

The background of the cover features a complex, futuristic design. At the center is a blue globe with a grid pattern, surrounded by several concentric blue circles and arcs. To the right of the globe, there are four blue arrows pointing to the right, followed by a series of small blue squares. The entire design is set against a light gray background with a pattern of white circles of varying sizes. The IEEE logo is at the top center, and the CCCI 2026 text is at the top right. The conference details are at the bottom center, and the logos for IEEE and IEEE ComSoc are at the bottom left and right respectively.

IEEE

CCCI
2026

**2026 IEEE International Conference on
Communications, Computing, Cybersecurity
and Informatics, CCCI 2026**

Shanghai, China
October 16-18, 2026
All Times are based on Beijing, China Local Time

Technical Sponsors:





CCCI 2026 General Chairs' Message

Welcome to the **2026 IEEE International Conference on Communications, Computing, Cybersecurity, and Informatics (CCCI 2026)**, an annual international conference bringing together researchers, practitioners, and professionals from around the world.

We are delighted to welcome you to the vibrant and dynamic city of **Shanghai, China**, a world-renowned center for technology, science, culture, education, research, innovation, business, and international collaboration.

IEEE CCCI 2026 provides a unique forum for researchers, practitioners, and innovators from academia, industry, business, and government to exchange ideas, share their expertise, present their latest results, and discuss emerging developments in the broad areas of **Communications, Computing, Cybersecurity, and Informatics**.

This year's conference features an outstanding technical program comprising a wide range of technical sessions, along with distinguished keynote presentations delivered by internationally recognized scholars and researchers. The CCCI 2026 technical program spans three days and covers a broad spectrum of topics organized around the conference's four major themes: **Communications, Computing, Cybersecurity, and Informatics**.

This year, we received a large number of high-quality paper submissions from researchers and professionals around the world. Following a rigorous peer-review and selection process, only papers meeting the high standards of the conference were accepted. The overall acceptance rate was approximately **31%**. This achievement reflects the tremendous dedication and professional efforts of the Technical Program Committee Chairs, Technical Program Committee members, and reviewers. The accepted papers represent contributions from authors across the globe, with participation from academia, industry, business, and government.

Accepted papers will be published in **IEEE Xplore**, subject to the applicable IEEE publication requirements, and are expected to be indexed in major scholarly databases, including **Scopus**, in accordance with the applicable indexing processes and policies.

The success of a high-caliber international conference such as CCCI 2026 is made possible through the collective contributions of many individuals and organizations. We extend our sincere appreciation to all authors who submitted their work to the conference, including those whose papers could not be included in the final technical program. We also express our deepest gratitude to our distinguished keynote speakers for their valuable contributions and for sharing their knowledge and insights with the CCCI community.

Our special thanks go to the Senior Program Chair, Prof. Petros Nicopolitidis, for his outstanding leadership and dedication in coordinating and guiding the technical program activities. We also sincerely thank the other Program Chairs for their valuable contributions. Our appreciation extends to all members of the Technical Program Committee and the reviewers for their professionalism, timely efforts, and commitment to maintaining the quality and rigor of the conference review process.

We would like to express our special appreciation to the Publication Chair and Registration Chair, Prof. Yu Guo, for his outstanding work, dedication, and continuous support in organizing the conference. We also extend our sincere thanks to the Registration team for their important efforts in facilitating a smooth and successful conference experience.

We are particularly grateful to our dedicated Webmaster, Prof. Antonio Bueno, for his excellent work in developing, maintaining, and supporting the conference website and related online activities. Special thanks are also extended to the members of the International Publicity Committee and the International Liaisons for their valuable efforts in promoting CCCI 2026 and strengthening its international presence.

We gratefully acknowledge the continued support and guidance of the CCCI International Steering Committee. We also sincerely thank the IEEE Communications Society for providing technical co-sponsorship of the conference.

We express our heartfelt appreciation to the leadership, faculty, and staff of Tongji University for their invaluable support, dedication, and hard work. Their contributions were essential to making CCCI 2026 a successful international event. We also like to thank the leaders and staff of the Caohejing Conference Center, Shanghai, China, for hosting the sessions in the first 2 days of the conference.

