2025 17th International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery

(第17届网络分布式计算与知识发现国际会议)

October 18th - 19th, 2025

Hosted by: Taiyuan University of Technology

Conference Address: Grand Madison Hotel Jinzhong Yuci Haitang, Yuci, Jinzhong, Shanxi Province, China

(山西省晋中榆次海棠美仑国际酒店，晋中市榆次区安宁大街611号)

No. 611, Anning Street, Yuci District, Jinzhong City, Shanxi Province, China

Web: www.CyberC.org

https://ccst.tyut.edu.cn/CyberC/gyCyberC.htm

Technically Co-sponsored by: IEEE, IEEE Communications Society, IEEE Communications Society on Big Data, IEEE Computer Society, IEEE China, University of Louisville (MINDs Lab)

Hosted by: Taiyuan University of Technology

The 17th CyberC (IEEE TCBD)

We are delighted to welcome you to the 17th CyberC (IEEE TCBD) (International Conference on Cyber-enabled distributed computing and knowledge discovery), sponsored by the IEEE Technical Committee on Big Data (TCBD).

CyberC encompasses a wide range of R&D topics including AI/ML, cybersecurity & privacy, knowledge discovery, deep learning, computer vision, image processing, object detection, and other cyber-based technologies. Since its inception in 2009, CyberC has provided a vital platform for presenting and discussing cutting-edge innovations in this field. The 17th CyberC is proudly hosted by The Taiyuan University of Technology.

We extend our heartfelt gratitude to the IEEE, IEEE Communications Society, IEEE Communications Society Technical Communication on Big Data, IEEE Computer Society Technical Community on Computer Communications, IEEE Computer Society, and IEEE in China for their supports on the conference. We also sincerely appreciate the contributions of the Taiyuan University of Technology and Xi'an Jiaotong-Liverpool University. The success of CyberC would not be possible without the sponsorship and active participation of these esteemed organizations.

Dr. Bin Xie and Prof. Yongle Chen

CyberC Co-chair & General Co-chair
September 15, 2025

Important notes for CyberC paper authors and attendees:

- **Registration**: Please register at the CyberC onsite to retrieve your conference material.
- **Schedule Adjustments**: Some events in the conference schedule may be adjusted due to unexpected issues.
- **Notifications**: Join the WeChat (Bin-InfoBeyond) group for urgent notifications.
- **Presentations**: All papers must be orally presented with PPT. The minimal time for presentations is 15 minutes, and the maximal time is 20 minutes.
- **Session Chair**: Each session will have a Session Chair. Extra time for presentations is permitted under their permission.
- **Equipment**: For your presentation, you can use your own computer or the computer from the Session Chair which runs on a Windows system.
- **Belongings**: Please take care of your belongings at all times and enjoy the conference.
- **Contact**: If there are missing materials or any corrections needed for Fapiao, please email your information to paper@cyberc.org. For other issues, contact papers@cyberc.org or seek help onsite.
- **Paper Correction**: If you found mistakes on the paper, you can contact IEEE editor (Javier Gurrola at j.gurrola@contractor.ieee.org) for correction.
- **Publication**: All presented papers will be collected to IEEE Xplore (about 2-3 months) and EI database (4-6 months).

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CyberC 2025 Keynotes

Keynote: David Lu, Vice President (retired recently), Network Systems, AT&T Labs; Board Member of Non-Profit Organizations and Industry Board Advisor, USA

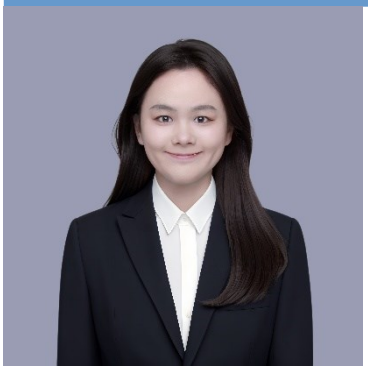
David served in various leadership positions at AT&T that resulted in multibillion-dollar savings over the past 35 years. Currently holds 60+ patents and frequently appears as speaker at technical and leadership seminars and conferences throughout the world. Led global R&D organizations of more than 5,000 people at AT&T. Was responsible for the next generation SDN automation platform enabling AT&T's network virtualization and 5G/Fiber networks. Well respected as an inspirational industry leader in hyper scale software and AI driven platforms with institutional knowledge and world leading expertise achieving best in class quality, reliability, speed, and demonstrable financial/service benefits! Work pioneered many of the world's first innovations and promoted many distinguished industry leaders and technical talents. Awards received include CIE-USA AAEOY Engineer of the Year Award in 2017 and Executive of the Year Award in 2023, IEEE CQR Chairman's Award, CIO 100 Award, AT&T Innovation and Patent Awards, and AT&T Corporate Leadership Award. Actively engaged in community, professional, and faith work.

