://us02web.zoom.us/j/82551491923>

Online Session 12: Network Model and Network Resource Management

Session Chair: Assoc. Prof. Chao Fang, Beijing University of Technology, China

Time	Paper ID	Speech Title & Presenter
16:30~16:45	C150	Multi-domain Time Synchronization Model and Performance Evaluation in TSN Ledong Hu , <i>Beijing University of Posts and Telecommunications, China</i>
16:45~17:00	C039	A new model for simultaneous detection of phishing and darknet websites Xu Jie , <i>Jiangsu Police Institute, China</i>
17:00~17:15	C055	A Flow Scheduling Model for SDN Honey-pot Using Multi-Layer Attack Graphs and Signaling Game Weigui Huang , <i>Information Engineering University, China</i>
17:15~17:30	C468	A NFV-based Universal Network Simulator Platform with Visualization Playback Ji Xia , <i>Nanjing University of Aeronautics and Astronautics, China</i>
17:30~17:45	C375	NOMA-D2D Technology-aided Low delay resource allocation for MEC networks Huameng Tao , <i>State Key Laboratory of Networking and Switching Technology, Beijing University of Posts and Telecommunications, China</i>
17:45~18:00	C275	Dynamic Load Balancing Strategy Based on Link Preference in SDN Mengxin Chen , <i>Chongqing University of Posts and Telecommunications, Chongqing, China</i>
18:00~18:15	C282	Delay-Intolerant Covert Communications with Downlink Non-orthogonal Multiple Access Wang Maochun , <i>Army Engineering University of PLA, China</i>
18:15~18:30	C239	Opportunistic Admissibility and Resource Allocation for Slicing based Radio Access Networks Long Zhang , <i>Chongqing Key Lab of Mobile Communications Technology, Chongqing University of Post and Telecommunications, China</i>
18:30~18:45	C1005	Research on a Cascade Failure Model of Improved Scale-Free Network Mengmeng Yin , <i>Army Engineering University of PLA, China</i>

SUNDAY, DEC. 12

16:30~19:35 | Room F: 829 8380 0562 | <https://us02web.zoom.us/j/82983800562>

Online Session 13: Image Analysis and Methods

Session Chair: Prof. Yabin Xu, Beijing Information Science And Technology University, China

Time	Paper ID	Speech Title & Presenter
16:30~16:50	Invited Talk	Copyright Protection Method of Big Data Based on Color Image Watermark Prof. Yabin Xu , Beijing Information Science and Technology University, China
16:50~17:05	C049	Feature Aggregation and Topology Embedding on Convolution Neural Network for Airway Segmentation Rongda Fu , Fuzhou University, China
17:05~17:20	C495	An Accurate Segmentation Method for Experimental Image of Cells Shoucong Li , Qilu University of Technology, China
17:20~17:35	C203	A Novel Unet Decoding Strategy for Cervical Cell Mass Segmentation Guangqi Liu , Shenyang Institute of Automation, Chinese Academy of Sciences, China
17:35~17:50	C125	FMR Low-light Tomato Image Enhancement Algorithm Based on Optimized Homomorphic Filter Jianheng He , China University of Petroleum, China
17:50~18:05	C165	MRSNet: A Spatial and Channel Attention Integration Network Considering Multi-Resolution Improves Image Denoising Bingyao Li , Communication University of China, China
18:05~18:20	C154	External Sparsity Combined with Internal Low-Rankness for Image Denoising Yang Ou , Southwest Jiaotong University, China
18:20~18:35	C359	Information-exchange Enhanced Feature Pyramid Network (IEFPN) for detecting prohibited items in X-ray security images Man Wang , Beijing Institute of Technology, China
18:35~18:50	C011	A New Method of Sample Consensus for 2D Images Matching Based on Combination and Sorting for Spacecraft's Autonomous Optical Navigation Siyuan Huo , Hebei University of Economics and Business School, China
18:50~19:05	C127	Infrared and Visible Image Fusion via Multi-scale edge-preserving Filtering and Pulse-couple Neural Network Wei Li , Nanchang Hangkong University, China
19:05~19:20	C360	Image Stitching via Convolutional Neural Network Xinguo He , South China University of Technology, China
19:20~19:35	C184	Performance Analysis of Uplink dominate Frame Structure Sen Xu , China Telecom Research Institute, China

SUNDAY, DEC. 12

16:30~19:00 | Room G: 838 2213 4909 | <https://us02web.zoom.us/j/83822134909>

Online Session 14: Signal Acquisition and Analysis

Session Chair: Prof. Jianpo Li, Northeast Electric Power University, China

Time	Paper ID	Speech Title & Presenter
16:30~16:45	C273	An Electromagnetic Environment Situation Assessment and Abnormal Detection Technology Weilin Hu , <i>National University of Defense Technology, China</i>
16:45~17:00	C082	An Improved Multi-period LFM Interference Suppression Method Based on Short-Time Fractional Fourier Transform Jiaqi Lu , <i>Beijing Microelectronics Technology Institute Beijing, China</i>
17:00~17:15	C315	A new dropout leaky control strategy for multi-channel narrowband active noise cancellation in irregular reverberation room Wenzhao Zhu , <i>Yanshan University, China</i>
17:15~17:30	C200	Research on Removing Ocular Artifacts from Multi-Channel EEG signals Zheng Longxin , <i>Huzhou University, China</i>
17:30~17:45	C229	A Digital Parallel Receiver Structure Based on Frequency Domain Symbol Synchronization and Feedback Frequency Domain Equalization Zhiru Ma , <i>Beijing Institute of Technology, China</i>
17:45~18:00	C205	Intelligent Propagation Model Method for RSRP Prediction Based on Machine Learning Zheng Sisi , <i>Beijing University of Posts and Telecommunications, China</i>
18:00~18:15	C307	Cross-Band Spectrum Prediction Algorithm Based on Transfer Learning and Meta Learning Chuang Peng , <i>National University of Defense Technology, China</i>
18:15~18:30	C441	A Spectrum Monitoring and Analyzing Algorithm Based on Sparse Fourier Transform Jizhuang Hou , <i>Beijing Institute of Technology, Beijing, China</i>
18:30~18:45	C417	Research on the Application of UHF RFID Metal-mountable tags in Military Food Tian-Jiao Ma , <i>Academy of Military Sciences PLA China, China</i>
18:45~19:00	C238	Performance Analysis of NOMA based Overlay Cognitive Integrated Satellite Aerial Terrestrial Networks Kefeng Guo , <i>Space Engineering University, China</i>

