

**2026 International Conference on
Artificial Intelligence for Health and Education
(ICAIHE 2026) & 2026 8th Blockchain and Internet of Things
Conference (BIOTC 2026)**

July 8 - 10, 2026, Waseda University, Tokyo, Japan

<https://icaihe.org/>
<https://www.biotc.net/>

Advance Program (Tentative)



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**ICAIHE 2026 & BIOTC 2026
Program at a glance**

Pre (7/7)	15:00 - 17:00	Registration			1F Lobby/4F
Day 1 (7/8)	09:00 - 18:00	Registration			1F Lobby
	09:20 - 09:40	Opening Ceremony			1F Ibuka Hall
	09:40 - 10:20	ICAIHE Keynote 1			1F Ibuka Hall
	10:20 - 10:40	Coffee Break			3F
	10:40 - 11:20	ICAIHE Keynote 2			1F Ibuka Hall
	11:20 - 12:00	BIOTC Keynote 1			1F Ibuka Hall
	12:00 - 13:00	Lunch			3F
	Room	Room 1	Room 2	Room 3	
	13:00 - 14:30	ICAIHE-1	ICAIHE-2	ICAIHE-WKSP1	
	14:30 - 15:30	ICAIHE-3	ICAIHE-4		
	15:30 - 15:50	Coffee Break			
	15:50 - 16:20	BIOTC Invited Talk			1F Ibuka Hall
	16:20 - 17:50	ICAIHE Panel Discussion			1F Ibuka Hall
	18:30 - 20:30	Conference Banquet			TBA
Day 2 (7/9)	09:20 - 10:00	BIOTC Keynote 2			1F Ibuka Hall
	10:00 - 10:20	Coffee Break			3F
	Room	Room 1	Room 2	Room 3	
	10:20 - 12:00	ICAIHE-5	BIOTC-1	ICAIHE-WKSP2	
	12:00 - 13:00	Lunch			
	13:00 - 14:30	ICAIHE-6	ICAIHE-WKSP4	ICAIHE-WKSP5	
	14:30 - 15:30	ICAIHE-WKSP3			
	15:30 - 17:00	Social Activity			Waseda Campus
Day 3 (7/10)	Zoom Room	Zoom 1	Zoom 2	Zoom 3	Online
	09:00 - 10:30	ICAIHE-7	BIOTC-2	ICAIHE-8	
	10:30 - 12:00	ICAIHE-9	ICAIHE-10	ICAIHE-11	

Presentation Guidelines and Room Information

Conference Time and Language

The time for the conference program is based on UTC+9, Japan Standard Time (JST). The presentation language is English.

For Authors

Please note that all accepted papers require an oral presentation at the conference (either on-site or online). The presentation time slots are allocated as follows (for ICAIHE & BIOTC 2026, and all associated workshops):

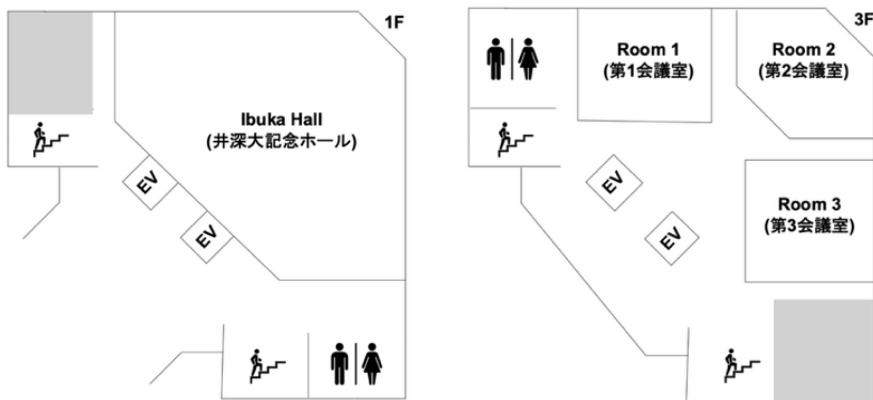
- Full Papers: 10 minutes presentation + 3 minutes Q&A
- Short Papers & Work-in-Progress (WiP) Papers: 10 minutes presentation + 2 minutes Q&A

Please confirm your attendance with the Session Chair before the session. Refer to this advance program to confirm the exact time of your session and the specific order of paper presentation in your session. You are encouraged to use your own PC for presentation in your session.

For Session Chairs

Session Chairs are requested to be in the room at least 10 minutes before their sessions. According to the number of papers and presenter's attendance in a session, its session chair can adjust the Q&A time but must ensure that the allocated time for the session is not exceeded.

Room Information



Welcome Message

On behalf of the organizing committee, it is our great honor and pleasure to welcome you to the 2026 8th Blockchain and Internet of Things Conference (BIOTC 2026), taking place from 8th to 10th July 2026 at International Conference Center-Waseda University in Tokyo, Japan.

BIOTC 2026 brings together leading experts, researchers, and practitioners from around the globe to share cutting-edge advancements, innovative ideas, and collaborative insights in the fields of Blockchain and Internet of Things. This conference serves as a premier platform for fostering interdisciplinary discussions, exploring emerging technologies, and addressing the challenges and opportunities in these rapidly evolving domains.

We are delighted to host this event at the prestigious Waseda University, a hub of academic excellence and innovation. The vibrant metropolis of Tokyo, with its rich cultural heritage and cutting-edge technological advancements, provides an inspiring backdrop for this gathering of minds.

Over the course of three days, you will have the opportunity to engage in keynote speeches, technical sessions, workshops, and networking events, all designed to facilitate knowledge exchange and collaboration. We are confident that the diverse perspectives and expertise represented here will lead to meaningful discussions and groundbreaking outcomes.

On behalf of all the conference committees, we would like to thank all the authors as well as the technical program committee members and reviewers. Their high competence, their enthusiasm, their time and expertise knowledge, enabled us to prepare the high-quality final program and helped to make the conference become a successful event.