Topic: Top 10 Innovations of Communication and System for the Next Decade

Abstract: The rapid development of Gen AI is changing the communication and system landscape at an unprecedented pace. The innovation and engineering of material science is revolutionizing the optics of semiconductors which drives the impossible tasks of creating sensing and deep space networks. THz (Terahertz) wireless networks, and possible molecular networks of nanobots we could not even imagine just a few years ago. In addition, the foundational research and latest development of quantum computing compounded with AI enabled error corrections bringing this breakthrough technology much closer to reality. All these are going to drive additional apps such as security balance of offensive AI or defensive AI, Real Time Brain-To-Brain communications, and Holographic Telepresence that will usher in a new world with unimaginable social and economic impact. This talk will audaciously predict 10 thought-provoking innovative ideas in the next decade.

CyberC 2025 Keynotes

Keynote: Associate Professor Rong Du, School of Compute Science and Technology, TYUT



Rong Du is an Associate Professor in the School of Computer Science and Technology at Taiyuan University of Technology (TYUT), China. She received her B.S. degree in Computer Science from Beijing Normal University, her M.S. degree from Peking University, and her Ph.D. degree from The Hong Kong Polytechnic University.

Her research interests lie at the intersection of security and privacy, data science, and data management. Her recent work spans a range of topics, including local differential privacy, Byzantine-robust learning, data fusion and integrity, high-dimensional and spatiotemporal data processing, privacy-preserving image publishing, heavy-hitter and histogram estimation, membership testing, and Cuckoo hashing. She has published several first-author papers in top-tier conferences and journals, including ICDE, VLDB, and TDSC, among others. She has also served as a reviewer for prestigious journals such as IEEE Transactions on Dependable and Secure Computing (TDSC), IEEE Transactions on Information Forensics and Security (TIFS), IEEE Transactions on Knowledge and Data Engineering (TKDE), and Information Sciences.

Topic: Local Differential Privacy for Data Analytics: From Theory to Practice

Abstract: The fundamental principle of Local Differential Privacy (LDP) is to protect individual data by perturbing it at the source, ensuring that private information remains confidential—even from the data collector. As data-driven technologies advance and regulations such as GDPR increasingly emphasize user privacy, LDP has emerged as a rigorous and practical privacy standard, enabling large-scale data collection and analysis without compromising individual confidentiality. However, adopting LDP also brings significant challenges—most notably, the trade-off between privacy and data utility, the complexity of processing high-dimensional and correlated data, and the need for efficient, scalable algorithms for real-world deployment. This talk will introduce the basic ideas and motivations behind LDP with simple, intuitive examples, discuss why LDP has attracted so much attention in recent years, the types of problems it can address, the key trade-offs and open issues we face in practice. Finally, share some promising research directions and perspectives on the future of LDP. We hope this talk will help more people appreciate both the value and the limitations of LDP, and inspire further exploration in this important field.

CyberC 2025 Keynotes

Keynote: Dr. Chih-Lin I, Chief Scientist of Wireless Technologies at China Mobile

Chih-Lin is the Chief Scientist of Wireless Technologies at ChinaMobile. She received her Ph.D. in Electrical Engineering from Stanford University. She has won the 2005 IEEE ComSoc Stephen Rice Prize, 2018 IEEE ComSoc Fred W. Ellersick Prize, 7th IEEE Asia-Pacific Outstanding Paper Award, and 2015 IEEE Industrial Innovation Award for Leadership and Innovation in Next-Generation Cellular Wireless Networks.

She is the Co-Chair of the O-RAN Technical Steering Committee and an O-RAN Executive Committee Member, the Chair of FuTURE 5G/6G SIG, the Chair of WAIA (Wireless AI Alliance) Executive Committee, an Executive Board Member of GreenTouch, a Network Operator Council Founding Member of ETSI NFV, a Steering Board Member and Vice Chair of WWRF, a Steering Committee member and the Publication Chair of IEEE 5G and Future Networks Initiatives, the Founding Chair of the IEEE WCNC Steering Committee, the Director of the IEEE ComSoc Meetings and Conferences Board, a Senior Editor of IEEE Trans. Green Comm. & Networking, an Area Editor of ACM/IEEE Trans. Networking, an Editorial Board member of IEEE Access; Executive Co-chair of IEEE Globecom 2020, IEEE WCNC 2007, IEEE WOCC 2004 and 2000; a member of IEEE ComSoc SDB, SPC, and CSCN-SC; Chair of IEEE Eric E. Sumner Award Committee, Vice-chair of IEEE Tech Field Awards Council, a member of IEEE Alexander Graham Bell Medal Committee, IEEE Award Policy and Portfolio Review Committee, and IEEE Ad Hoc Committee on the Review of Fellow Elevation; an International Advisory Panel Member of Singapore FCP, and a Scientific Advisory Board Member of Singapore NRF.

She has published over 200 papers in scientific journals, book chapters and conferences and holds over 100 patents. She is co-author of the book “Green and Software-defined Wireless Networks – From Theory to Practice” and has also Co-edited three books: “Ultra-dense Networks – Principles and Applications”, “5G Networks – Fundamental Requirements, Enabling Technologies, and Operations Management”, and “Blockchains: Empowering Technologies and Industrial Applications”. She has given more than 100 5G and 6G keynote speeches worldwide and has over 20000 Google Scholar citations in the past decade.
She is a Life Fellow of IEEE and a Fellow of WWRF. Her current research interests center around ICDT Deep Convergence: “From Green & Soft to Open & Smart”.