Finally, on behalf of the 2026 IEEE International Conference on Communications, Computing, Cybersecurity and Informatics (CCCI 2026), we invite all of you to enjoy the program and your stay in the gorgeous and dynamic City of Shanghai, one of the famous worldwide centers for technology, science, culture, economics, education, research, development, innovation, entrepreneurship, business, tourism, art, and culture.

We hope that your participation in CCCI 2026 will be both professionally rewarding and personally memorable.

We look forward to welcoming you to CCCI 2026 and wish you a productive, inspiring, and enjoyable conference.

Prof. Mohammad S. Obaidat

General Chair

Life Fellow of IEEE; Fellow of AAIA, FTRA, AIIA, and SCS

Past President, Society for Modeling & Simulation International (SCS)

Founding Editor-in-Chief, Wiley Security and Privacy Journal

Editor-in-Chief, International Journal of Communication Systems

Recipient of the SCS Hall of Fame Award

Recipient of the Technical Achievement Award from the IEEE Communications Society Technical Committee on Communication Software

Recently ranked by ScholarGPS as the top lifetime scholar worldwide in Telecommunications Systems Management and as the top scholar worldwide in Telecommunications over the prior five years

Recognized among the world's top 2% career-long scientists according to the recent Stanford University/Elsevier list

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Program at a Glance

All Times Listed here are Based on China Local Time

Friday, October 16, 2026		Saturday, October 17, 2026		Sunday, October 18, 2026	
9.30-9.45	Opening session	9.00-10.30	Machine Learning 1	9.00-10.15	Cybersecurity 2
9.45-10.45	Keynote Speech 1	10.30-12.00	Machine Learning 2	10.15-10.45	Closing Session
10.45-11.00	Coffee Break	12.00-12.15	Coffee Break		
11.00-12.00	Keynote Speech 2	12.15-13.45	Communications		
12.00-13.00	Keynote Speech 3	13.45-14.45	Lunch		
13.00-14.00	Lunch	14.45-16.00	Cybersecurity 1		
14.00-15.00	Keynote Speech 4	16.00-17.00	Keynote Speech 6		
15.00-16.00	Keynote Speech5	17.00-17.15	Coffee Break		
16.00-16.15	Coffee Break	17.15-18.15	Keynote Speech 7		
16.15-19.30	Computing and Informatics	20:00	Conference Banquet		

Conference venue

- October 16–17: Caohejing Conference Center, Shanghai, China
- Morning of October 18: Hilton Garden Inn Shanghai Caohejing, Shanghai, China

Schedule

FRIDAY, OCTOBER 16

Daily Program Chair: Jingxiao Ma

9:30 - 9:45

Opening Session

9:45 - 10:45

Keynote Speech 1

Title: Towards Secure and Robust Federated Learning in Adversarial Environments
Session Chair: Shousheng Sun



Distinguished Keynote speaker: Kuljeet Kaur

Abstract: Machine learning systems are increasingly deployed in distributed and privacy-sensitive environments, where data cannot be centralized due to regulatory, security, and confidentiality constraints. Federated Learning offers a compelling solution by enabling collaborative model training without directly accessing raw data. However, this decentralization introduces a critical vulnerability: the learning process itself becomes a new and powerful attack surface.

In practice, federated systems are exposed to poisoned model updates, malicious or unreliable clients, and inference attacks that can extract sensitive information from shared gradients. Although existing defense strategies leverage techniques such as robust aggregation, secure computation, and differential privacy, they remain fundamentally constrained by a persistent trade-off: it is difficult to simultaneously achieve strong privacy guarantees, high robustness against adversaries, and efficient scalability in real-world deployments.

This talk presents a set of novel defence strategies for building secure, reliable, and resilient federated learning systems that address these challenges in a unified manner.