We wish you a productive, inspiring, and enjoyable conference experience. Welcome to BIOTC 2026!

BIOTC 2026 Organizing Committee
June 2026

BIOTC 2026 Conference Committees

General Co-chairs

Qun Jin, *Waseda University, Japan*

Kazumasa Omote, *University of Tsukuba, Japan*

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Chantri Polprasert, *Asian Institute of Technology, Thailand*
Ali Shahidinejad, *Central Queensland University, Australia*
Taisei TAKAHASHI, *University of Tsukuba, Japan*

ICAIHE 2026 Keynote 1

Wednesday, July 8, 9:40-10:20, Ibuka Hall, 1F

Smart Medicine: Medical Data Analysis / AI Applications for Patient Monitoring, Disease Diagnosis, Prediction and Health Management

Professor Yanchun Zhang

*Distinguished Professor, Zhejiang Normal University, China
Emeritus Professor, Victoria University, Australia*

Abstract: Recent development or maturation of big data analysis and AI technology has impacted many areas. As one of the most promising areas, Health care and medical service is now becoming more data-intensive, evidence-based and AI-guided. In this talk, we will introduce several innovative data mining / AI techniques and case studies to address the challenges encountered in e-health and medical big data. This includes techniques and development on medical data streams, medical image processing, correlation analysis, abnormal detection and risk predictions, including diagnosis of sleeping and mental health. We will also discuss the challenges and future directions of applying AI in medicine and health research.

Biography: Yanchun Zhang is currently distinguished professor at Zhejiang Normal University, China and Emeritus Professor at Victoria University, Australia. He is Fellow of The Royal Society of Medicine of United Kingdom (FRSM), and Foreign Academician of Russian Academy of Natural Sciences (RANS). Dr. Zhang is a founding editor and editor-in-chief of Health Information Science and Systems Journal (Springer) and World Wide Web Journal (Springer). His research interests include databases, data mining, social networking, web services and e-health / digital health and information security. His research work has significantly impacted health informatics and information security, especially in developing data analytic skills and AI techniques for smart medicine and health. He has published over 500 research papers in international journals and conference proceedings. He authored/co-authored 5 monographs and edited a dozen of books in the related areas, and supervised 40 PhDs and post doctors in completion. He speaks regularly at international conferences in the areas of data engineering / data science and health informatics. He has serviced as an expert panel member at various international research funding agencies like Australia Research Council (ARC), UK's Medical Research Council (MRC) and Australia's National Health and Medical Research Council (NHMRC).



ICAIHE 2026 Keynote 2

Wednesday, July 8, 10:40-11:20, Ibuka Hall, 1F

LEAF: Learning Evidence and Analytics Framework for Adaptive Learning

Professor Hiroaki Ogata

Kyoto University, Japan

Abstract: With the development of digital learning technology platforms, users' interaction trace data can be stored in a standardized format as teaching and learning logs during such educational activities. The Learning and Educational Technology Research Unit at Kyoto University has been developing a learning and evidence analytics framework (LEAF), an integrated technology framework that incorporates methods and tools in learning platforms that are implemented at K12 schools and universities. We conducted research to investigate learning and teaching episodes and their effects to systematically inform practice. This talk will present LEAF and the overall approach of the research and practice that was achieved toward supporting evidence-based practices in education with the Learning Analytics framework within Japan and international countries.

Biography: Hiroaki Ogata is a Professor and Director at Academic Center for Computing and Media Studies (ACCMS), Kyoto University, Japan. His research interests include Learning Analytics, Educational Data Science, Computer Supported Ubiquitous and Mobile Learning, CSCL (Computer Supported Collaborative Learning). He has published more than 700 peer-reviewed papers including SSCI Journals and top international conferences. He has received APSCE (Asia-Pacific Society for Computers in Education) Distinguished Researcher Award in 2014, several Best Paper Awards and gave keynote lectures in several countries. Currently he is the President of APSCE, an associate member of Science Council of Japan, and the Director of Evidence-Driven Education Research Council, Japan.



BIOTC 2026 Keynote 1

Wednesday, July 8, 11:20-12:00, Ibuka Hall, 1F

Secure Medical Image Transmission in IoT-Based Telemedicine via Data Hiding and AMBTC Compression

Professor Chin-Chen Chang

Feng Chia University, Taiwan

Abstract: The rapid advancement of the Internet of Things (IoT) has accelerated the development of telemedicine and electronic healthcare systems, enabling remote diagnosis and healthcare services through interconnected devices and networks. As large volumes of sensitive medical data are transmitted over the Internet, ensuring data security and transmission efficiency has become a critical concern. In particular, confidential patient information is often associated with medical images, requiring effective protection mechanisms during storage and transmission. This talk presents an IoT-enabled medical image protection mechanism that integrates data hiding and Absolute Moment Block Truncation Coding (AMBTC) compression techniques. The proposed approach securely embeds confidential patient information into compressed medical images while simultaneously reducing transmission bandwidth requirements. Different embedding and compression strategies are adaptively applied to image blocks according to their characteristics, allowing flexible adjustment of embedding capacity, visual quality, and compression performance. By tuning the system parameters and threshold settings, the proposed scheme can satisfy diverse application requirements in IoT-based healthcare environments. Experimental results demonstrate that the proposed method achieves superior payload capacity and transmission efficiency compared with existing approaches while maintaining high visual quality. The proposed framework provides an effective and practical solution for secure medical image management and transmission in modern IoT-driven telemedicine systems.

Biography: Professor C.C. Chang obtained his Ph.D. degree in computer engineering from National Chiao Tung University. He's first degree is Bachelor of Science in Applied Mathematics and master degree is Master of Science in computer and decision sciences. Both were awarded in National Tsing Hua University. Dr. Chang served in National Chung Cheng University from 1989 to 2005. His current title is Chair Professor in Department of Information Engineering and Computer Science, Feng Chia University, from Feb. 2005.