Topic: Mobile Network Revolution from 5G to 6G: The AI/ML Factor

Abstract: With 5G networks steadily achieving global maturity, AI has emerged as the catalytic empowering force driving Mobil networks toward adaptive, self-optimizing systems. While current AI/ML implementations in 5G RAN, core networks and management systems demonstrate measurable improvements, these remain isolated solutions rather than architecturally embedded capabilities. This keynote will systematically analyze the paradigm shift required to transition from AI-assisted 5G networks to truly AI-native 6G infrastructures.

Specifically, the status and impacts of GenAI, multi-modal LLM, wireless foundation models, AI Agent, etc.on an E2E AI-native network architecture across infrastructure, access network and management layers will be presented, whereas the evolution of network infrastructure into an AI-native service fabric propelling AI-as-a-Service ecosystem will be highlighted. The standardization progress and challenges in creating AI-native network will be elaborated, and a rough sketch of AI/ML in Day1 6G will be discussed.

CyberC 2025 Keynotes

Special Tutorial: Prof. Honggang Zhang (张宏刚), Macau University of Science and Technology (MUST)

Honggang Zhang (Fellow, IEEE) is a professor in Macau University of Science and Technology (MUST), Macau, China. He was the founding chief mManaging editor of Intelligent Computing, a Science Partner Journal, as well as a Professor with the College of Information Science and Electronic Engineering, Zhejiang University, Hangzhou, China. He was an Honorary Visiting Professor with the University of York, U.K., and an International Chair Professor of Excellence with the Université Européenne de Bretagne (UEB) and Supélec, France. He has coauthored and edited two books: Cognitive Communications: Distributed Artificial Intelligence (DAI), Regulatory Policy & Economics, Implementation (John Wiley & Sons) and Green Communications: Theoretical Fundamentals, Algorithms and Applications (CRC Press), respectively. His research interests include cognitive radio networks, semantic communications, green communications, machine learning, artificial intelligence, intelligent computing, network slicing, and Internet of Intelligence. He is a co-recipient of the 2021 IEEE Communications Society Outstanding Paper Award and the 2021 IEEE Internet of Things Journal (IoT-J) Best Paper Award. He was the leading Guest Editor for the Special Issues on Green Communications of IEEE Communications Magazine. He served as a Series Editor for IEEE Communications Magazine (Green Communications and Computing Networks Series) from 2015 to 2018 and the Chair of the Technical Committee on Cognitive Networks of IEEE Communications Society from 2011 to 2012. He is the Associate Editor-in-Chief of China Communications.

Topic: Agentic AI, AI-RAN, AI-Core, and Future 6G

Abstract: Large language model (LLM)-enabled agentic AI has triggered tremendous interests to empower information generation and inference. Towards personalized generative inference, an agentic cloud-edge-terminal networking collaboration is promising, as it facilitates the effective ubiquitous orchestration of heterogeneous communication and computing resources among the distributed AI agents. Accordingly, this tutorial will address the cutting-edge topic on how to inject agentic AI (intelligence)genes into the next-generation communication & computing networks and achieve AI-native 6G network.
In concrete, with the title of “Agentic AI, AI-RAN, AI-Core, and Future 6G”, this tutorial mainly includes the following contents

1. Agentic AI and networked AI agents environment for 6G;
2. MCP (Model Context Protocol) and A2A (Agent-to-Agent) protocols for AI-agent communications: achieving a unified interface and standardized interaction process between distributed intelligent agents, and solving cross-platform collaboration problems;
3. Vision, architecture and latest technological advancements of AI-RAN;
4. Core concepts and architectural innovations of AI-Core;
5. Agentic AI and NetGPT based on “semantic bus”: a new communication paradigm that integrates transmission, understanding and knowledge expression.

This tutorial not only contains academic analyses on intelligent multi-agent communications, computing network models, and AI-native 6G networks, but also gathers a large number of the latest developments in the global industry, covering multiple levels such as architecture, hardware, protocols, standards, etc., providing a panoramic development path from theory to practice.

CyberC 2025 Panel Chair

Special Host for Panel Discussion: Prof. Angelos Stefanidis, Dean, School of AI and Advanced Computing, Xi'pu JiaoTong University

Professor Angelos Stefanidis is the founding Dean of School of AI and Advanced Computing and the School of Internet of Things at XJTLU Entrepreneur College (Taicang). He leads the strategic development of the Schools.He is the former Head of Department of Computing Informatics at Bournemouth University (BU), UK. As Head of Department at BU, he was responsible for over 50 academic staff and 1,200 students. Prior to that, Angelos was the Associate Dean for Global Engagement at BU, providing strategic leadership and operational support to large international academic partnership projects in China, South-East Asia, the Middle East, India, and Europe. Additionally, he has been the Director of Continuing Professional Development at the University of Westminster, UK, where he managed a large portfolio of accredited IT training programmes for industry. Before moving to BU, Angelos served as the Head of International Development in the Faculty of Science and Technology at the University of South Wales, UK.Angelos received his PhD in Information Systems from Loughborough University, UK. He obtained his MSc Information Systems Design and BSc Software Engineering from the University of Westminster, London, UK. He is also a Registered PRINCE2 Practitioner and holds a Postgraduate Certificate in Higher Education (PGCert HE).Part of Angelos' research interests lie in the educational aspects of computer science, focusing on the issue of the alignment of academic curricula with industry needs. In recent years, his interests have also included aspects of social computing, which encompass digital addiction and online gambling. More recently, he worked on developing a new research centre focusing on AI for Digital Health, combining expertise in data science, digital health, and AI.He is a member of the European Association of International Education (EAIE) Professional Development Committee, Member of the British Computer Society and a Chartered IT Professional, Fellow of the Higher Education Academy (UK), and Member of the Association for Computing Machinery (ACM).