MONDAY, DEC. 13

09:30~12:15 | Room A: 962 9919 4800 | <https://zoom.us/j/96299194800>

Online Session 15: Computer Model and Mathematical Calculation

Session Chair: Assoc. Prof. Bhai Nhuraisha Deplomo, University of Makati, Philippines

Time	Paper ID	Speech Title & Presenter
09:30~09:45	C285	Train Passengers Prediction for Railway Management System Using Regression Analysis Bhai Nhuraisha I. Deplomo , Mapua University, Philippines
09:45~10:00	C456	An Efficient Method of Supervised Contrastive Learning for Natural Language Understanding Haifeng Gao , Beijing University of Posts and Telecommunications, China
10:00~10:15	C356	Water Level Prediction Model Based on GCN and LSTM Meng Fang , University of Chinese Academy of Sciences, China
10:15~10:30	C225	A Temperature Time Series Forecasting Model Based on Deep AR Chao Liang , Harbin Engineering University, China
10:30~10:45	C1004	Improved Collaborative Filtering Recommendation Model Qingbo Sun , Shandong University of Political Science and Law, China
10:45~11:00	C377	Robust Model Aggregation for Federated Learning with Heterogeneous Clients Ruiting Xu , Fuzhou University, China
11:00~11:15	C397	Research on Online Diagnosis Model of Metering Point Anomaly Based on High Precision and High Resolution High Frequency Acquisition Station Area Master Yuan Jian , State Grid Zhejiang Marketing Service Center, China
11:15~11:30	C490	Bridge architecture for medical question answering with negative sample training Hongli Liu , Beijing University of Posts and Telecommunications, China
11:30~11:45	C314	Inventory Control Under Unobserved Losses with Latent State Learning José Manuel Vera , Escuela Superior Politécnica del Litoral, Ecuador
11:45~12:00	C316	Graph Transformer Attention Networks for Traffic Flow Prediction Haochun Ruan , Fuzhou University, China
12:00~12:15	C440	ASTER Thermal Infrared Quantitative Inversion Research on the SiO ₂ Content of Surface Rocks in the Eastern Tianshan Area of Xinjiang Xin Li , Jilin University, China

MONDAY, DEC. 13

09:30~12:15 | Room B: 893 7247 0884 | <https://us02web.zoom.us/j/89372470884>

Online Session 16: Communication and Information System

Session Chair: Assoc. Prof. Meng Li, Beijing University of Technology, China

Time	Paper ID	Speech Title & Presenter
09:30~09:45	C258	Two-Path Successive Relaying Based on Non-Orthogonal Multiple Access with Partial CSI Jie Fan , Northwest University, China
09:45~10:00	C152	An Energy Saving Routing Strategy with Differentiated Service Provide Ability for UAV Assisted Disaster Rescue Ting Ma , Beijing University of Posts and Telecommunications, China
10:00~10:15	C067	Minimum Cost Hybrid Node Protection in NFV Chengzong Peng , Georgia State University, USA
10:15~10:30	C281	LDPC Assisted Blind Frame Synchronization: Efficient Measurement Mechanism and Low-Complexity Algorithm Zhongxiu Feng , Huazhong University of Science and Technology, China
10:30~10:45	C303	Improvement of TFRC Congestion Control Algorithm Based on LSTM Guanglin Chen , Beijing University of Posts and Telecommunications, China
10:45~11:00	C279	Transmission Design and Performance Analysis for a Cognitive NOMA-Based Relay Sharing Network Yafang Zhang , South China University of Technology, China
11:00~11:15	C335	Pilot Assignment Based on Graph Coloring with Sum-rate Maximization in Cell-Free Massive MIMO Rongheng Chen , Nanjing University of Posts and Telecommunications, Nanjing, China
11:15~11:30	C044	A Simultaneous Denoise and Dereverberation by a Use of Two-Stage Joint Network Junjie Xia , Chongqing University of Posts and Telecommunications, China
11:30~11:45	C251	Compression Algorithm for End-to-End Communication using CNN Yuanhui Lian , Macao Polytechnic Institut, China
11:45~12:00	C141	MMSE Based Combining Robust to Beam Pointing Error for Uplink Multi-User SIMO Systems Xiaoyu Cao , Southeast University, China
12:00~12:15	C042	A PCIe-based Hardware Acceleration Architecture of the Communication Protocol Stack Yuqi Wang , Beijing University of Posts and Telecommunications, China

MONDAY, DEC. 13

09:30~12:15 | Room C: 813 2093 9916 | <https://us02web.zoom.us/j/81320939916>

Online Session 17: Computer and Electrical Engineering

Session Chair: Assoc. Prof. Jianwei Zhang, Dalian University of Technology, China

Time	Paper ID	Speech Title & Presenter
09:30~09:45	C072	Surface Material Classification Based on Tapping Sound Characteristics Kai Wang , Fujian Key Lab for Intelligent Processing and Wireless Transmission of Media Information Fuzhou University, Fuzhou, China
09:45~10:00	C051	A High Energy Efficiency and Low Resource Consumption FPGA Accelerator for Convolutional Neural Network Houjia Cai , Dalian University of Technology, China
10:00~10:15	C437	A Differential Privacy-enhanced Federated Learning Method for Short-Term Household Load Forecasting in Smart Grid Yumeng Zhao , University of Science and Technology Beijing, China
10:15~10:30	C079	Current Control for PMSM Based on Data-Driven Control Xiangong Li , Shenyang University of Chemical Technology, China
10:30~10:45	C100	Channel Modeling by Ray Tracing for City Underground Power Pipe Gallery Wei Bai , Global Energy Interconnection Research Institute Co., Ltd., China
10:45~11:00	C209	Fault Detection of Permanent Magnet Synchronous Motor Based on SVD-RF Dongnan Zhao , Henan University of Science and Technology, China
11:00~11:15	C451	Application Research of Power Line Full Band Carrier in Low Voltage Distribution Network Yutu Liang , Guangdong Power Grid Co., Ltd. Power Dispatching Control Center, China
11:15~11:30	C349	A Transformer Based Approach for Open Set Specific Emitter Identification Haifeng Xu , University of Science and Technology of China, China
11:30~11:45	C482	The Design of Holistic Vulnerability Measure Method Integrated with Topological Properties and Security Capabilities for Smart Grid Control System Shujuan Sun , Shunde Graduate School, University of Science and Technology Beijing, China
11:45~12:00	C136	Intelligent Analysis of Line Loss Based on Game Theory Combined with Weighting - TOPSIS Method Zheng Li , North China Electric Power University, China
12:00~12:15	C475	Sidelobe Suppression Using Modified Multiple Population Genetic Algorithm Jiarun Yu , Beijing University of Posts and Telecommunications, China