Prior to joining Feng Chia University, Professor Chang was an associate professor in Chiao Tung University, professor in National Chung Hsing University, chair professor in National Chung Cheng University. He had also been Visiting Researcher and Visiting Scientist to Tokyo University and Kyoto University, Japan. During his service in Chung Cheng, Professor Chang served as Chairman of the Institute of Computer Science and



Information Engineering, Dean of College of Engineering, Provost and then Acting President of Chung Cheng University and Director of Advisory Office in Ministry of Education, Taiwan.

Professor Chang's specialties include, but not limited to, data engineering, database systems, computer cryptography and information security. A researcher of acclaimed and distinguished services and contributions to his country and advancing human knowledge in the field of information science, Professor Chang has won many research awards and honorary positions by and in prestigious organizations both nationally and internationally. He is currently a Fellow of IEEE and a Fellow of IEE, UK. On numerous occasions, he was invited to serve as Visiting Professor, Chair Professor, Honorary Professor, Honorary Director, Honorary Chairman, Distinguished Alumnus, Distinguished Researcher, Research Fellow by universities and research institutes. He also published over 1,100 papers in Information Sciences. In the meantime, he participates actively in international academic organizations and performs advisory work to government agencies and academic organizations.

BIOTC 2026 Keynote 2

Wednesday, July 9, 09:20-10:00, Ibuka Hall, 1F

LNMesh: Offline Bitcoin Payments on Community Wireless Mesh Networks using the Lightning Network

Professor Kemal Akkaya

Virginia Commonwealth University, USA

Abstract: Bitcoin’s scalability as an alternative payment system has been significantly improved by the Lightning Network (LN), which enables fast, low-cost, and censorship-resistant off-chain transactions. However, LN nodes typically require an active Internet connection to operate securely, which may not always be available or feasible, especially during natural disasters, power outages, or infrastructure failures. In this talk, we present LNMesh, a solution for enabling offline Lightning Network payments over community wireless mesh networks. In LNMesh, users in a neighborhood or community can establish a local wireless mesh network and use it as an alternative communication infrastructure to perform LN payments when Internet connectivity is unavailable. We first present proof-of-concept implementations demonstrating successful offline LN payments using Bluetooth Low Energy and WiFi. For larger and mobile networks, where users may move around and channel liquidity must be used efficiently, LN channel assignments need to be made strategically. We therefore present graph-theoretic channel assignment approaches for constructing efficient LN topologies over mobile wireless mesh networks. Finally, we share evaluation results from large-scale simulations of realistic offline LN payments. Our results show that success rates of up to 95% are achievable with the proposed channel assignment approaches when channels have sufficient liquidity.

Biography: Dr. Kemal Akkaya is the Professor and Chair of the Computer Science Department at Virginia Commonwealth University (VCU). He received his PhD in Computer Science from University of Maryland Baltimore County in 2005. Prior to VCU, he was the Eminent Chaired Scholar Professor in the School of Computer and Information Sciences and Director for Center for Integrated Security, Privacy and Trustworthy AI (CIERTA) at Florida International University (FIU). He held several other positions before FIU. He was a faculty in the department of Computer Science at Southern Illinois University until 2014. Dr. Akkaya was also a visiting professor at The George Washington University in 2013, a Faculty Fellow at Airforce Research Lab in Summer 2020, visiting faculty at the University of Florida Nelms Institute of Connected World in 2021. He was also affiliated with Florida Institute of Cybersecurity. At FIU, Dr. Akkaya was the director of the Advanced Wireless and Security Lab (ADWISE) where he conducted research on security and privacy, IoT, cyber-physical systems and blockchain. His research was funded by many federal and state agencies and industries including NSF, DoE, AFRL, DHS, DoT, DoL, NSA, INL, CyberFlorida, Cisco, and TrendMicro. Dr. Akkaya’s research and training



activities have been featured in many local and national news outlets including NPR, Wall Street Journal, Miami Herald, NBC6 Miami, and Forbes Magazine. Dr. Akkaya is a Fellow of IEEE and senior member of ACM. He serves as the associate editor of IEEE Transactions on Security and Forensics journal, area editor of Elsevier Adhoc Network and Computer Networks Journals. Dr. Akkaya was the editor-in-chief of Springer Nature Computer Science journal (2022-2023), the General Chair of IEEE LCN 2018, General Co-chair of IEEE NOMS 2023, and TPC Chair for IEEE ICC Smart Grid Communications in 2019. He was listed among the top 2% scientists in the world according to a Stanford University study from 2020 to 2024. Dr. Akkaya received FIU Faculty Senate Excellence in Research Award, FIU College of Engineering and Computing Research Award both in 2020 and FIU Top Scholar Award in 2023. He has also received many other awards including "Top Cited" articles and best papers.

BIOTC 2026 Invited Speaker 1

Wednesday, July 9, 09:20-10:00, Ibuka Hall, 1F

Towards Trustworthy AI Ecosystems: Before, After and Throughout Human-AI Interactions

Dr. Ching-Chun Chang

National Institute of Informatics, Japan

Abstract: As AI increasingly mediates how humans create, interpret and interact with digital content, trustworthiness must be addressed across the broader AI ecosystem. This talk presents a series of studies on securing AI-mediated interactions from three temporal perspectives: before, after, and throughout. Before misuse occurs, we examine proactive mechanisms that protect digital content against unauthorised manipulations by AI-powered synthesis tools. After systems or data are compromised, we explore reactive mechanisms for recovering poisoned models and purifying adversarial samples. Throughout AI-mediated processes, we investigate forensic mechanisms for tracing the editing history of synthetic media and the interaction histories among multiple generative agents. By targeting different defensive aspects of AI ecosystems, this talk aims to inspire new directions for the future development of trustworthy AI.