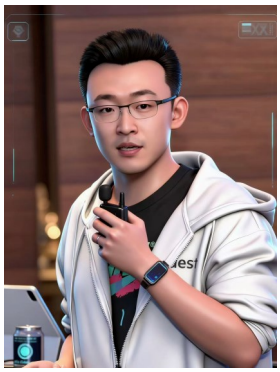
Part of Angelos' research interests lie in the educational aspects of computer science, focusing on the issue of the alignment of academic curricula with industry needs. In recent years, his interests have also included aspects of social computing, which encompass digital addiction and online gambling. More recently, he worked on developing a new research centre focusing on AI for Digital Health, combining expertise in data science, digital health, and AI.

CyberC 2025 Panel Speakers

Panelist: Dr. Ming Zhou, Assistant Professor, Nanjing University of Science and Technology

Ming Zhou, Ph.D. is an Assistant Professor at the School of Cyberspace Security, Nanjing University of Science and Technology, where he also leads the Artificial Intelligence of Things Security (AIoTSec) Laboratory. He received his Ph.D. in 2023 from the University of Chinese Academy of Sciences, with joint training at Virginia Tech. In recent years, Dr. Zhou has served as Principal Investigator for projects funded by the National Natural Science Foundation of China and the National 242 Information Security Program, and as a technical lead for multiple national-level initiatives. He has published 13 papers in leading international conferences and journals, including ACM EuroSys and ACM CCS. Dr. Zhou is a professional member of ACM and IEEE, and an Executive Committee Member of the CCF Special Interest Committee on IoT. He was recognized as an Outstanding Reviewer for the Journal of Information Network Security in 2024. He also serves as a TPC member for several international conferences, including ICPADS 2025, ISPA 2025, and AIoTSys 2025. His research interests include operating system security, embedded firmware security, automated vulnerability exploitation and patching, network and protocol security, intrusion deception, and cyber offense-defense (CTF).

Panelist: Jie Min, Head of AI Solutions at VITURE



Mr. Jie MIN is the Head of AI Solutions at VITURE, a top XR brand, holds a Master of Science in Electrical Engineering from the University of Southern California and has over a decade of working experience in both the US and China. Previously, as an Expert Research Scientist at Siemens, Jie focused on AI edge computing architectures and full lifecycle management of solutions. As both the technical lead and project manager, Jie spearheaded multiple AR+AI and large language model (LLM) projects in the industrial and smart city sectors. Jie has extensive experience coordinating multinational client needs, managing cross-functions teams, and delivering AI solutions for various applications.

Mr. Jie MIN is also the inventor of several US and Chinese patents and holds an NVIDIA multi-GPU deep learning DLI certification. Jie is a versatile AI technology expert with a global perspective and hands-on experience.

CyberC 2025 Moderators and Organizers

Prof. Yongle Chen (陈永乐), Taiyuan University of Technology

Yongle Chen is a Professor and currently serves as the Dean of the School of Artificial Intelligence at Taiyuan University of Technology, as well as the Director of the Shanxi Provincial Key Laboratory of Industrial Internet Security. He also serves as Secretary-General of the ACM China Council Taiyuan Chapter and Executive Committee Member of the CCF Technical Committee on the Internet of Things. Professor Chen has published over 100 academic papers, holds 2 successfully transferred patents, and has authored 3 scholarly monographs. He has led more than 20 research projects, including key projects of the National Key Research and Development Program of China and grants from the National Natural Science Foundation of China. He has received the Second Prize of the Provincial Science and Technology Progress Award and was selected as a National Outstanding Talent in Cyberspace Security.

Dr. Dan Yu (于丹), Taiyuan University of Technology

Dan Yu, Ph.D., is currently a Lecturer and Master’ s Supervisor at the College of Computer Science and Technology (Big Data College), Taiyuan University of Technology. Her research interests primarily focus on Internet of Things (IoT) security. She is a member of the China Computer Federation (CCF) and the Association for Computing Machinery (ACM). She also serves as a reviewer for several leading international journals and flagship conferences, including IEEE Transactions on Vehicular Technology (TVT), IEEE Internet of Things Journal (IoTJ), IEEE Global Communications Conference (Globecom), and the IEEE International Conference on Communications (ICC).Dr. Yu has published more than 20 academic papers and holds 6 granted invention patents, 2 of which have been successfully transferred. She has presided over and participated in multiple national and provincial research projects, including sub-projects of the National Key Research and Development Program of China, the National Natural Science Foundation of China, and key R&D projects of Shanxi Province.