MONDAY, DEC. 13

09:30~12:00 | Room D: 825 7760 2341 | <https://us02web.zoom.us/j/82577602341>

Online Session 18: Optical Communication and Optical Network

Session Chairs: Assoc. Prof. Jupeng Ding, Xinjiang University, China

Prof. Wei Ji, Shandong University, China

Time	Paper ID	Speech Title & Presenter
09:30~09:45	C363	Optimized Sub-Rate Sampling in 80Gbaud DP-64QAM Coherent Optical Receivers Penghui Li , Shandong University, China
09:45~10:00	C030	Performance Analysis of Heterogeneous Optical Beams based MIMO Visible Light Communication System Jupeng Ding , Xinjiang University, China
10:00~10:15	C366	Improved Pilot-Symbol-Aided Phase Estimation Algorithm in Homodyne Coherent Scheme Qiang Liu , Shandong University, China
10:15~10:30	C380	Joint Optimization for Visible Light Communication and Positioning Based on Information Entropy Shicheng Gao , Southeast University, China
10:30~10:45	C047	A Symbol Rate Estimation Scheme for Non-Cooperative Communication Jian Lu , Beijing University of Posts and Telecommunications, China
10:45~11:00	C365	Failure Prediction Based on LSTM and SVM under SDON Architecture Pengcheng Liu , Shandong University, China
11:00~11:15	C464	Security Analysis of a Next Generation TF-QKD for Secure Public Key Distribution with Coherent Detection over Classical Optical Fiber Networks Adrian Chan , McGill University, Canada
11:15~11:30	C488	Identification and Analysis of Key Nodes in Power Optical Network Based on Node Contribution Zheng Jiayun , Beijing University of Posts and Telecommunications, China
11:30~11:45	C266	Routing and Spectrum Allocation in Dynamic Optical Satellite Networks Guanglei Song , Shandong Institute of Space Electronic Technology Yantai, China
11:45~12:00	C114	Research on Coordinated Coverage of Non-Lambertian Optical Wireless Communications Jupeng Ding , Xinjiang University, China

MONDAY, DEC. 13

09:30~12:15 | Room E: 825 5149 1923 | <https://us02web.zoom.us/j/82551491923>

Online Session 19: Software and Data Engineering

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

Time	Paper ID	Speech Title & Presenter
09:30~09:45	C117	Implementation and Verification of LTE-V2X Algorithm Based on Software Radio Platform Meilu Liu , <i>Beijing Jiaotong University, China</i>
09:45~10:00	C362	Dynamic Controller Placement for Software-Defined LEO Network Using Deep Reinforcement Learning Anqi Wei , <i>Shanghai Jiao Tong University, China</i>
10:00~10:15	C025	Research and test on software performance index of open CNC system Lipeng Zhang , <i>Shenyang Institute of Computing Technology, Chinese Academy of Sciences, China</i>
10:15~10:30	C108	Parallel Clustering for Interference Alignment with Max-Min Fairness in Hybrid Data Center Networks Long Suo , <i>Xidian University, China</i>
10:30~10:45	C401	A Unified Programming Model Over Heterogeneous Data Planes Xianhai Li , <i>University of Science and Technology of China, China</i>
10:45~11:00	C403	Study on Costs of Software-based Heterogeneous Redundant Execution Ma Bolin , <i>National Digital Switching System Engineering & Technology Research Center, NDSC, China</i>
11:00~11:15	C428	Research and Application of Query Optimization Based on Hbase Xiaoyu Xiong , <i>University of Electronic Science and Technology of China, China</i>
11:15~11:30	C162	Construction of Perfect Gaussian Integer Sequences with High Energy Efficiency Based on Difference Sets Yuandong Liu , <i>Yanshan University, China</i>
11:30~11:45	C240	Joint Extraction of Entities and Relations by Adversarial Training and Mixup Data Augmentation Hongjing Chen , <i>Shaanxi Normal University, China</i>
11:45~12:00	C192	Research on Unequal Clustering Protocol based on Fuzzy Logic and Entropy Weight Method An Quanbiao , <i>Beijing University of Posts and Telecommunications, China</i>
12:00~12:15	C325	L 21-norm minimization for Unsupervised Feature Selection from Incomplete Data Linge Fan , <i>Army Engineering University of PLA, China</i>

MONDAY, DEC. 13

09:30~12:35 | Room F: 829 8380 0562 | <https://us02web.zoom.us/j/82983800562>

Online Session 20: Image Classification

Session Chair: Dr. Dan Michael Cortez, Pamantasan ng Lungsod ng Maynila, Philippines