Biography: CHING-CHUN CHANG received his PhD in Computer Science from the University of Warwick, UK, in 2019. He participated in a short-term scientific mission supported by European Cooperation in Science and Technology Actions at the Faculty of Computer Science, Otto-von-Guericke-Universität Magdeburg, Germany, in 2016. He was granted the Marie-Curie fellowship and participated in a research and innovation staff exchange scheme supported by Marie Skłodowska-Curie Actions at the Department of Electrical and Computer Engineering, New Jersey Institute of Technology, USA, in 2017. He was a Visiting Scholar with the School of Computer and Mathematics, Charles Sturt University, Australia, in 2018, and with the School of Information Technology, Deakin University, Australia, in 2019. He was a Research Fellow with the Department of Electronic Engineering, Tsinghua University, China, in 2020. He is currently a Postdoctoral Research Fellow with the National Institute of Informatics, Japan. His research interests include steganography, forensics, biometrics, cybersecurity, computer vision, computational linguistics and artificial intelligence



ICAIHE 2026 Panel Discussion

Wednesday, July 8, 16:20-17:50, Ibuka Hall, 1F

Artificial Intelligence for Health and Education: Opportunities and Challenges

About the Moderator



Professor Qun Jin

Waseda University, Japan

Qun Jin is a professor in the Department of Human Informatics and Cognitive Sciences, Faculty of Human Sciences, Waseda University, Japan. He has been extensively engaged in research works in the fields of computer science, information systems, and human informatics, with a focus on understanding and supporting humans through convergent research. His recent research interests cover behavior and cognitive informatics, health informatics, artificial intelligence and machine learning, LLM and generative AI, AI agents, big data, blockchain, trustworthy platforms for data federation, sharing, and utilization, cyber-physical-social systems, and applications in healthcare and learning support. He authored or co-authored several monographs and more than 480 refereed papers published in academic journals and international conference proceedings. He is a foreign fellow of the Engineering Academy of Japan (EAJ) and a fellow of the Asia-Pacific Artificial Intelligence Association (AAIA). More information can be found at <https://researchmap.jp/jinqun/?lang=en>.

About the Panelists



Professor Jianting Cao

Soochow University, China

Jianting Cao currently serves as a Distinguished Professor at Soochow University, China. In 1996, he joined the Brain Science Institute (BSI) of RIKEN (Japan) as a Researcher. From 1998 to 2002, he served as Assistant Professor at Sophia University, Japan. From 2002 to 2026, he was Associate Professor and subsequently Professor at Saitama Institute of Technology, Japan. Between 1998 and 2026, he also held concurrent appointments as Research Scientist and Senior Research Scientist at the RIKEN BSI, and the RIKEN Center for Advanced Intelligence Project (AIP). His research focuses on neuroscience, brain-machine interfaces, and AI-empowered Healthcare. He has published more than 300 academic papers in leading journals and conferences. He has led more than ten national research projects, including China-Japan collaborative research programs, serving as the principal investigator. He has received seven Best Paper Awards and Outstanding Research Achievement Awards from prestigious academic societies and organizations, including the IEEE Circuits and Systems

Society, IEEE Signal Processing Society, the International Neural Network Society (INNS), the Institute of Electronics, Information and Communication Engineers (IEICE) of Japan.



Professor Tianyong Hao

South China Normal University, China

Tianyong Hao is a full professor and PhD supervisor at South China Normal University. He received his Ph.D. degree from City University of Hong Kong in 2010. He studied at York University, Canada, in 2008 and Emory University, USA, in 2009. After that, he worked at University of New South Wales, Australia, in 2012 and at Columbia University until 2014. Dr. Hao is the leader of provincial-level research team on NLP for big data, the committee director of a provincial engineering-technology center, and the director of a big data center of a provincial research institute. He is a senior member of IEEE, an outstanding member of CCF, and committee member of ISO/TC37, IEC/SyC, IEEE/CTSoc, SAC/TC62 (associate secretary), AACI (associate secretary), CIPS Health Informatics (deputy director), CCF Guangzhou (vice chair), etc. He is the editor-in-chief of Data Discovery, association editor of IEEE TEC, the lead guest editor of SCI journals such as JMIR Medical Informatics. He has published over 260 papers. He is the PI of 3 grants from NSFC and more than 20 grants at various levels. He holds 2 ISO international standards, 10 national standards, 9 best paper awards from international conferences, and 3 academic awards from provincial associations or government bodies. His areas of expertise include Text Mining, Natural Language Processing, and Information Extraction.



Chair Professor Qing Li

The Hong Kong Polytechnic University, China

Qing Li is a Chair Professor and Head of the Department of Computing, the Hong Kong Polytechnic University. He received his B.Eng. from Hunan University (Changsha), and M.Sc. and Ph.D. degrees from the University of Southern California (Los Angeles), all in computer science. His research interests include multi-modal data management, conceptual data modeling, social media, Web services, and e-learning systems. He has authored/co-authored over 500 publications in these areas, with over 68,900 citations and H-index of 106 (source: Google Scholars). He is actively involved in the research community, serving as an Editor-in-Chief of Computer & Education: X Reality (CEXR) by Elsevier; he has also served as an associate editor of IEEE Transactions on Artificial Intelligence (TAI), IEEE Transactions on Cognitive and Developmental Systems (TCDS), IEEE Transactions on Knowledge and Data Engineering (TKDE), ACM Transactions on Internet Technology (TOIT), Data Science and Engineering (DSE), and World Wide Web (WWW) Journal, in addition to being a Conference and Program Chair/Co-Chair of numerous major international conferences. He also sits/sat in the Steering Committees of DASFAA, ACM RecSys, IEEE U-MEDIA, WISE and ICWL. Prof. Li is a Fellow of IEEE.