Bio: Dr. Kuljeet Kaur works as an Associate Professor at École de technologie supérieure (ÉTS), Montreal since 2020. Her research interests are cybersecurity, Cloud/Edge Computing, the Internet of Things (IoT), applied machine learning and artificial intelligence, Communications, and Smart Grids. She has published over 75 scientific/technical articles and 3 books. She has secured research funding from various sources such as the Natural Sciences and Engineering Research Council of Canada (NSERC), Fonds de Recherche du Québec Nature et technologies (FRQNT), Department of Science and Technology (DST), and TCS Innovations Labs. Dr. Kaur is the recipient of the 2023 N2Women Rising Stars in Networking and Communications and the 2021 IEEE Technical Committee on Scalable Computing (TCSC) Award for Excellence in Scalable Computing for Early Career Researchers. She was also awarded the 2021 IEEE System Journal and 2018 IEEE ICC best paper awards. She also received the Best Research Paper Awards from the Thapar Institute of Engineering & Technology in 2022 and 2019.

She has been serving as an Editor/Guest Editor for various international journals of repute, such as Computer Communications (Elsevier), Ad hoc Networks (Elsevier), Wiley Security and Privacy Journal, Journal of Information Processing Systems, Human-centric Computing and Information Sciences (Springer), Frontiers in Communications and Networking: Board of Smart Grid Communications, International Journal of Applied Engineering Research (IJAER), and Human-centric Computing and Information Sciences (Springer). She has organized different special issues at different venues such as

IEEE Internet of Things Journal, IEEE Transactions of Industrial Informatics, IEEE Transactions on Consumer Electronics, and IEEE Open Journal of the Computer Society. She has been organizing international symposiums and workshops for several flagship conferences such as IEEE GLOBECOM, IEEE INFOCOM, IEEE ICC, ACM MOBICOM and others. She served as a technical program committee (TPC) member for several international conferences, including IEEE GLOBECOM and IEEE ICC.

10:45 - 11:00

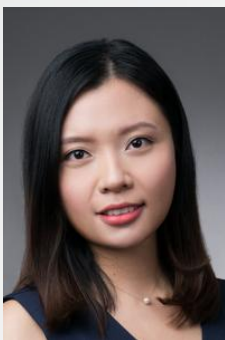
Coffee Break

11:00 - 12:00

Keynote Speech 2

Title: Multiple Access Techniques for 6G and Beyond

Session Chair: Shousheng Sun



Distinguished Keynote speaker: Yijie Mao

Abstract: Multiple access (MA) is essential in wireless systems, using dimensions like time, frequency, power, antennas, and code to serve multiple users efficiently. As wireless networks evolve to support communication, sensing, localization, and computing, along with the rise of machine learning and artificial intelligence (AI), MA techniques are expected to undergo major changes in 6G and future networks. This talk provides an overview of the past, present, and future of MA techniques, with a specific focus on their convergence with AI and their critical role in enabling multi-functional 6G systems. Concluding with a forward-looking roadmap for 6G

standardization, this tutorial aims to consolidate the expansive landscape of MA into a coherent framework, offering a holistic perspective for researchers and engineers.

Bio: Dr. Yijie (Lina) Mao is an Assistant Professor at the School of Information Science and Technology, ShanghaiTech University, Shanghai, China. She received the B.Eng. degree from the Beijing University of Posts and Telecommunications, and the B.Eng. (Hons.) degree from the Queen Mary University of London (London, United Kingdom) in 2014. She received the Ph.D. degree in the Electrical and Electronic Engineering Department from the University of Hong Kong (Hong Kong, China) in 2018. She was a Postdoctoral Research Fellow at the University of Hong Kong (Hong Kong, China) from Oct. 2018 to Jul. 2019 and a postdoctoral research associate with the Communications and Signal Processing Group (CSP), Department of the Electrical and Electronic Engineering at the Imperial College London (London, United Kingdom) from Aug. 2019 to Jul. 2021. Her research interests include the design of future wireless communications and artificial intelligence-empowered wireless networks. She is a senior member of both IEEE and the China Institute of Communications.