Time	Paper ID	Speech Title & Presenter
09:30~09:50	Invited Talk	Fluorescent Molecular Tomographic Image Reconstruction Assoc. Prof. Wei Zou , Soochow University, China
09:50~10:05	C1015	Remote Sensing Image Scene Classification Based on Multi-level Feature Fusion Ya Chen , Henan University, China
10:05~10:20	C040	A Neural Network Model Compression Method for Pneumonia Image Classification Ming Ji , Huaqiao University, China
10:20~10:35	C357	A Transformer Architecture with Adaptive Attention for Fine-Grained Visual Classification Changli Cai , Beijing University of Posts and Telecommunications, China
10:35~10:50	C391	Support Vector Machine Classification Algorithm based on Improved Particle Swarm Optimization Yifan Zhang , Henan University of Science and Technology, China
10:50~11:05	C400	A Novel One-Dimensional Convolutional Neural Network for Breast Cancer Classification Sohaib Asif , Xi'an Jiaotong University & Central South University, China
11:05~11:20	C463	Image classification of leaf diseases based on transfer learning Rui Ding , Xi'an University of Posts and Telecommunications, China
11:20~11:35	C469	Summary of domestic garbage classification and detection based on deep learning Haochang Hu , Xi'an University of Posts and Telecommunications, China
11:35~11:50	C175	Low rank based discriminative least squares regression with sparse autoencoder processing for image classification Qi Zhang , University of Macau, China
11:50~12:05	C124	Lane Structure Fitting via Row-wise Grid Classification Yingying Liu , China University of Petroleum (East China), China
12:05~12:20	C436	Analysis and Classification of Job Multiple Characteristics on Supercomputers Wenxiang Yang , National University of Defense Technology, China
12:20~12:35	C132	Classifying Object of Standard Grasping Movements Using Data Glove with LSTM Networks Yuhuang Zheng , Guangdong University of Education, China

MONDAY, DEC. 13

09:30~12:00 | Room G: 838 2213 4909 | <https://us02web.zoom.us/j/83822134909>

Online Session 21: Knowledge and Information Engineering

Session Chair: Dr. Yang Sun, Beijing University of Technology, China

Time	Paper ID	Speech Title & Presenter
09:30~09:45	C139	Fully-Supervised Semantic Segmentation Networks: Exploring the Relationship between the Segmentation Networks Learning Ability and the Number of Convolutional Layers Jiacai Liao , Hunan University, China
09:45~10:00	C261	Mislabeled Samples Adjustment Based on Self-paced Learning Framework Lingzhu Deng , The Second Research Institute of CAAC, China
10:00~10:15	C066	Federated learning of user mobility anomaly based on Graph Attention Networks Ruijuan Jia , Beijing University of Posts and Telecommunications, China
10:15~10:30	C037	A Greedy Strategy of Multiplexing uRLLC Traffic Within eMBB Services for HSR Jiachi Zhang , Shandong Jiaotong University, China
10:30~10:45	C263	Evaluation and Evolution of NAOnto An Ontology for Personalized Diabetes Management for Native Americans Vikram Pandey , North Dakota State University, USA
10:45~11:00	C274	MovieMat: Context-aware Movie Recommendation with Matrix Factorization by Matrix Fitting Hao Wang , Ratidar.com, China
11:00~11:15	C384	Uncertainty based Hybrid-intelligence Multi-branch Wargaming Xin Jin , Science and Technology on Information System Engineering Laboratory, Nanjing Research Institute of Electronic Engineering, China
11:15~11:30	C020	Entity Representation Learning with Multimodal Neighbors for Link Prediction in Knowledge Graph Liu Wenxuan , Shanghai Jiao Tong Univ., China
11:30~11:45	C311	Intelligent Answer System Based on Vulnerability Knowledge Graph Yongfei Li , Information Engineering University, China
11:45~12:00	C062	Co-Evolutionary of Public Goods Games Based on Learning Topology Xiaojia Zhou , Yunnan University, China

MONDAY, DEC. 13

13:30~16:00 | Room A: 962 9919 4800 | <https://zoom.us/j/96299194800>

Online Session 22: Wireless Sensor Network and Wireless Communication

Session Chair: Assoc. Prof. Yaqiong Liu, Beijing University of Posts and Telecommunications, China

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C182	Study on SPMA Protocol and Algorithm Improvement Fang Sun , China Academy of Launch Vehicle Technology, China
13:45~14:00	C190	An Uplink Node Pairing Algorithm for Non-orthogonal Multiple Access Backscatter Communication Systems Song Tao , Chongqing University, China
14:00~14:15	C293	Performance Analysis of Energy Harvesting Full-Duplex Relaying Wireless Communication System Lu Tang , Yangzhou University, China
14:15~14:30	C517	Packet Scheduling for Wireless Powered Communication Systems in the Finite Blocklength Regime: A POMDP Approach Chenhui Wang , State Grid Information and Telecommunication Branch, China
14:30~14:45	C085	Joint Optimization Design for Wireless Sensor and Actuator Networks with Energy Harvesting Zhicheng Liu , Beijing University of Technology, China
14:45~15:00	C033	Neighbor Discovery with Capture Effect Based on Directional Transmission in Ad Hoc Networks Yunliang Liao , Army Engineering University of PLA, China
15:00~15:15	C138	Weighted Voronoi Sensing Partition Algorithm for Multi-layer Wireless Sensor Network Xing Zehui , Beijing University of Posts and Telecommunications, China
15:15~15:30	C247	Mitigating Multipath Interference for Time of Flight Range Sensors via Deep Convolutional Networks. Swati Suresh Patil , College of Engineering Pune, India
15:30~15:45	C435	Multi-sensor data fusion algorithm based on Dempster-Shafer theory Yue Zhao , Shenyang Aerospace University, China
15:45~16:00	C271	Joint Relay and Jammer Selection for Covert Communication Jiang Junhao , Army Engineering University of PLA, China