Professor Oscar Lin

Athabasca University, Canada

Oscar Lin is a Full Professor and former chair of the School of Computing and Information Systems, Faculty of Science and Technology, at Athabasca University, Canada. He earned his Ph.D. from the Hong Kong University of Science and Technology in 1998. Before joining Athabasca University, Dr. Lin worked as an Assistant Research Officer at the Institute for Information Technology, National Research Council of Canada, and completed postdoctoral research at the University of Calgary from 1998 to 1999. Dr. Lin is a Senior Member of both the ACM and IEEE. His research interests include Artificial Intelligence in Education, Intelligent Tutoring Systems, Virtual Reality, and Multiagent Systems. He has authored over 180 publications, including edited books, journal articles, book chapters, conference papers, and reviews. Dr. Lin currently serves as Associate Editor of the International Journal on Computers and Education: X-Reality. He has also chaired several international conferences, including the IEEE Smart World Congress 2025, Intelligent Tutoring Systems 2024, and IEEE Cyber Science and Technology Congress in 2020 and 2021.



Professor Jianhua Ma

Hosei University, Japan

Jianhua Ma is a professor in the Faculty of Computer and Information Sciences, Hosei University, Tokyo, Japan. He was the Director of Hosei University Institute of Integrated Science and Technology in 2024 FY. He served as the Chair of Digital Media Department of Hosei University in 2011-2012. His research interests include pervasive computing, social computing, wearable technology, IoT, smart things, and cyber intelligence. Ma is one of pioneers in research on Hyper World and Cyber World (CW) since 1996, and was a co-initiator of the first international symposium on Cyber World in 2002. He first proposed Ubiquitous Intelligence (UI) towards Smart World (SW), which he envisioned in 2004, and was featured in the European ID People Magazine in 2005. He has conducted several unique CW-related projects including the Cyber Individual (Cyber-I), which was featured by and highlighted on the front page of IEEE Computing Now in 2011. He has published more than 300 papers, co-authored/edited over 15 books and 30 journal special issues, and delivered over 30 keynote speeches at international conferences. He has founded three IEEE Congresses on ‘Smart World’, ‘Cybermatics’ and ‘Cyber Science and Technology’, respectively, as well as IEEE Conferences on Ubiquitous Intelligence and Computing (UIC), Pervasive Intelligence and Computing (PICom), Dependable, Autonomic and Secure Computing (DASC), Cyber Physical and Social Computing (CPSCom), Internet of Things (iThings), Digital Twin, and Metaverse. He is a Chair of IEEE SC Hyper-Intelligence Technical Committee, a Co-chair of IEEE SMC Technical Committee on Cybermatics, and a founding chair of IEEE CIS Technical Committee on Smart World.



Professor Yan Wang

Macquarie University, Australia

Yan Wang is currently a Full Professor in the School of Computing, Macquarie University, Australia. He is the Research Director of Macquarie University Frontier AI Research Centre (FAIR). The Stanford/Elsevier has recognised his expertise and ranked him to be among World's Top 2% Scientists in Artificial Intelligence in 2024 & 2025 respectively. Dr. Wang received his PhD from Harbin Institute of Technology (HIT), P. R. China. Prior to joining Macquarie University in 2003, he was a Postdoctoral Fellow/Research Fellow in the Department of Computer Science, School of Computing, National University of Singapore (NUS). He has published a number of research papers in international conferences including AAAI, AAMAS, ICDE, IJCAI, KDD, NeurIPS, SIGIR, WWW, and journals including CSUR, TIST, TKDD, TKDE, TOIS, TSC and TWEB. His research interests cover recommender systems, fake news detection/mitigation, data analytics and predictive analytics, trust management, social computing and service computing. Dr. Wang has served on the editorial board of several international journals, including IEEE Transactions on Services Computing (TSC), ACM Transactions on Intelligent Systems and Technology (TIST). Prof. Wang received 2017 IEEE TC-TVSC Outstanding Service Award from the IEEE Technical Committee on Services Computing (TC-SVC).



Professor Jun Zhang

Hanyang University, South Korea

Jun Zhang (FIEEE, 2017) received his PhD degree in Electrical Engineering from the City University of Hong Kong in 2002. His primary research interests lie in Computational Intelligence (CI), with a strong focus on Evolutionary Computation (EC) and its wide-ranging applications. He currently serves as an Associate Editor for the IEEE Transactions on Artificial Intelligence, the IEEE Transactions on Evolutionary Computation, and the IEEE Transactions on Cybernetics.

ICAIHE 2026 Advance Program

ICAIHE-1 (Wednesday, July 8, 13:00-14:30, Room 1, 3F)

Regular (Track 1, 2)

Session Chair: TBA

A Clinical RAG Framework for Smartphone Addiction with Interpreted Patterns and Time-Hierarchical Summarization

Takayuki Ishibashi, Kaito Hayashi, Tomohiko Kiriya, Risa Ozaki, Nanase Kobayashi, Daisuke Jitoku, Masato Uchida

DermaExplain-LLM: Uncertainty-Aware Multimodal Skin Lesion Diagnosis with Attention-Guided Fusion and Patient-Friendly Explanations

Ankita Gajbhiye, Wenlong Tian, Carson Leung, Palash Ingle

SafePulse: A Memory-Safe Rust Architecture for Deterministic Real-Time ECG Alerting with Optional LLM Enrichment

Suyu Jiang, Haozhe Ruan, Shihao Wang, Jiuyuan Zhao, Luo Chen, Aquil Mirza Mohammed

Governed Memory in Healthcare LLM Agents: Challenges, Solutions and New Perspectives

Zecheng Ren, Ruichen Cong, Qun Jin

A Systematic Evaluation Framework for Large Language Models in Japanese Farm Animal Clinical Medicine

Haruno Fusa, Chonho Lee, Yasunori Shinozuka, Sakuei Onishi, Kanshin Fusa, Hiromitsu Shiina

ICAIHE-2 (Wednesday, July 8, 13:00-14:30, Room 2, 3F)