Dr. Mao receives the Best Paper Awards of EURASIP Journal on Wireless Communications and Networking (JWCN) 2022 and IEEE International Mediterranean Conference on Communications and Networking (MeditCom) 2023, the Exemplary Editor for IEEE Communications Surveys & Tutorials 2025, as well as the Exemplary Reviewer for IEEE Transactions on Communications 2021 and IEEE Communications Letters 2022, 2023. She is currently serving as an associate editor for IEEE Communications Surveys & Tutorials, IEEE Transactions on Mobile Computing, and IEEE Communications Letters. She was a guest editor for four special issues of IEEE Journal on Selected Areas in Communications, IEEE Transactions on Green Communications and Networking, and IEEE Open Journal of the Communications Society. She has been a Workshop Chair, a Track Chair, and Technical Program Committee (TPC) member for several leading international IEEE conferences. She has been recognized as the World's Top 2% Scientists by Stanford University in 2023-2025.

12:00 - 13:00

Keynote Speech 3

Title: Time-Domain Wideband DOA Estimation with Magnitude-only Measurements

Session Chair: Mingchen Ma



Distinguished Keynote speaker: Zhengyu Wan

Abstract: Wideband direction-of-arrival (DOA) estimation is important in radar and wireless communication systems. Conventional methods typically operate in the frequency domain by decomposing wideband signals into multiple narrowband frequency bins, but their performance may degrade when only limited snapshots are available. This talk presents a time-domain wideband DOA estimation framework based on convolutional sparse coding. Propagation delays across array sensors are directly modeled as convolutional filters, leading to a structured representation of the received signals. By exploiting the spatial sparsity of incident sources, the estimation problem is formulated as a group-sparse recovery problem. We further extend the framework to magnitude-only measurements, which are insensitive to frequency-independent sensor phase errors. The resulting problem is formulated as a group-sparse phase retrieval problem. Simulation results demonstrate effective performance with limited snapshots and improved robustness to sensor phase errors.

Bio: Zhengyu Wan received the B.Eng. degree in Electronic Information Engineering from Shenzhen University, China, in 2015, and the M.Sc. and Ph.D. degrees from the University of Sheffield, UK, in 2017 and 2023, respectively. He is currently a Lecturer with the Faculty of Engineering at Shenzhen MSU-BIT University. His research interests include array signal processing, direction-of-arrival (DOA) estimation and localization, sparse signal processing, phase retrieval, and non-coherent array processing. He has published more than 10 peer-reviewed papers in leading international journals and conferences.

Dr. Wan has served as the principal investigator of an Innovative Talent Project funded by the Department of Education of Guangdong Province. And has also been actively involved in academic service and recently co-organized a special session on Spectrum and Direction Estimation with Low-Resolution Data at the 2025 IEEE Workshop on Signal Processing Systems (SiPS).

13:00 - 14:00

Lunch

Keynote Speech 4

Title: Contactless Wireless Sensing: Theory, Methodology, and Implementation

Session Chair: Shousheng Sun



Distinguished Keynote speaker: Chi Lin

Abstract: Contactless wireless sensing is rapidly transforming the way intelligent systems perceive human activities and surrounding environments. By exploiting ubiquitous radio frequency (RF) signals, it enables continuous, privacy-preserving, and low-cost sensing without requiring wearable devices or cameras, making it a promising foundation for next-generation smart healthcare, intelligent environments, and pervasive computing.

This keynote presents our recent research advances in RF-based contactless sensing, covering the complete pipeline from fundamental sensing principles and signal processing techniques to practical system design and real-world deployments. Specifically, I will introduce three representative research directions developed in our laboratory: WiFi-based human fall detection for elderly healthcare, millimeter-wave radar sensing for high-precision contactless respiratory monitoring, and ultra-wideband (UWB)-based ambient humidity sensing for fine-grained environmental perception. These systems demonstrate how different wireless technologies can be leveraged to extract diverse physiological and environmental information while addressing common challenges such as weak signal recovery, environmental dynamics, multipath interference, and sensing robustness.

Beyond individual applications, the keynote will highlight the common theoretical foundations and algorithmic insights underlying heterogeneous wireless sensing systems, discuss practical deployment experiences and remaining technical challenges, and outline future opportunities toward ubiquitous, intelligent, and trustworthy contactless sensing. The talk aims to provide a comprehensive overview of recent advances and inspire future research and industrial innovation in RF-based sensing.