MONDAY, DEC. 13

13:30~16:05 | Room B: 893 7247 0884 | <https://us02web.zoom.us/j/89372470884>

Online Session 23: Digital Image Processing and Application

Session Chair: Prof. Xiwen Zhang, Beijing Language and Culture University, China

Time	Paper ID	Speech Title & Presenter
13:30~13:50	Invited Talk	Intelligently Extracting Information from Digital Ink Chinese Text by Junior International Students Prof. Xiwen Zhang , Beijing Language and Culture University, China
13:50~14:05	C250	Roaming automatic generation method based on panoramic image Hu Danning , Shenyang Institute of Computing Technology, Chinese Academy of Sciences, University of Chinese Academy of Sciences, China
14:05~14:20	C157	Facial Acupoints Location using Transfer Learning on Deep Residual Network Yanglu Chen , National Key Laboratory of Fundamental Science on Synthetic Vision, Sichuan University, China
14:20~14:35	C197	Non-invasive Image Quality Assessment Based on Eye-tracking Sang Lin , FuZhou University, China
14:35~14:50	C170	Cloud Image Super-Resolution Based on Residual Network Yun Ge , Department of computer teaching and research, University of Chinese Academy of Social Sciences, China
14:50~15:05	C295	ADJSCC-I: SNR-Adaptive JSCC Networks for Multi-Layer Wireless Image Transmission Xiuwen Bao , National Mobile Communications Research Laboratory, Southeast University, Nanjing, China
15:05~15:20	C321	A Text-to-Image Generation Method Based on Multi-attention Depth Residual Generation Adversarial Network Shuo Yang , Harbin Engineering University, China
15:20~15:35	C413	Discriminative Multi-feature Representation for Renal Cancer Detection based on Histopathology Images Qi Zhang , University of Macau, China
15:35~15:50	C458	Group Feature Information Distillation Network for Single Image Super-resolution Mingzhuo Chen , University of Science and Technology of China, China
15:50~16:05	C519	Multi-Directional Weighted Interpolation for Color Imaging System Xiangdong Chen , Nanjing University of Posts and Telecommunications, China

MONDAY, DEC. 13

13:30~15:30 | Room C: 813 2093 9916 | <https://us02web.zoom.us/j/81320939916>

Online Session 24: Advanced Blockchain Technology and Security Management

Session Chair:

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C466	ARPIC: Personal Information Recognition of ID Card with Interference of Watermark Wenqiang Miao , <i>Beijing University of Posts and Telecommunications, China</i>
13:45~14:00	C422	Medicare Fraud Detection Using WTBagging Algorithm Jiahe Yao , <i>Yanshan University, China</i>
14:00~14:15	C248	Weighted RAFT: An Improved Blockchain Consensus Mechanism for Internet of Things Application Xiaojun Xu , <i>Beijing University of Posts and Telecommunications, China</i>
14:15~14:30	C106	Research on Blockchain Security Protection Yue Yin , <i>Southwest Forestry University, China</i>
14:30~14:45	C434	VAPKI: A Blockchain-Based Identification System with Validation and Authentication Chengkai Rao , <i>Beijing University of Posts and Telecommunications, China</i>
14:45~15:00	C318	Secure Authentication Scheme for VANET based on Blockchain Yuyang Cheng , <i>North China University of Technology, China</i>
15:00~15:15	C449	An Efficient Data Query Method of Blockchain Based on Index Mingmin Liu , <i>Beijing University of Posts and Telecommunications, China</i>
15:15~15:30	C500	Blockchain-Based Mechanism for Electronic Healthy Records Sharing Using Fine-grained Authorization Ruoxi Chen , <i>ZhengZhou University, China</i>

MONDAY, DEC. 13

13:30~16:00 | Room D: 825 7760 2341 | <https://us02web.zoom.us/j/82577602341>

Online Session 25: Algorithm Design, Optimization and Calculation

Session Chair: Assoc. Prof. Bo Li, Ningxia University, China

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C467	A maximum average weight matching algorithm for collective tasks allocation in the collective computing system Zundong Zhang , <i>Nanjing University of Aeronautics and Astronautics, China</i>
13:45~14:00	C159	Grasshopper Optimization Algorithm for Blind Source Separation Based on Independent Component Analysis Yueyun Yu , <i>Macao Polytechnic Institute, China</i>
14:00~14:15	C1013	Guiding Points Sampling-Based Large-Scale Evolutionary Multi-Objective Optimization Zeng Haoyuan , <i>Sichuan University, China</i>
14:15~14:30	C097	Resource Optimization Algorithm for Task Offloading with Predicted Congestion Jin Li , <i>Hefei University of Technology, Hefei, China</i>
14:30~14:45	C112	Optimized LRU Algorithm for STT-MRAM/SRAM Hybrid Cache Architecture Yueting Li , <i>Beihang University, China</i>
14:45~15:00	C301	A novel modified Ant Colony Optimization Algorithm by resetting and updating pheromone for Vehicle Routing Problem with Time Windows Chiabwoot Ratanavilisagul , <i>King Mongkut's University of Technology North Bangkok (KMUTNB) Bangkok, Thailand</i>
15:00~15:15	C329	An Improved Variable Step Size LMSTDE Algorithm Based on Fourth-order Cumulant Shuang Liu , <i>Harbin Engineering University, China</i>
15:15~15:30	C485	ATDP: An Adaptive Spatio-Temporal Trajectory Clustering Algorithm Based on Density Peak Zebang Liu , <i>National University of Defense Technology, China</i>
15:30~15:45	C204	Digital twin-driven multi-objective optimization production scheduling with restraint tool resources Jinsong Liu , <i>University of Chinese Academy of Sciences, China</i>
15:45~16:00	C341	MMReLU: A Simple and Smooth Activation Function with High Convergence Speed Longda Wu , <i>Beijing Institute of Technology, China</i>