Regular (Track 1, 3)

Session Chair: TBA

An LLM-Based Pipeline for Constructing Educational Knowledge Graphs from a Model Curriculum

Katelyn Grimoldby, Fuhua Lin, Raymond Morland, Gaganpreet Jhajj

Agentic AI for Mass Personalization in Language Education: A Multi-Agent Framework for Adaptive Oral Tutoring

Yanping Deng, Jinze Yu

From Cybersecurity to Health Education: Cross-Disciplinary AI Teaching Assistants

Joon Park, Ciara Gorman, John Kelly, Zina Alfahl

Experimental Evaluation of Knowledge-Graph-Based Reasoning Paths for Comprehension Assessment Enhanced by LLMs

Yuanpu Li, Jiaqi Wang, Ou Deng, Qun Jin

Social-aware Generative Recommendation for AI-enhanced Online Education

Yanwei Xu, Chenhao Ma, Lianyong Qi

ICAIHE-3 (Wednesday, July 8, 14:30-15:30, Room 1, 3F)
Short/WiP (Track 2)
Session Chair: TBA

An AI-Assisted Gamified Digital Mental Health Intervention Framework for International Graduate Students

Yichi Zhang, Kentaro Oba, Yegang Du, Yasuyuki Taki

Machine Learning-Driven Predictive Modeling for Multi-Cancer Risk Assessment Based on Clinical Behavioral Data

Shih-Wei Chen, Hung-Lung Tsai, Stella Chin-Shaw Tsai, Ming-Yi Lin

The Multimodal Algorithmic Fluency Model: AI-Generated Music as a Programmable Stimulus for Digital Health Communication

Lien Nguyen, Long Thang Van Nguyen

ICAIHE-4 (Wednesday, July 8, 14:30-15:30, Room 2, 3F)
Short/WiP (Track 3, LBW)
Session Chair: TBA

A Conversational AI-Based Misconception Diagnosis System with Scaffolding Support for Machine Learning Education

Cheng-Ying Lai, Yen-Ting Lin, Yi-Chun Lin

AI-Supported Reflective Learning through Visual Thinking Strategies: Exploring the Design Tension between Neutrality and Empathy

Asuka Saito

Student Embedding from Learning Interaction Data for LLM-Assisted Adaptive Tutoring

Eymen Kucukcakir, Jiaqi Wang, Qun Jin

Using Generative AI as Social Support: Buffering the Negative Impact of Frustration on Depression among University Students

Cheng-Hong Liu, Tzu-Lin Yeh, Hoi-Ian Che

Elementary and Secondary School Principal Leadership in the AI Era

Chih-Feng Lai

ICAIHE-5 (Thursday, July 9, 10:20-12:00, Room 1, 3F)
Regular (Track 1, 2)
Session Chair: TBA

FedDB: Federated Learning via Dual Bhattacharyya Distance and Clustering

Xiaowen Duan, Xin Liu, Qingguo Zhou, Rui Zhao

A Data-Driven Framework of Dynamic Adaptive Pathway Configuration for Chronic Kidney Disease Detection

Takeshi Fujitani, Seiji Kasuya, Qun Jin

Quantum Evolutionary Algorithm-Based Feature Optimization for Breast Cancer Detection

Yifan Xu, Mengtao Wang, Xingzhi Zhou, Lin Meng

A UWB Trajectory-Based Drinking Behavior Recognition Method Using Candidate-Region Attention-Guided CNN-BiLSTM

Fang Yu, Zhan Yang, Jiheng Yu, Jingfeng Qin, Yang Lei, Meng Qiu, Xiaobing Xian, Gaofei Sun

Integration of FFT-Based Periodic Features to Improve Predictive Performance in Time-Series Health Data

Fan Bo, Ruichen Cong, Qun Jin

ICAIHE-6 (Thursday, July 9, 13:00-14:30, Room 2, 3F)
Regular (Track 1, 3)
Session Chair: TBA

Construction and Educational Feature Analysis of LLM-based Classroom Simulation via Context and Persona Extraction

Sakuei Onishi, Hiromitsu Shiina, Tomohiko Yasumori

Computational Creativity in Product Design Education: Integrating Random Shape Generation with Clay Modeling

Chih-Ping Chen

Integrating AI and Markerless Motion Capture in Virtual Reality for Inclusive Fencing Training

Mario Covarrubias, Caterina Bacchi, Erica Gualini, Davide Marchesi, Mattia Saponaro, Sara Arlati

AI-Enhanced Virtual Reality Ice Hockey Training with Expert Motion Guidance for Inclusive Sports Participation in Students with Disabilities

Mario Covarrubias, Filippo Toniolo, Alice Vigano, Mattia Villa, Sara Arlati

ICAIHE-7 (Online, Friday, July 10, 9:00-10:30, Zoom 1)
Regular (Track 2)
Session Chair: TBA

A Systematic Review on Conversational Mental Health Support: Datasets and Evaluations

Jun Li, Xiangmeng Wang, Yi Xie, Jingwei Li, Shijie Zhang, Hong Va Leong, Qing Li

CPL-Clinic: An Automated Clinical Interview System via Human-Readable and Machine-Executable Clinical Pathway Language

Haiyang Yu, Jingtao Chen, Ruichen Cong, Qun Jin, Yue Wu

AI-Enabled Biomechanical Digital Twin for Real-Time Joint Load Estimation from Monocular Human Motion

Parin Duangekanong, Aueaphum Aueawatthanaphisut

A Dual-Branch U-shaped Network of CNN and Transformer for Medical Image Segmentation

Zhuo Wang, Chunli Sun, Bo Li

ICAIHE-8 (Online, Friday, July 10, 9:00-10:30, Zoom 3)
Regular/Short (LBW)
Session Chair: TBA

SM-KG: Constructing a Knowledge Graph for Traditional Chinese Medicine Six-meridian Syndrome Differentiation via LLM-Driven Text-Type-Guided Prompt Engineering