Bio: Chi Lin received B.E. and Ph.D. degrees from Dalian University of Technology, Dalian, China, in 2008 and 2013, respectively. He has been an Assistant Professor with the School of Software, Dalian University of Technology, since 2014. He is now a full Professor with the School of Software, Dalian University of Technology. He has authored more than 50 scientific papers in several journals and conferences, including MobiCom, INFOCOM, SECON, ICDCS, ICNP, ICPP, IEEE TON, IEEE TMC, ACM TECS, IEEE TVT, and the special issue of SCIENCE. His research interests include pervasive computing and wireless sensor networks. In 2015, he was the recipient of the ACM Academic Rising Star.

15:00 - 16:00

Keynote Speech 5

Title: Advancing Physical Layer Security: Directional Modulation for Next-Generation Communications and ISAC

Session Chair: Shousheng Sun



Distinguished Keynote speaker: Bo Zhang

Abstract: As wireless networks rapidly evolve toward the 6G era, securing data transmission in highly open and dynamic radio environments has become a critical challenge. While traditional cryptographic methods face growing computational vulnerabilities, Physical Layer Security (PLS) has emerged as a robust, hardware-level alternative. Among PLS techniques, Directional Modulation (DM) stands out as a cutting-edge paradigm. By exploiting array signal processing and advanced beamforming, DM synthesizes secure signals exclusively along pre-specified spatial directions, deliberately distorting the signal constellation for unauthorized eavesdroppers in all other directions.

This keynote will provide a comprehensive overview of the principles and recent breakthroughs in DM technologies. We will explore innovative array architectures and beamforming designs that maximize secrecy capacity while enhancing energy efficiency. Furthermore, the talk will delve into the transformative applications of DM in next-generation wireless systems. A special focus will be placed on its integration into Integrated Sensing and Communications (ISAC) paradigms. We will discuss how DM can be leveraged to not only guarantee secure data delivery to intended users but also facilitate simultaneous, high-precision target sensing and tracking using shared spectrum and hardware resources.

Finally, the presentation will highlight open challenges, practical implementation considerations, and promising future research directions for DM-empowered secure networks, offering valuable insights for both researchers and industry practitioners.

Bio: Dr. Bo Zhang is currently an Associate Professor, and Vice Dean of the College of Electronic and Communication Engineering and the College of Artificial Intelligence at Tianjin Normal University. He received his Ph.D. degree from the University of Sheffield, UK, in 2018.

His research interests lie at the forefront of wireless communications and signal processing, with a particular focus on Integrated Sensing and Communications (ISAC), Simultaneous Wireless Information and Power Transfer (SWIPT), physical layer secure communications via directional modulation, and array signal processing.

Dr. Zhang has authored more than 50 peer-reviewed scientific papers in journals and conferences and holds 5 authorized national invention patents.

16:00 - 16:15

Coffee Break

Computing and Informatics

Session Chair: Shousheng Sun

Complexity-Reduced Minimax-Type Odd-Order Tunable Bandpass Filter Tian-Bo Deng (Toho University, Japan)

Image Reconstruction Using a 36-Dimensional Complex Impedance and Power Spectral Density Feature Space in a Simulated Memristive Reservoir

Khalid Tantawi (University of Tennessee at Chattanooga, USA); Patrick Collier (Oak Ridge National Lab, USA); John Katsaras and Robert Sacci (Oak Ridge National Laboratory, USA); Peter T. Podar (University of Illinois at Urbana-Champaign, USA); Zach Griffith (University of Alabama, USA)

Advanced Central Piecewise Mechanism with Smooth Sensitivity

Akito Yamamoto and Tetsuo Shibuya (The University of Tokyo, Japan)

Indirect Optimization: Evolving Auxiliary Problem Instances for Combinatorial Optimization

Giuseppe Lancia (University of Udine, Italy)

KineTwin-Former: A Dual-IMU Neural Kinematic Digital Twin Framework for Personalized Elbow Range-of-Motion Reconstruction, Movement Quality Assessment, Compensatory Motion Detection, Fatigue-Aware per