MONDAY, DEC. 13

13:30~16:15 | Room E: 825 5149 1923 | <https://us02web.zoom.us/j/82551491923>

Online Session 26: Machine Learning and Neural Networks

Session Chair: Assoc. Prof. Jun Xu, Nanjing Normal University, China

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C133	Optimal Power Allocation for D2D underlaying Cellular Networks: An MDP based Approach Jun Xu , Nanjing Normal University, China
13:45~14:00	C081	Time Error Compensation with Neural Network for Time Synchronization in TSN Haoze Yu , Beijing University of Posts and Telecommunications, China
14:00~14:15	C077	Fire Detection Based on Infrared Filter and Deep Learning Mingjie Meng , State Key Laboratory of Information Photonics and Optical Communications, Beijing University of Posts and Telecommunications, China
14:15~14:30	C382	A Lightweight Deep Neural Network for Wideband Power Amplifier Behavioral Modeling Huilan Wu , Beijing University of Posts and telecommunications, China
14:30~14:45	C324	Joint Latency and Energy Consumption Optimization with Deep Reinforcement Learning for Proximity Detection in Road Networks Tongyu Zhao , Beijing University of Posts and Telecommunications, China
14:45~15:00	C103	An Evaluation Model of Demolished Houses based on Improved Deep Learning Lv Haifeng , University of Chinese Academy of Sciences Shenyang Institute of Computing Technology, Chinese Academy of Science, Shenyang, China
15:00~15:15	C147	Time and Position Aware Graph Neural Networks for Session-based Recommendation Qingbo Sun , Shandong University of Political Science and Law, China
15:15~15:30	C305	Nifty Price Prediction from Nifty SGX using Machine Learning, Neural Networks and Sentiment Analysis Niveditha Minnoor , R. V. College of Engineering, India
15:30~15:45	C503	A DDoS Attack Traffic Detection System Based on Deep Learning Chen Gong , University of Science and Technology Beijing, China
15:45~16:00	C446	Application of DNN with MDFA in Intrusion Detection Shirui Wang , China Industrial Control Systems Cyber Emergency Response Team, China
16:00~16:15	C1007	A Combined Neural Network Based on Deep Learning for AMR Pei Li , Army Engineering University of PLA, China

MONDAY, DEC. 13

13:30~16:00 | Room F: 829 8380 0562 | <https://us02web.zoom.us/j/82983800562>

Online Session 27: Mobile Computing and High-performance Computing

Session Chair: Dr. Danyang Zheng, Soochow University, China

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C068	On the Placement of Edge Server for Mobile Edge Computing Danyang Zheng , Soochow University, China
13:45~14:00	C339	Privacy-Preserving Edge Intelligent Computing Based on Federated Learning Haodong Xie , Information Engineering University, Zhengzhou, China
14:00~14:15	C217	Mobile Edge Computing Task Offloading Strategy Based on Network RTK Ke Xu , Beijing University of Posts and Telecommunications, China
14:15~14:30	C031	Reinforcement Learning based Service Migration Strategy to Minimize Service Cost with Delay Constraint in Edge Computing Xun Huang , Nanjing University of Aeronautics and Astronautics, China
14:30~14:45	C334	Traffic Forecasting with Adversarial Domain Adaptation in Edge-Computing System Geng Chen , Fuzhou University, China
14:45~15:00	C395	Surface Defect Detection Based on Deep Learning and Collaborative Cloud-edge Computation Shunjie He , Shanghai Jiao Tong University, China
15:00~15:15	C236	Visual Analysis of the High-performance Computing Jobs Based on the Comprehensive Load Scoring Algorithm Yangkun Tang , Southwest University of Science and Technology, China
15:15~15:30	C071	Q-Learning Based Delay-Aware Content Delivery in Cloud-Edge Cooperation Networks Changtong Liu , Beijing University of Technology, China
15:30~15:45	C017	Priority-based scheduling approach to minimize the SLA violations in cloud environment Louai Sheikhan , East China University of Science and Technology, China
15:45~16:00	C319	Resilient Control Plane Design for Inter-Datacenter Cloud Network with Various Attacks Ping Lu , Shenzhen Institutes of Advanced Technology, Chinese Academy of Sciences & Sangfor Technologies Inc., China

MONDAY, DEC. 13

13:30~16:00 | Room G: 838 2213 4909 | <https://us02web.zoom.us/j/83822134909>

Online Session 28: Modern Cryptography and Information Security

Session Chair: Dr. Jin Xu, Zhengzhou University of Light Industry, China

Time	Paper ID	Speech Title & Presenter
13:30~13:45	C073	A Cryptographic Resource Management Framework and Dynamic Migration Method Based on Virtualization Fulin Li , Information Engineering University, China
13:45~14:00	C210	A Differential Privacy Mechanism Combining Randomized Response with Laplace Distribution Youqin Chen , Wuhan University, China
14:00~14:15	C092	Tulip: an authenticated encryption algorithm with trusted identity Lan Zhang , Zhengzhou Information Science and Technology Institute, China
14:15~14:30	C390	Privacy-preserving Breast Cancer Prediction via Inner-Product Functional Encryption Pan-pan Li , Guangdong University of Foreign Studies, China
14:30~14:45	C405	A Modified Key Generation Scheme of Vigenère Cipher Algorithm using Pseudo-Random Number and Alphabet Extension John Paul G. Perez , Pamantasan ng Lungsod ng Maynila, Philippines
14:45~15:00	C461	Verifiable RFID location privacy scheme based on NIZK Wang Qingchen , Xidian University, China
15:00~15:15	C504	Outlier Detection and Abnormal Subspace Search Based on Autoencoder and Genetic Algorithm for High-Dimensional Data Jiamu Li , Nanjing University of Aeronautics and Astronautics, China
15:15~15:30	C087	Auto-Generated Code Detector - A Preprocessor to enhance Security, Quality, Maintenance and Accurate Productivity Calculation of Code Ratnesh Parihar , Talentica Software (I) Pvt. Ltd., India
15:30~15:45	C351	A Dynamic and Secure Migration Method of Cryptographic Service Virtual Machine for Cloud Environment Fulin Li , Information Engineering University, China
15:45~16:00	C496	A Dense Dynamic SLAM System Based on Motion Element Filtering Mingcan Li , Army Engineering University of PLA, China