Ziyan Chen, Weihan Gao, Siyi Cheng, P. Bilha Githinjim, Yibing Shen, Xiaoming Yin, Samaneh Beheshti Kashi, Lian Zhang, Dayan Zhang, Jing Sui, Zeming Liang, Jiansong Ji, Yunhan Gong, Peiwu Qin, Dongmei Yu

Label-Efficient Multi-label Chest X-ray Classification via Instance-Conditioned Prompt Learning and Vision-Language Feature Fusion

Huijuan Lu, Dachuan Cai, Cunqian You, Wangli Huo, Yudong Yao

Life-Course Risk Factors for Post-Injury Decline in Chinese Older Adults: An Interpretable Machine Learning Study

Caie Xu, Michael Onoja, Ruichen Cong, Qun Jin

ICAIHE-9 (Online, Friday, July 10, 10:30-12:00, Zoom 1)
Short/WiP (Track 2, LBW, DS-ECAI Workshop, ASRAM Workshop)
Session Chair: TBA

MADH-ARNet: Enhancing 3D Pulmonary Nodule Detection via a Multi-Attention Detection Head and a Training-Only Auxiliary Reversible Branch

Huijuan Lu, Qiuyu Dong, Rongjing Zhou, Cunqian You, Ang Wu

SPR-CDER: Semantic Preference Reasoning for Cross-Domain Educational Recommendation

Meiyu Li, Lianyong Qi

SDG-Net: Cross-Domain Polyp Segmentation Using Fourier-Based Style Augmentation Without Target Domain Data

Saima Kanwal, Cai ChengTao, Rizwan Taj

Analyzing the Effect of User Tone on Sycophancy in LLMs Based on FES Framework and Sycophancy Scores

Wenqian Zhang

Examining Attention from the Perspective of Meditative States Using Physiological Indicators Towards Mental Well-Being

Zhenzhen Xu, Ruichen Cong, Qun Jin

ICAIHE-10 (Online, Friday, July 10, 10:30-12:00, Zoom 2)
Regular (Track 1, 3)
Session Chair: TBA

From Tool Users to Cultural Gatekeepers: Developing Preservice Teachers' Critical Evaluative Agency in GAI-Assisted Place-Based Instructional Design for Rural Elementary Education

Yih-Shyuan Chen, Tong-Hsien Chow, Yu-Horng Chen

An XAI-based Multimodal Framework for Classroom Teaching Quality Assessment and Segment-Level Diagnosis

Shenning Zhang, Yuanqi Zheng, Letian Li, Borui Yan, Jingsen Huang, Yishui Zhu

Multi-Agent AI System for Teaching Assistance

Takaaki Arai, Konstantin Markov

ICAIHE-11 (Online, Friday, July 10, 10:30-12:00, Zoom 3)
Regular (Track 1, 3)
Session Chair: TBA

Knowledge Graph Embedding Optimization Based on Multi-View Algorithm in Education Domain
Bangshuo Xin, Zhiping Zhang

CodeLit-GV: A Generate-Verify Framework for Automated Assessment of Code Comprehension MCQs
Le Binh-Dang, Duy Tran, Quan Thi, Le Thanh-Van

Student-Based Behavior Profiling System: A Multimodal AI Framework for Real-Time Monitoring of Students' Classroom Anxiety using Monocular Video Streams
Abinaya M, Vadivu G, Qun jin

ICAIHE-WKSP1 (Wednesday, July 8, 13:00-15:30, Room 3, 3F)
DS-ECAI
Session Chair: TBA

ICT- and AI-Enabled Mobile Retail as a Community Health Platform: A Case Study in Rural Japan
Shin-ichi Miyazaki, Yinghan Xu, Kimiko Sekiguchi, Shoji Nishimura, Qun Jin, Atsushi Ogihara

A Snow Detection and Enhancement Generative Adversarial Network for Older Driver Assistance in Snowy Conditions
Xiangyu Zhang, Bo Wu, Terumasa Aoki

An AI-Enabled Pipeline for Clinical Data Management and Institutional Review Board-Compliant Governance in Small-Scale Clinical Settings
Xiangping Peng, Yinghan Xu, Shoji Nishimura, Atsushi Ogihara

Fairness-Aware Hospital Bed Allocation Decision Support Model Based on Double DQN
Taeho Kim, Minjong Park, Seunghoon Lee

Round Table Discussion: Rethinking Elderly Care in the Age of AI: Digitalization and Socialization
Fangrong He, Yuanqing Chang, Keishi Ebisawa, Yinghan Xu, Ruichen Cong

ICAIHE-WKSP2 (Thursday, July 9, 10:20-12:00, Room 3, 3F&Zoom 3)
AI-SM-PPHM/AASCP
Session Chair: TBA

Future Whole-Tumor Mask Prediction in Longitudinal Brain MRI Using 3D U-Net

Yuki Dowaki, Hirotaka Inoue, Toru Higaki

Contact-less Breath Wave Estimation Using AI Body Detection

Yuto Kojima, Toru Higaki, Hirotaka Inoue

Enhancing semantic connectivity in health information organization: AI-driven topic link optimization for MedlinePlus using word embedding models [online]

Yifan Zhu, Jin Zhang

Construction and Application of a Deep Learning-Based Decision Support System for Health Impact Assessment of Public Policy [online]

Luxia Yu, Siyu Zhou, Meng Zhang

Evidence-Mapping-Informed Health Need Identification Among Socially Isolated Older Adults: Toward Data-Driven Community Health Management [online]

Zhiyou Zhu, Yuanyuan Weng, Luxia Yu, Siyu Zhou

ICAIHE-WKSP3 (Thursday, July 9, 14:30-15:30, Room 1, 3F&Zoom 1)
BERS
Session Chair: TBA