Bhalvrid Chatyodanant (Crest School Bangkok, Thailand); Aueaphum Aueawatthanaphisut (Sirindhorn International Institute of Technology, Thammasat University, Thailand)

SATURDAY, OCTOBER 17

Daily Program Chair: Junyuan Wang

9:00 - 10:30

Machine Learning 1

Session Chair: Aueaphum Aueawatthanaphisut

Data-Driven Predictive Maintenance and Anomaly Detection for Microgrid Components: A Digital-Twin and ML Approach

Hamza Arif (University of Central Punjab (UCP), Pakistan)

Evaluating Disability Framing Bias in Arabic Large Language Models

Norah Alosfur and Saad A. Al-Ahmadi (King Saud University, Saudi Arabia)

Arabic Poetry Generation Under Meter and Rhyme Constraints Using Fine-Tuned Large Language Models

Saad A. Al-Ahmadi (King Saud University, Saudi Arabia)

FEDS-Grid: Federated Deep Learning for Efficient Detection of Power Grid Stability Beyond 5G

Nehi Shah (Nirma University, Ahmedabad, India); Trupesh Patel (Unitedworld Institute of Technology, Karnavati University, India); Tejal Upadhyay (Nirma University, India); Rajesh Gupta, Sudeep Tanwar and Nilesh Kumar Jadav (Marwadi University, India)

10:30 - 12:00

Machine Learning 2

Session Chair: Aueaphum Aueawatthanaphisut

Multi-View Prohibited Item X-Ray Security Image Synthetic Method and Dataset

Zhuo Li (The Third Research Institute of the Ministry of Public Security, China); Jie Dai (The Third Research Institute of The Ministry of Public Security, China)

CSP-KD: Clustering-Based Sentence Pruning for Multi-Teacher Knowledge Distillation

Soeun Choi, Jieui Kang, Eunyoung Yoo, Yeonhee Kim and Jaehyeong Sim (Ewha Womans University, Korea (South))

CLP-Aware Clustered Federated Learning via Anchor Gradient Projection for Mixed Data Shifts in IoV Edge Networks

ShouSheng Sun (Tong Ji University, China); Qi Zhou (Tongji University, China)

RICA-GenQC: A Diffusion-Augmented Recursive Vision Framework for Rare Surface Defect Detection, Explainable Pixel-Level Localization, and Cost-Aware Human-in-the-Loop Quality Control

Pannawit Chancharoensuk (Ekamai International School, Thailand); Aueaphum Aueawatthanaphisut (Sirindhorn International Institute of Technology, Thammasat University, Thailand)

12:00 - 12:15

Coffee Break

12:15 - 13:45

Communications

Session Chair: Mingchen Ma

Angle-Frequency Directional Modulation for SPDP-RIS-Aided Wideband Communications

Lingji Zuo and Zhang Bo (Tianjin Normal University, China); Jing Li (School of Electronic and Communication Engineering, Tianjin Normal University, China); Baoju Zhang (Tianjin Normal University, China); Zhengyu Wan (Shenzhen MSU-BIT University, China)

Secure ISAC Systems with Discrete-Phase Intelligent Reflecting Surfaces

Zhenshuo Cui, Zhang Bo, Meng Su and Baoju Zhang (Tianjin Normal University, China); Zhengyu Wan (Shenzhen MSU-BIT University, China)

Joint Beamforming and Position Optimization for UAV-Mounted RIS-Assisted ISAC Systems

Meng Su, Zhang Bo, Zhenshuo Cui and Baoju Zhang (Tianjin Normal University, China); Zhengyu Wan (Shenzhen MSU-BIT University, China)

Research on Intelligent Reflecting Surface Aided Millimeter-Wave Directional Modulation Secure Communication for UAV Networks

Jing Li (School of Electronic and Communication Engineering, Tianjin Normal University, China); Zhang Bo, Lingji Zuo and Baoju Zhang (Tianjin Normal University, China); Zhengyu Wan (Shenzhen MSU-BIT University, China)

DisFed: Federated Learning for Early Disaster Warning Using Internet of Drone Things Payel