MONDAY, DEC. 13

16:15~19:00 | Room A: 962 9919 4800 | <https://zoom.us/j/96299194800>

Online Session 29: Signal Detection and Recognition

Session Chair: Assoc. Prof. Xuebo Zhang, Northwest Normal University, China

Time	Paper ID	Speech Title & Presenter
16:15~16:30	C1011	Vehicle recognition by adaptive multi-direction lamp chain code and perturbation matching Zuchun Ding , Guangzhou Maritime University, Guangdong, China
16:30~16:45	C424	For RF Signal Based UAV States Recognition, Is Pre-processing Still Important at The Era of Deep Learning? Changhao Ge , University of Glasgow, UK
16:45~17:00	C080	A Digital Channelized Receiver with Overlapped Passband for Accurate Signal Restoration Qian Tian , Beijing Microelectronics Technology Institute, China
17:00~17:15	C226	An Interference Recognition Method Based on Improved Genetic Algorithm Jianfei Shu , Harbin Engineering University, China
17:15~17:30	C516	A Novel Positioning Method based on Leaky Coaxial Cable using TC-OFDM Signal Guowei Li , Beijing University of Posts and telecommunications, China
17:30~17:45	C306	Squaring and Long Coherent Integration Codeless Tracking Algorithm of GPS Authorized Signals Yuanlin Wang , Beihang University, China
17:45~18:00	C107	Crane song recognition based on the features fusion of GMM based on wavelet spectrum and MFCC Wang Yao , Southwest Forestry University, China
18:00~18:15	C444	Speech Enhancement Based on Time Domain Parallel Full Convolutional Networks Wenzhi Li , Naval University of Engineering, China
18:15~18:30	C465	Speech Emotion Recognition for Power Customer Service Xutong Li , Beijing University of Posts and Telecommunications, China
18:30~18:45	C472	DCCRN-Subnet: A DCCRN and Subnet Fusion Model for Speech Enhancement Xin Yuan , Nanjing University of Aeronautics and Astronautics, China
18:45~19:00	C513	Time Domain Speech Enhancement using Self-Attention based Subspace Projection Ding Zhao , Zhejiang University, China

MONDAY, DEC. 13

16:15~19:00 | Room B: 893 7247 0884 | <https://us02web.zoom.us/j/89372470884>

Online Session 30: 3D Model and Image Inspection

Session Chair: Prof. Zahir M. Hussain, University of Kufa, Iraq

Time	Paper ID	Speech Title & Presenter
16:15~16:30	C474	An Unsupervised dual attention method for 3D medical image registration Xinwen Yin , Yunnan University, China
16:30~16:45	C408	Accelerated MR Fingerprinting Reconstruction Using Dictionary and Local Low-Rank Regularizations Zehao Li , Hohai University, China
16:45~17:00	C327	Pulmonary Nodules Detection via 3D Multi-scale Dual Path Network Dan Xie , Harbin Engineering University, China
17:00~17:15	C179	Comparison of Edge Detection Techniques and Mathematical Morphology in Car Plate Detection Application Haofan Dong , University of Leeds, UK
17:15~17:30	C310	Research on Digital Protection of Bamboo Tube based on Hani Nationality* Han Gao , Yunnan Minzu University, China
17:30~17:45	C407	A Robot 3D Grasping Application Based on Binocular Vision System Xinjun Liu , University of Chinese Academy of Sciences, China
17:45~18:00	C506	Lip Reading Based on 3D Face Modeling and Spatial Transformation Learning Zhongwei Wu , Zhejiang University, China
18:00~18:15	C218	A Real-time Embedded Target Tracking System Based on Deep Learning Model Song Jiang , Beijing University of Posts and Telecommunications, China
18:15~18:30	C019	Application of Chinese Traffic Sign Detection Based on Yolov4 Shuai Liu , Lanzhou University, China
18:30~18:45	C116	GoogLeNet-like Model for Pedestrian Attribute Detection in Surveillance Environment Changhong Jing , Shenzhen Institutes of Advanced Technology Chinese Academy of Sciences, China
18:45~19:00	C330	An Improved Multi - Target Tracking Trajectory Association Algorithm in Dense Clutter Environment Wenyan Wang , Harbin Engineering University, China

MONDAY, DEC. 13

16:15~19:00 | Room C: 813 2093 9916 | <https://us02web.zoom.us/j/81320939916>

Online Session 31: Target Detection

Session Chair: Asst. Prof. Ximing Zhang, Xi'an Institute Optics and Precision Mechanics of CAS, China

Time	Paper ID	Speech Title & Presenter
16:15~16:30	C160	Attentive Mix: An Efficient Data Augmentation Method for Object Detection Zhaojin Guo , Xi'an University of Posts & Telecommunications, China
16:30~16:45	C518	A Double layer Local Contrast Method for Infrared Small Target Detection Linna Yang , National University of Defense Technology, China
16:45~17:00	C043	A Fabric Defect Detection Method Based on Improved YOLOv5 Xiaojie Wang , University of Chinese Academy of Sciences, China
17:00~17:15	C432	A Novel Visual Object Detection and Distance Estimation Method for HDR Scenes based on Event Camera Tian-Hao Wu , Advanced Algorithms Research Center China Nanhu Academy of Electronics and Information Technology Jiaxing, China
17:15~17:30	C088	PCB defect inspection via Deformable DETR Jintao Jin , Guangzhou Institute of Advanced Technology, Chinese Academy of Sciences, China
17:30~17:45	C118	An Overview of Improved ViBe Algorithms Shiji Li , Nanchang Hangkong University, China
17:45~18:00	C243	Remote sensing image target detection algorithm based on multi-dimension attention Rong Fan , Hohai University, China
18:00~18:15	C291	A novel method for detection of ECG with deep learning Haiyan Wang , State Key Laboratory of Mathematical Engineering and Advanced Computing, China
18:15~18:30	C412	Analysis Theory Analysis of weak target detection performance based on radar communication integrated signal CE-OFDM and MSK-LFM Mei Gao , Nanchang Hangkong University, China
18:30~18:45	C470	Forest pest detection method based on DenseNet and Pyramid pooling Xiangchen Yin , Qufu Normal University, China
18:45~19:00	C1002	Visual Object Detection and Tracking System Design based on MobileNet-SSD You Zhai , Shijiazhuang Campus, Army Engineering University of PLA, China

MONDAY, DEC. 13

16:15~18:35 | Room D: 825 7760 2341 | <https://us02web.zoom.us/j/82577602341>

Online Session 32: Face Recognition and Image Recognition

Session Chair: Assoc. Prof. Chutisant Kerdvibulvech, National Institute of Development Administration (NIDA), Thailand