Dr. Zhihui Zhao （赵智慧）, Taiyuan University of Technology

Zhihui Zhao, Ph.D., is currently a Lecturer and Master's Supervisor at Taiyuan University of Technology. He received his Ph.D. degree from the Institute of Information Engineering, Chinese Academy of Sciences, and his Bachelor's degree from Dalian University of Technology. His research interests include IoT security, edge computing security, and embodied intelligence security. Dr. Zhao has published 8 research papers in top-tier international journals and conferences such as IEEE TMC, SRDS, and ICNP, and holds 10 invention patents (granted or under application). He has been involved in several national and regional research projects, including the National Key R&D Program, Key Program of the National Natural Science Foundation of China, and the Beijing Municipal Science and Technology Program.He was honored with the ACM Taiyuan Chapter Rising Star Award, and has served as a member of the Organizing Committee of CWSN 2024 and a TPC member of ICA3PP. He also serves as a reviewer for several leading journals and conferences, including IEEE TIFS, Cybersecurity, Globecom, IPCCC, and Blockchain.

CyberC 2025 Moderators and Organizers

Dr. Jianhua Wang (王建华), Taiyuan University of Technology

Jianhua Wang, is currently a lecturer and master's supervisor at Taiyuan University of Technology. He received his PhD degree in cybersecurity from Beijing Jiaotong University, specializing in artificial intelligence security. He received the 2024 ACM Taiyuan Chapter Rising Star Award and has published over 10 papers in CCF-recommended journals and conferences, including IEEE TC, TNSM, IoTJ, Globecom, ICC, and ISCC, as well as papers indexed by the Chinese Academy of Sciences (SCI). He holds two authorized invention patents. He has led or participated in numerous NSFC or Shanxi province projects. He serves as a reviewer for journals such as IEEE TDSC, TKDE, TNSE, and IoTJ, and is a member of the CWSN 2024 Organizing Committee.

Ying Liang (梁莹), Taiyuan University of Technology

Liang Ying is a Ph.D. candidate at Taiyuan University of Technology, specializing in embodied intelligence security. She has contributed to several national and provincial research proposal preparations. She also participated in front-end development for the university website and the Chinese site of CyberC 2025.She has received national awards in major academic competitions, including a Second Prize in the 26th China Robot and AI Competition, a Second Prize in the 2nd “Huawei Cup” Graduate Cybersecurity Innovation Competition, and a Third Prize in the 5th “Huawei Cup” Graduate AI Innovation Competition.She has also been awarded multiple academic scholarships at both the university and school levels in recognition of her outstanding academic performance.

CyberC 2025 Moderators and Organizers

Chi-Ming Chen, Advisor, Ph.D. , AT&T Labs (Retired), USA

Dr. Chi-Ming Chen retired from AT&T Labs in 2018 after 33 years of working in the telecommunications industry, including 10 years with Bell Communications Research (Bellcore). In addition, he was a faculty member of Tsing Hua University Hsinchu from 1975 to 1979. Chi-Ming received his Ph.D. in Computer and Information Science from the University of Pennsylvania; M.S. in Computer Science from the Pennsylvania State University; M.S. and B.S. in Physics from Tsing Hua University, Hsinchu.

Chi-Ming is a Life Senior Member of IEEE and Senior Member of the ACM. Dr. Chen is an active IEEE volunteer. He is an Advisory Board Member of IEEE Communications Society (ComSoc) Communications Quality & Reliability Technical Committee (CQRTC). He has served as a voting member of the IEEE GLOBECOM & ICC Management & Strategy (GIMS) Standing Committee from 2012 to 2017. He was the Executive Chair of ICC 2019, Shanghai, China, and the Keynote Chair of ICC 2025, Denver. He co-chaired the Roadmap Working Group of IEEE Future Networks Initiative (was named as 5G Initiative initially) from 2016 to 2023. The Working Group publishes annually the International Network Generations Roadmap (INGR) which identifies the drivers, needs, challenges, enablers, and potential solutions of various wireless related technologies over the next 3-, 5-, and 10-year time spans. He organizes the IEEE Emerging Technology Reliability Roundtable (ETR-RT) since 2014.

Currently, he is the Operations Co-Chair of GLOBECOM 2025 in Cape Town, South Africa; and the Executive Chair of GLOBECOM 2026 to be held in Macau, China in 2026. He has been a key organizer of CyberC since its first year (2009).

Vivian Ye (叶维红), AT&T, USA

Vivian is a Principal Member of Technical Staff at AT&T, where she has dedicated the last 25 years of her career. She has held a variety of technical and leadership positions, including roles in development, engineering, and system architecture. Vivian excels at tackling new challenges and leading initiatives as needed. Her expertise in integrating cutting-edge technologies has been key to driving innovative solutions across various products and services, such as content delivery networks, edge computing, 5G core network observability, and internet backbone services. Recently, she joined a team that spearheaded the launch and scaling of the AT&T Network Cloud ecosystem to support the 5G core network. Vivian holds a Master of Science degree in Computer Science from Rutgers University. In her free time, Vivian is passionate about community service; she serves as a board member for both the Women of AT&T – South Jersey Chapter and the Chinese Institute of Engineers – Great New York Chapter. She is a Senior Member of IEEE.