Biswas (Jogesh Chandra Chaudhuri College, India); Mohammad S. Obaidat (University of Jordan, USA); Arnab Hazra (Netaji Subhash Engineering College, WB, India); Debashis De (Maulana Abul Kalam Azad University of Technology, India)

13:45 - 14:45

Lunch

14:45 - 16:00

Cybersecurity 1

Session Chair: Mingchen Ma

Evidence-Gated SAST Triage with Small Local LLMs: A ZeroFalse-Inspired Precision-First Pipeline

Yury Tumanov (Rostelecom, Russia)

Post-Quantum Safe Lattice-Based Access Control Scheme Using Blockchain-as-a-Service in IoMT-Enabled Healthcare System

Karthik Raj Pasumala (International Institute of Information Technology, Hyderabad, India);
Abhishek Kumar Pandey (International Institute of Information Technology Hyderabad, India);
Ashok Kumar Das (International Institute of Information Technology, Hyderabad, India)

Post-Quantum Secure Somewhat Homomorphic Encryption Scheme in IoMT-Enabled Healthcare Environment

Monalisa Sarkar (International Institute of Information Technology, Hyderabad, India);
Mohammad S. Obaidat (University of Jordan, USA); Debjani Mallick and Ashok Kumar Das
(International Institute of Information Technology, Hyderabad, India)

16:00 - 17:00

Keynote Speech 6

Title: Generalizing Lipreading to Unseen Speakers by Learning Common Features

Session Chair: Shousheng Sun



Distinguished Keynote speaker: Feng Xue

Abstract: Lipreading translates visual lip movements into text, providing an alternative means of communication for individuals with hearing impairments. Existing methods often learn speaker-specific visual features, limiting their generalization to unseen speakers. However, speakers share inherent pronunciation features when articulating the same phonemes. To exploit this commonality, we propose CFLip, a sentence-level lipreading framework that learns speaker-independent pronunciation features. Specifically, a data augmentation strategy generates pseudo videos with identical labels but different speaker characteristics by replacing frame segments in real videos. A dual-stream network then extracts common pronunciation features from video pairs, guided by a generalization loss that minimizes feature discrepancies between speakers articulating the same words. Extensive experiments on benchmark datasets demonstrate that CFLip effectively captures shared pronunciation patterns and improves generalization to unseen speakers.

Bio: Xue Feng, Professor and Doctoral Supervisor at Hefei University of Technology, Dean of the School of Intelligent Software Engineering. He has long been engaged in research on artificial intelligence, multimodal big data analysis, and intelligent recommendation systems. He has presided over 5 projects funded by the National Natural Science Foundation of China (Key Program, General Program, and Young Scientists Fund), and over 30 various scientific research projects including Anhui Provincial Natural Science Foundation projects and major science and technology special projects of Anhui Province. He has published more than 40 academic papers in high-level journals and conferences such as TKDE, TMM, TOIS, TCSVT, TOMM, TCSS, SIGIR, and AAAI. He has been granted 10 invention patents in areas such as multimedia processing and recommendation systems.

Professor Xue Feng was selected for the 7th Batch of Anhui Province Innovation and Entrepreneurship Leading Talent Special Support Program (by the Organization Department of the Provincial Party Committee) and serves as the leader of the Hefei Industrial Innovation Team (Artificial Intelligence). The DeepICF personalized recommendation algorithm proposed by the applicant (cited over 400 times on Google Scholar) won second place in the online evaluation competition for recommendation algorithms on a mobile knowledge-sharing platform (jointly organized by Zhihu and Tsinghua University). He received the Best Paper Award at the China Multimedia Conference 2020.

Professor Xue Feng is a member of the Computer Vision Committee and the Multimedia Committee of the China Computer Federation (CCF), and a member of the Expert Committee of the Hefei Big Data Industry Alliance. He is an expert for both preliminary and panel reviews of the National Natural Science Foundation of China, an expert reviewer for the National Science Awards, and an expert for the review of major science and technology projects in Anhui Province.