Time	Paper ID	Speech Title & Presenter
16:15~16:35	Invited Talk	Artificial Intelligence on Computer and Communications for Image Analytics Assoc. Prof. Chutisant Kerdvibulvech , <i>National Institute of Development Administration, Thailand</i>
16:35~16:50	C283	Multi-View Person Re-IDentification with Wireless Multimedia Sensor Networks Zhang Mei-Yan , <i>Zhejiang University of Water Resources and Electrical Power, China</i>
16:50~17:05	C317	Human Activity Recognition Based on Data Fusion of FMCW Radar and Image Wenlong Li , <i>Fujian Key Lab for Intelligent Processing and Wireless Transmission of Media Information, Fuzhou University, China</i>
17:05~17:20	C120	Face Recognition System with Feature Fusion for Rehabilitation Robots in Healthcare Amna Bhutto , <i>University of Science and Technology of China, China</i>
17:20~17:35	C131	5G based Cloud-Edge Collaboration for Canteen Self-Service Settlement Solution Xiaoyu Wang , <i>China Mobile Research Institute, China</i>
17:35~17:50	C246	3D Real-time Face Acupoints Recognition System Based on HoloLens 2 Xiyu Chen , <i>Sichuan University, China</i>
17:50~18:05	C425	Face recognition combined with Gabor wavelet and lightweight convolutional neural network Jieyu Li , <i>Xiangtan University, China</i>
18:05~18:20	C259	Improved K-CV Surface Defects Recognition of Steel Balls Algorithm Combined with PCA and SVM Li Lin , <i>University of Science and Technology Beijing, China</i>
18:20~18:35	C340	An Intelligent System for 50-Meter Running Test Based on Image Recognition Technology Zeyu Cai , <i>Nanjing University of Aeronautics and Astronautics, China</i>

MONDAY, DEC. 13

16:15~18:15 | Room E: 825 5149 1923 | <https://us02web.zoom.us/j/82551491923>

Online Session 33: Unmanned System and Intelligent Control Technology

Session Chair: Assoc. Prof. Xuebo Zhang, Northwest Normal University, China

Time	Paper ID	Speech Title & Presenter
16:15~16:30	C142	Resource Optimization Algorithm for Task Offloading of Service Robots with Position Prediction Zhifu Wang , <i>Hefei University of Technology, China</i>
16:30~16:45	C499	Research on Hybrid Discrete Particle Swarm Algorithm to Solve UAV Task Assignment Problem Shaokun Yan , <i>Jiangsu Automation Research Institute, China</i>
16:45~17:00	C015	Lightweight Stacked Hourglass Network for Efficient Robotic Arm Pose Estimation Qi Wang , <i>University of Chinese Academy of Sciences, China</i>
17:00~17:15	C084	Optimal Control Design of Dynamical Tracking for Connected and Automated Vehicles Mengjiao Xu , <i>Beijing University of Technology, China</i>
17:15~17:30	C249	Comparison of Collaboration Methods between Users in Remote Robot Systems with Force Feedback Ruzhou Ye , <i>Nagoya Institute of Technology, Japan</i>
17:30~17:45	C404	Graphical System Design of Test Cases in Flight Control System Chaofeng Ma , <i>Shenyang Aerospace University, China</i>
17:45~18:00	C297	Research on Dynamic Docking Process and Collision Problems of AUV Based on Joint Control Simulation Wei Pan , <i>Jiangsu University of Science and Technology, China</i>
18:00~18:15	C231	A Method of Multi-UAV Collaborative Task Assignment based on UAV multiplexing Zhao Jiayi , <i>Army Engineering University of PLA, China</i>

MONDAY, DEC. 13

16:15~19:00 | Room F: 829 8380 0562 | <https://us02web.zoom.us/j/82983800562>

Online Session 34: Electronic Information Engineering and Application

Session Chair: Assoc. Prof. Botao Xiong, Dalian University of Technology, China

Time	Paper ID	Speech Title & Presenter
16:15~16:30	C166	A Novel Parallel Blind Equalizer for Underwater Acoustic Based on Dual Mode Zhi Sheng Lv , Guangzhou Maritime University, China
16:30~16:45	C476	Compressed Bloom Filter Method of DDS Middleware based on FPGA Liu Pengfei , Shanghai Jiao Tong University, China
16:45~17:00	C448	Adaptive Kalman Filter with Strong Tracking for Train Positioning System Liu Jia , China Academy of Railway Sciences Corporation Limited, China
17:00~17:15	C1014	Visual Detection Based Security and Control System in Power Construction Chen Wu , Jiangnan University, China
17:15~17:30	C411	Reform on Circuit and Electronic Technology Experiment Based on Virtual-real Combination Wu Qinglin , Wuhan Business University, China
17:30~17:45	C483	A CMOS Triple Cascode X-band Power Amplifier with Dual Feedback Based Active Linearizer Cheng Cao , Beijing University of Posts and Telecommunications, China
17:45~18:00	C009	Near Field Electromagnetic Ranging in Low Frequency Hao Wang , Naval University of Engineering Wuhan, China
18:00~18:15	C364	A Reliable joint MCMA and DD-LMS for lite DSP in Short-Reach Self-Homodyne Optical Coherent Scheme Qiang Li , Shandong University, China
18:15~18:30	C054	HPLC Monitoring System Design Based on Noise Decomposition Xierebanumu Wujiaaihemaiti , North China Electric Power University, China
18:30~18:45	C242	Digital Pre-charging Algorithm for High Accuracy Low Power DTC using Jump Search Scheme Tao Zhou , School of Microelectronics, Dalian University of Technology, China
18:45~19:00	C439	MOTUNER: An Online Automatic Container Tuning System for Spark on YARN Lanxin Su , Beijing University of Posts and Telecommunications, China

Listener Attendees-ICCC 2021

Chang Zhang, Information Engineering University, China

Chen Zhiqiang, Huzhou University, China

Dongbao Jia, Jiangsu Ocean University, China

Haifeng Shuai, Space Engineering University, China

Hongwei Zhou, Information Engineering University, China

Huifang Ji, Information Engineering University, China

Jiashu Zhang, Beihang University, China

Keqiang Yue, Hangzhou Dianzi University, China

Li Tian, Guangdong Mechanical and Electrical Polytechnic, China

Qiuyu Lai, Southeast University, China

Rui Liu, Space Engineering University, China

Xinpeng Luo, Southeast University, China

Yi Liu, Wenzhou-Kean University, China

Yizhe Luo, Beihang University, China

Thank you!

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