CyberC 2025 Moderators and Organizers

Bin Xie, CEO, InfoBeyond Technology LLC, USA

Dr. Bin Xie founded InfoBeyond Technology in 2008 and has served as its CEO since then. The company is established as an innovative team with top research scientists to actively conduct R&D, develop novel solutions, and produce viable products to improve user experience in net-centric AI frameworks. His technologies have been, and continue to be, transitioned to federal and civilian services, benefiting numerous organizations such as Metro-Goldwyn-Mayer, HCA Healthcare, Sun Pharmaceuticals, Chicago Housing Authority, GenVivo, The Corporate Source, The Institute for Public Health Innovation, Tim Hortons, PacSun, The City of Des Moines, The City of Jackson, The Senate of Virginia, and many more.

Dr. Xie's R&D is deep and productive in the fields of Mobile Computing, Deep Learning, and Cybersecurity. He has led over 40 innovative R&D projects, sponsored by the Department of Energy, U.S. Army, Air Force, Navy, Defense Threat Reduction Agency, and Missile Defense Agency, National Institute of Standards and Technology, and Department of Transportation. With physics scientists at InfoBeyond, he has been focusing on the research of a computer vision system to detect, quantify, and track isotopes in atom fluorescence images. The success of this research could significantly improve the accuracy of Medical Diagnosis, Dose Optimization, and Medical Isotopes. As another example, he developed Blockchain –oriented distributed solution for securing intra-vehicle Control Area Network (CAN) communications to meet the military vehicle security requirement.

Dr. Bin Xie earned his B.S. degree from Central South University and obtained a Ph.D. in CS from the University of Louisville in 2006. Although many of his works cannot be openly published, Dr. Xie co-authored/edited three books (Best Sale in 2012 & 2013) and has published 80+ papers and patents. Dr. Xie served as an NIH Scientific Review Panel member on ZRG1 HDM-Q from 2009 to 2016. Dr. Xie received prestigious awards, such as 2025 Asian American Executive of Year by AAEOY, 2021 Alumni professional award for Computer Science & Engineering by University of Louisville, and Successful SBIR Story 2018 by National Institute of Standards and Technology of the United States Department of Commerce.

International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery

CyberC 2025, Oct. 18, 2025 (Lingyun Hall (7th floor), 凌云厅)

Time	Room	Activity	Topics
8:30-9:00	Lingyun Hall	Open Ceremony	Welcome from TYUT and CyberC by Prof. Yongle Chen and Dr. Bin Xie
9:00-9:40		Keynote Speech 1	"Top 10 Innovations of Communication and System for the Next Decade", by David Lu, AT&T (retired), USA
9:40-10:20		Keynote Speech 2	"Local Differential Privacy for Data Analytics: From Theory to Practice", by Prof. Rong Du, Taiyuan University of Technology
10:20-10:35		Tea break	Tea break (Tea and cookies available)
10:35-11:15		Keynote Speech 3	"Mobile Network Revolution from 5G to 6G: The AI/ML Factor", by Dr. Chih-Lin I, China Mobile
11:15-12:00		Panel Discussion1	Cybersecurity Panel, hosted by Associated Prof. Rong Du, Taiyuan University of Technology
12:00-13:00	Lunch 午餐 (2nd Floor, 四季厅)		
13:15-14:00	Lingyun Hall	Panel Discussion 2	Big Data & Analytics: Unlocking Value in the Age of Distributed Intelligent Panel, hosted by Prof. Angelos Stefanidis
14:15-15:00	Lingyun Hall	Panel Discussion 3	GenAI Panel, hosted by Ms. Vivian Ye (AT&T)
15:00-15:30	Tea break (Tea and cookies available)		
15:30-17:30	Lingyun Hall	Tutorial	GenAI by Prof. Honggang Zhang

CyberC 2025, Oct. 19, 2025 (Lingyun Hall (7th floor), 凌云厅)

Time	Room	Activity	Topics
8:30-12:00	Lingyun Hall	Big-Big data competition	Moderated by Prof. Jionglong Su and Dr. Zhihui Zhao
8:30-10:15	Peach Hall (平安厅 7th floor)	Session 1	Network and AI Model Security, Chaired by Prof.
8:30-10:15	VIP Lounge (贵宾厅 7th floor)	Session 2	Biometrics and Bioinformatics Deep Learning,
8:30-10:15	Jade Hall (翡翠厅 6th floor)	Session 3	AI Theory, Computing, Communication, and Applications
10:15-12:00	Peace Hall (平安厅, 7th floor)	Session 4	Object, Crack, Defect Deep Learning
10:15-12:00	VIP Lounge (贵宾厅 7th floor)	Session 5	Semantics, Fusion, GAN, and LLM
10:15-12:00	Jade Hall (翡翠厅 6th floor)	Session 6	Event/Object Detection, Multimodality Learning, and Cloud
12:00 -13:00	Lunch 午餐 (2nd Floor, 四季厅)		

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Big Data & Analytics: Unlocking Value in the Age of Distributed Intelligent Panel, hosted by Prof. Angelos Stefanidis, Xi'an Jiaotong-Liverpool University, China

Prof. Yongle Chen, Taiyuan University of Technology
Dr. Chih-Lin I, ChinaMobile
Prof. Jionglong Su, Xi'an Jiaotong-Liverpool University

Abstract: The rapid growth of data from sensors, devices, and intelligent applications is reshaping science, industry, and society. This panel at **CyberC 2025** brings together leading voices from academia and industry to explore how big data and analytics drive advances in distributed intelligence. Discussion will address scalable architectures, trustworthy AI, secure analytics, and cross-domain applications in wireless networks, IoT, healthcare, and sustainability. A forward-looking lens will also examine how to cultivate the next generation of data talent. In line with CyberC's 2025 theme—*Harness AI Innovation and Future Talent*—the panel offers attendees both technical insights and strategic perspectives on how big data and analytics are shaping our digital future.