17:00 - 17:15

Coffee Break

17:15 - 18:15

Keynote Speech 7

Title: Trust in Next Generation Networks

Session Chair: Mingchen Ma



Distinguished Keynote speaker: Abderrahim Benslimane

Abstract: Managing trust in a distributed context, such the one that we are targeting Industrial Internet of Things (IIoT), is challenging when collaborating nodes don't know each other, have no stable connections, can be huge, have severe resources constraints (e.g., computing power, energy, bandwidth, time), and dynamics (e.g., topology changes, node mobility, node failure, propagation channel conditions). Moreover, they have heterogeneous relationships.

This talk will introduce trust in general and then will introduce several examples where we applied modeling and managing trust. While certificate revocation strategies in wireless networks introduces a heavy complexity mainly in IoT, we introduced trust to renew/revoke certificates for a security purpose. As illustration, I will present our contribution which is a new efficient certificate verification scheme based on short-lived certificate and suitable for IIoT network requirements. Also, I will present our work that introduces trust in federated Learning. Finally, I will discuss some open researches using Trust in 6G.

Bio: Abderrahim Benslimane is Full Professor of Computer-Science at the Avignon University/France since 2001. He is Former Vice Dean of the Faculty of Sciences and Technology and Former head of the master Degree SICOM. He is IEEE VTS Distinguished Lecturer/Speaker. He is IEEE ComSoc representative of the IEEE Blockchain Technical Community (BCTC). Currently, he is serving as Vice-Chair of the IEEE VTS Committee on Mission Critical Communications and Vice-Chair of the Steering Committee of the IEEE ComSoc Social Network Technical Committee. He served as IEEE ComSoc Steering Chair of Multimedia Communications Technical Committee 2022–2024 and previously served as Vice Chair 2020–2022. He is past Chair of the ComSoc Technical Committee of Communication and Information Security 2017–2019. He is Advisory board member of IEEE IoT journal, Associate Editor of IEEE Transactions on Information Forensics and Security, IEEE Wireless Communication Magazine, IEEE Transactions on Vehicular Technology, IEEE Transactions on Mobile Computing and Elsevier Ad Hoc Networks. He is co-founder and serves as General-Chair of the IEEE WiMob since 2005; the 2026 edition will be held in Avignon, France during 14-16 October 2026. He was Board committee member, Vice-chair of Student activities of IEEE France section/Region 8; he was Publication Vice-chair and Conference Vice-Chair of the ComSoc TC of Communication and Information Security. He participates to the steering and the program committee of many IEEE international conferences. He has more than 350 refereed international publications (books, conference proceedings, journals and conferences) and more than 25 Special issues. All publications are in his research topics. He supervised more than 25 Ph.D thesis and more than 42 M.Sc. research thesis. He managed several funded projects in national and international collaboration

20:00

Conference Banquet

SUNDAY, OCTOBER 18

Daily Program Chair: Zhengyu Wan

9:00 - 10:15

Cybersecurity 2

Session Chair: Fangxin Qu

Bidirectional Trust-Based Framework with Post-Quantum Secure Recommendation Sharing for IoST-Enabled Applications

Nileema Patil (International Institute of Information Technology, Hyderabad, India); Pratyaksh Tiwari (International Institute of Information Technology, Bhubaneswar, India); Ashok Kumar Das (International Institute of Information Technology, Hyderabad, India)

Transformer-Based Cyber Security Threat Detection and Analysis Framework for Smart Grids

Henil Panchal (Queens University Belfast, India); Mohammad S. Obaidat (University of Jordan, USA); Zemi Lakkad (MAQ Software, India); Nilesh Kumar Jadav (Marwadi University, India); Vandana Singh (Jain University, India); Rajesh Gupta and Sudeep Tanwar (Marwadi University, India)

FL-Based DDoS Attack Detection Framework for Wearable Health IoT Devices in SDN Networks

Sneha Singh (Nirma University, India); Riya Upadhyay (Nirma University, India); Lakshit Pathak (Tatvic Digital Analytics, India); Jetani Harshil (Nirma University, India); Rajesh Gupta and Sudeep Tanwar (Marwadi University, India); Akshita Abrol (Singapore Institute of Technology, Singapore)

10:15- 10:45

Closing Session