A Survey of Blockchain-based Cross-border Applications

Xingxi Ding, Hongyu Liu

Secure and Privacy-Perserving Traffic Large Models Based on Blockchain [online]

Xiaofeng Zheng, Yong Ding, Yinfeng Cao, Tongrui Zuo, WenXiang Song, Kai Shao, Peng Chen

Secure Load Data Interaction and Collaborative Forecasting for Smart Campus Energy Management [online]

Huiyu Bao, Changze Zheng, Yuwei Ji, Yinfeng Cao

ICAIHE-WKSP4 (Thursday, July 9, 13:00-15:30, Room 2, 3F&Zoom 2)

AICA

Session Chair: TBA

Reflections on AI-Mediated Learning for Children Toward Child-Centered Design

Yusi Li, Ruichen Cong, Qun Jin

From AI-Generated Images to Shadow Puppetry: Multi-modal Transformation and Embodied Meaning-Making in Arts-Based Education

Konstantinos Balis

From Portfolio to Living Soundscape: AI-Enhanced Exhibition Practices in Electroacoustic Music Education

Ainolnaim Azizol, Fakhrul Hazman Yusoff, Peter Bennett

Analyzing Administrative Staff Satisfaction and Behavioral Patterns in Teacher Professional Development Platforms: A Mixed Data Mining Approach

Hsueh-Chih Lin, Huei-mei Wei, Lung-hsing Kuo, Tsai-Yu Chen, Pei-Hua Tsai

Using Association Rules to Discover Characteristics of In-Service Professional Development Courses for Senior High School Teachers in Taiwan

Hsueh-Chih Lin, Huei-mei Wei, Lung-hsing Kuo, Tsai-Yu Chen, Pei-Wen Li

Human Imaginates, AI Hallucinates: The Myth of Pasar Basah as Process-Based Learning

Arron Teo

A Modular Annotation Toolset for Electroacoustic Score Preservation: Typology, Strategy, and the Case for Procedural Standards [online]

Giovanni Roma, Alba Francesca Battista

Storytelling First: AI-Assisted Narrative Pedagogy at RMIT Vietnam [online]

Bao Chau Phan

ICAIHE-WKSP5 (Thursday, July 9, 13:00-15:30, Room 3, 3F&Zoom 3)

GenAI-IHE

Session Chair: TBA

A Study on the Relationships among Online Self-Concept, Peer Relationships, and Mental Health of Adolescents in the Digital Age

Pei-Wen Li, Hsin-Ting Chiang, Yu-Cheng Lin

A Hybrid OCR–Rule-Based Framework with Large Language Models for Cosmetic Ingredient Safety Classification [online]

Ray AL Barazie, Adil Khan, Fuhua Lin, Azza Basiouni

AI-Driven Data Representation in Quantum Machine Learning for Healthcare: A Systematic Review [online]

Muaath Alsufi, Suha Assayed, Azza Elkhalifa, Ahmed Al-Gindy

AI Agents in LMS for Language Learning: A Conceptual Framework [online]

Syeda Kauser Fatima, Alla Baksh Mohamed Ayub Khan

Comparing LLM-Generated and Traditional Educational Content: A Mixed-Methods Study of Pedagogical Quality in Higher Education [online]

Faiza Qasmi

ESCORT: An AI-Enabled Integrated Digital Health Platform for Remote Chronic Disease Management [online]

Krishna Chandramouli, Michael Weber, Niamh Glenat, Peter Daly

Clinical Importance of Brain Anatomy in the Early Detection of Brain Tumors Using Modern Imaging Technologies [online]

Ahmed Youssef, Mahra Saad Alahbabi, Shimaa Emara

AI-Generated Synthetic Blood Smear Images: A Comparative Analysis with Real Clinical Microscopy Data [online]

Ashgan Ahmed, Mohamed Abdelrehim, Azza Mohamed

BIOTC-1 (Thursday, July 09, 10:20-12:00, Room 2, 3F)

Session Chair: TBA

An Insider-Resistant Lightweight AKE Protocol for Smart Surveillance IoT Using ASCON

HaoTing Huang, Raylin Tso

Triumphing Tragedy of the Digital Commons: The Case of Cardano

Sherin Kunhibava and Nur Husna Zakaria

A Human Centric IoT Exhibition Learning System for Museums Integrating Gesture Recognition and LLM Based Information Services

Chun-Yen Huang, Yin-Yu Chou, Yi-Kuei Yan and Yu-Hua Chiu

Cryptanalysis of a Post-Quantum Lightweight Identity-Based Two-Party Authenticated Key Exchange Protocol for Internet of Vehicles

Ping-Hsien Wu, Sheng-Ya Tso, Raylin Tso

A Reputation-List-Based Secure Clustering Protocol for Mobile Roadside Units in VANET-Based Vehicular IoT

Kuo-Yu Tsai and Jui Chieh Ying

Smart Home Healthcare Monitoring Using IoT Technologies: A Narrative Review and Healthcare Perspective

Reztika Cahyani, Ayu Anita and Made Dyanta Anwar

A Threshold Feasibility Analysis of Public Blockchains for IoT Micropayments: Evidence from Post-Merge Ethereum Gas Fees

JIAJIA YANG, Wenluo Duan

BIOTC-2 (Online, Friday, July 10, 09:00-10:30, Zoom)

Session Chair: TBA

MicroVAD-DID: Behavior-Aware Credential Revocation for DID/VC-Based V2X Trust

Hozefa Lakadawala, Van Tuan Pham, and Yu Chen

Reversible Data Hiding in Encrypted Images Based on Shifting Encryption and Huffman Coding

Yinghan Hou, Zongyou Yang and Xiaokun Yang

Auto-tunable Blockchain and IoT Systems for Healthcare

Jackey Cheung, Toddy Cheng and SM Yiu

FabricPM: A Hyperledger Fabric-based Framework for Software Project Management

Anmol Wajid, Farooque Azam and Muhammad Waseem Anwar