GenAI Panel, hosted by Ms. Vivian Ye (AT&T)

Prof. Honggang Zhang, Macau University
Mr. David Lu (AT&T)

Abstract: The rapid evolution of Generative AI (GenAI) technologies is reshaping the landscape of computer engineering careers. This panel discussion explores the transformative impact of GenAI on job roles, responsibilities, and required skill sets for computer engineers. Industry leaders and academic experts will delve into how GenAI is automating traditional development tasks, creating new interdisciplinary career paths, and driving demand for specialized skills such as prompt engineering, ethical AI design, and AI system integration. Panelists will highlight the competencies employers now seek - including adaptability, data fluency, cross-functional collaboration, and a deep understanding of machine learning frameworks. Attendees will gain actionable insights on future-proofing their careers, upskilling for the GenAI era, and positioning themselves for emerging opportunities in a rapid changing technology workforce.

Cybersecurity Panel, hosted by Associated Prof. Rong Du, Taiyuan University of Technology

Dr. Ming Zhu, Nanjing University of Science and Technology
Mr. Jie Min, Head of AI Solutions, VITURE

Abstract: TBD

International Conference on Cyber-Enabled Distributed Computing and Knowledge Discovery

Session 1: Network and AI Model Security

Session Chair: Prof. Rong Du, Taiyuan University of Technology, China

Peach Hall (平安厅, 7th floor), 8:30 — 10:15 am, October 19, 2025

Authors（演讲人）	Paper Titles （报告主题）
Xidong Wang, Ran Zhou, Lulu Liu, Liangbin Yang, Jing Bai	SDN-based DDoS detection using a confidence-driven double DQN with attention mechanism
Hu Song, Shaojie Shi, Xinjian Zhao, Chenwei Xu, Song Zhang, Xiaolong, Xu	A Federated Learning Data Poisoning Attacker Detection Method based on Credibility and Data Quality
Yixin, Ding, Boyang Wang, Hu Song, Li Shen	Adversarial Sample Attacks and Defense Methods for AI Classification Models
Pengxiang Sun, Darshana Upadhyay, Srinivas Sampalli	DDoS Detection in SD-IoT: A GA-Optimized Weighted Majority Vote Model Using SDN Simulated Datasets
Jianhong Zhang	On the Security of a Lattice-based Linkable Ring Signature for Cloud-Assisted EMRs
Xiaorong Dong, Zhihui Zhao, Hao Shi, Chao Wang, Dan Yu, Yongle Chen	PB-ERV: A probability-based edge result verification scheme for video data in CVIS
Yubo Ji, Yue Li , Ruixin Li, Xiaoyan Hao, Dan Yu, Yongle Chen	SCGen-Agent: Automated Generation of Smart Contract Based on Multi-agent Collaboration

Session 2: Biometrics and Bioinformatics Deep Learning

Session Chair: Prof. Yue Fu, Taiyuan University of Technology, China

VIP Lounge (贵宾厅， 7th floor), 8:30 — 10:15 am, October 19, 2025

Authors（演讲人）	Paper Titles（报告主题）
Fengwei Cui, Qiang Zhang, Chaojun Gao, Pengfei Xia, Wenshuo Zhang, Sitao Liu	A Cone-Beam CT Reconstruction Method Based on an Improved FDK Algorithm
Teresa de Jesús López Coral, Frank Ronals Lopez Acuña, Alejandrina Nelly Huarcaya Junes	Biometric system to prevent unauthorized access through facial and emotional recognition in critical environments
JianingLi, Nanlin Jin	Brain signal analysis by Spiking neural networks
Zhenyu He, Peiyuan Xiong, Kailan Tan, Shan Zhou	Hybrid Deep Learning Model for Human Motion Recognition Using MEMS Sensors
Lizi Wang, Quansheng Dou, Jiayi Wu, Ping Jiang	LDG-Net: A Deep Learning Framework for Localization of Lacrimal Duct Obstruction in CT-DCG Images
Kangsheng Xie, Xiang Yu	Multi-Modal Feature Integration Ensemble Learning Classification of Halophilic Proteins
Ning Xue, Zhonghua Liang, Zhiruo Zhang, Lijie Jin, Jinzhe Wang	Visible Light Fingerprint Positioning Based on A Two-Stage Hybrid Machine Learning Method

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Session 3: AI Theory, Computing, Communication, and Applications

Session Chair: Prof. Lei Guan, Taiyuan University of Technology, China

Jade Hall (翡翠厅 6th floor), 8:30 — 10:15 am, October 19, 2025

Authors（演讲人）	Paper Titles （报告主题）
Mayank Gulati, Benedikt Groß, Gerhard Wunder	ALIGN-FL: Architecture-independent Learning through Invariant Generative component sharing in Federated Learning
Jiahao Li, Fuqiang Liu, Lei Li, Junyuan Wang	Clustering-Driven Mamba with Balanced Contrastive Learning for Next POI Recommendation
Tsung-Jui Chiang Lin, Che-Wei Hsu, Yong-Shiuan Lee, Tzong-Hann Shieh, Yung-Hung Wang	A Hybrid Deep Learning Approach for Stock Market Prediction: Integrating EEMD, CNN-LSTM, and Attention Mechanism
Ze Wang, Chenkun Tian, Puxuan Lian	Attention-Guided CSI Localization Model for Dynamic Environments
Yuanzhen Shuai, Liao Sha	Optimized Task Offloading in Vehicle Edge Computing Using an Improved DRL Algorithm
Mengmeng Guo, Xinyi Chen, Xingkong Ma, Houjie Qiu, Bo Liu	WikiRes: A Wikipedia-based Resume Dataset for Career Analytics

Session 4: Object, Crack, Defect Deep Learning

Session Chair: Dr. Yapeng Gao, Taiyuan University of Technology, China

Lingyun Hall (7th floor), 10:30 — 12:00, October 19, 2025

Authors（演讲人）	Paper Titles（报告主题）
Pucheng Wang, Yihan Huang, Yulong Li, Zhixiang Lu, Mian Zhou, Jionglong Su, Chong Li	CrackGA: Automatic Road Crack Detection Integrating Deep Learning and Genetic Algorithm
Chong Li, Yuming Wu, Yulong Li, Zhixiang Lu, Mian Zhou, Zhengyong Jiang, Kang Dang, Jionglong Su, Zhun Fan	Crack-MA: Automatic Pavement Crack Detection Based on Deep Learning
Hu Song, Jianhao Chen, Yixin Ding, Xinjian Zhao, Shi Chen, Xiaolong Xu	Multi-source cross-project defect prediction method by marking defect severity
Sen Zhao, Qiang Xu, Peng Zhou, Dahua Zhang, Menglin Li, Baiji Hu	Smart Grid Encrypted Service Traffic Classification Based on Parallel BiLSTM-CNN Hybrid Model
Junjie LIU, Shuxin YAO	YOLOv8-Efficient: Attention and Loss Optimization for PCB Defect Detection
Feng Chen, Botian Zheng, Changping, Tang	An Investigation into RBF Neural Network for Online Parameter Identification in Linear Motors

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Session 5: Semantics, Fusion, GAN, and LLM

Session Chair: Dr. Bin Xie, InfoBeyond Technology LLC

VIP Lounge (贵宾厅，7th floor), 10:30 — 12:00, October 19, 2025

Authors（演讲人）	Paper Titles （报告主题）
Wei Li, Ben Zhang, Yan Gu, Senhao An, Jiaran Zhao, Xiao Zhao	Contextualized intelligence semantic dynamic embedding based on large language models
Antara Antu, Anup Kumar, Bin Xie	CREST- Counterfactual Realistic Explanations with Surrogate Tabular data Generation with GANs
Qi Wang, Fuqiang Liu, Lei Li, Junyuan Wang	Enhancing Hallucination Detection in Large Language Models by Internal-External Feature Fusion
Yuhong Li	LD-CIPHER: an LLM Multi-agent Framework for Lightweight Autonomous Solutions to CTF Challenges
Aniesh Chawla, Udbhav Prasad	Proactively Detecting Threats: A Novel Approach Using LLMs
Yikun Li, Hongyi Zhu, Dawei Liu, Nanlin Jin	Text-speech collaboration LLM embedding low-rank adaptation, activation-aware weight quantization and knowledge distillation
Bingyan Li	Tool-Driven Dynamic Bait Generation in a Lightweight Multimodal Honeypot with Localized LLMs

Session 6: Event/Object Detection, Multimodality Learning, and Cloud

Session Chair: Prof. Yao Ma, Taiyuan University of Technology, China

Jade Hall (翡翠厅 6th floor), 10:30 — 12:00, October 19, 2025

Authors（演讲人）	Paper Titles（报告主题）
Zhengjie Mu, Thomas Rauschenbach	Proxy Task Anomaly Detection with Asset Administration Shell Integration for Predictive Maintenance
Tianqi Sun, Liangbin Yang, Jing Bai	A CNN-Transformer Model for Malicious Trafffic Detection Based on Multimodal Visualization
Yujie Rong, Jialun Zhou, Mengjia Wang, Ning Wang	A New Super-Resolution Method for Brightness Temperature Images based on SAR Feature Fusion
Yanhua Mi, Hao Shi	WLVO: Wavelet Attention Based Self-Supervised Monocular Visual Odometry
Hao Shi, Xiaohua Duan, Zhiqiang Kang, Min Zhang, Weijie Yang, Xiaoyue Bai	Construction and Analysis of Combat Systems Based on Complex Network Theory
Yarong Li, Wenbin Zhang, Ruixin Li, Zhuanzhuan Xing, Yuxin Miao, Dong Gao	Research on Cloud-native Framework for Resource-constrained Environments