

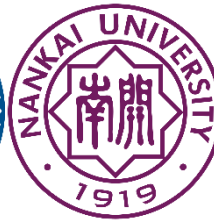
2025 11th International Conference on Computing and Artificial Intelligence (ICCAI 2025)

March 28-31, 2025 | Kyoto, Japan
Suzaku Campus, Ritsumeikan University

Host



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www.iccai.net



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Welcome Letter

Dear esteemed participants,

Greetings. It is with great pleasure that we extend a warm welcome to all participants of 2025 11th International Conference on Computing and Artificial Intelligence (ICCAI 2025). This conference is scheduled to take place at Suzaku Campus, Ritsumeikan University, Kyoto, Japan during March 28-31, 2025.

ICCAI 2025 is hosted by Ritsumeikan University, supported by Tiangong University, Shanghai Jiao Tong University, Tianjin University, Nankai University, Tianjin Normal University, Beijing University of Technology, Udayana University, and Gifu University.

ICCAI 2025 aims to provide a platform for leading academic scientists, researchers, and scholars to exchange insights, share experiences, and present their latest research findings in the field of Computing and Artificial Intelligence. We are confident that this gathering will foster meaningful discussions, collaborations, and advancements in the critical areas of study.

Throughout the conference, attendees can look forward to engaging with 5 Keynote Speeches, 9 Invited Speeches, 14 Oral Sessions, and 4 Poster Sessions, including 167 presentations and 280+ participants. We encourage participants to actively participate in the sessions, presenting their high-quality original research and technical contributions, thereby enriching the conference with diverse perspectives and expertise.

We are honored to host leading researchers and industry experts from around the globe, and we are excited to witness the exchange of knowledge and ideas that will shape the future of Computing and Artificial Intelligence.

Once again, welcome to ICCAI 2025. We wish you a fruitful and enriching conference experience and hope that your time with us in Kyoto will be both professionally rewarding and personally fulfilling.

Best regards,
ICCAI 2025 Conference Group



Conference Venue

Suzaku Campus, Ritsumeikan University, Kyoto, Japan

<https://en.ritsumei.ac.jp/>

Add.: 1 Nishinokyo-Suzaku-cho, Nakagyo-ku, Kyoto 604-8520



Ritsumeikan University (立命館大学) is a private university in Kyoto, Japan, that traces its origin to 1869. With the Kinugasa Campus (KIC) in Kyoto, and Kyoto Prefecture, the university also has a satellite called Biwako-Kusatsu Campus (BKC) and Osaka-Ibaraki Campus (OIC). Today, Ritsumeikan University is known as one of western Japan's four leading private universities, who is considered to be one of Japan's good universities, and is especially well known for its International Relations programme which has been ranked as first place in Japan.

Campus Map:

Map can be accessed from Here ([Click](#))

Recommended Hotels

A. Hotels near Kyoto Station

- Via Inn Prime Kyotoeki Hachijoguchi: <https://www.viainn.com/en/kyoto-h/>
- APA Hotel Kyoto-Eki Higashi: <https://www.apahotel.com/hotel/kansai/kyoto/kyoto-ekihigashi/>

B. Hotels in downtown

- Travelodge Kyoto Shijo Kawaramachi: <https://www.travelodgehotels.asia/travelodge-kyoto-shijo-kawaramachia/>
- Prince Smart Inn Kyoto Sanjo: <https://www.princehotels.co.jp/psi/sanjo/>

● Note

1. The registration fee does not cover the accommodation. It is suggested that an early reservation be done because of peak season.
2. The hotel will not contact any participants for hotel booking, and please be careful when anyone asks you to provide your credit card information to reserve room for you



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Prof. G.S.G.N. Anjaneyulu, Vellore Institute of Technology



Presentation Instructions

● Presentation Requirement

At least one author should present for each abstract/full paper during the session.

● Tips for Presentation

- English is the official language.
- Get your presentation PPT/Slides prepared.
- Keynote Speech: about 40 minutes of presentation and 5 minutes of Q&A.
- Invited Speech: about 20 minutes of presentation and 5 minutes of Q&A.
- Oral Presentation: about 12 minutes of presentation and 3 minutes of Q&A.
- One Best Oral Presentation will be selected from each session and announced at the end of the session.

● Onsite Presentation Instructions

▪ Devices Provided by the Conference Organizer

(a) Laptop Computer (MS Windows Operating System with MS PowerPoint and Adobe Acrobat Reader). (b) Digital Projectors and Screen. (c) Laser Pointer. (d) Materials Provided by the Presenters: PowerPoint or PDF Files (Files should be copied to the Conference laptop at the beginning of each Session.)

▪ Instructions for Poster Presentation

Materials Provided by the Conference Organizer: The place to put posters. Materials Provided by the Presenters: (a) Home-Made Posters: Submit the poster to the staff when signing in. (b) Maximum poster size is A1. (c) Load Capacity: Holds up to 0.5 kg.

▪ Conference Material

All presented papers will be issued with hard copy of conference materials: Receipt/Invoice, Participation and Presentation Certificate, Conference Program Book, etc.

▪ Dress Code

Please wear formal clothes or national representative of clothing.

● Personal Insurance

- Along with your registration, you will receive your name badge, which must be worn when attending all conference sessions and activities. Participants without a badge will not be allowed to enter the conference venue.
- For your safety, please do not lend your name badge to the persons who are not involved in the conference and bring the unregistered persons into the conference venue.
- The conference organizers cannot accept liability for personal injuries, or for loss or damage of property spacing to conference participants, either during, or as a result of the conference. Please check the validity of your own insurance.



● Online Presentation Instruction

▪ Equipment Needed:

(a) Computer with an internet connection (wired connection recommended). (b) USB plug-in headset with a microphone (recommended for optimal audio quality). (c) Webcam (optional): built-in or USB plug-in. (d) Please set up your laptop time in advance.

▪ Download the ZOOM:

<https://zoom.us/download>;

<https://www.zoom.com.cn/download>.

▪ Learn the ZOOM skills:

<https://support.zoom.us/hc/en-us/articles/201362033-Getting-Started-on-Windows-and-Mac>

▪ How to use ZOOM:

(a) Set the language. (b) Test computer or device audio. (c) Join a meeting: Join the meeting with the "meeting ID" provided in the program, tap the name as "paper ID + name", e.g.: "R0001-XX", then click "Join". (d) Get familiar with the basic functions: Rename, Chat, Raise Hands, Start Video, Share Computer Sound and Share Screen, etc.

▪ Environment Requirement:

(a) Quiet Location. (b) Stable Internet Connection. (c) Proper Lighting.

▪ Test Session:

On Mar. 28, 2025, there are test sessions. On that day, all the above functions will be taught including how to use ZOOM. If you don't know how to use, please do not worry. However, please do download ZOOM and log in the meeting room in advance, then, you can join the conference.

▪ Voice Control Rules during the Presentation:

(a) The host will mute all participants while entering the meeting. (b) The host will unmute the speakers' microphone when it is turn for his or her presentation. (c) Q&A goes after each speaker, the participant can raise hand for questions, the host will unmute the questioner. (d) After Q&A, the host will mute all participants and welcome next speaker.

▪ Conference Material:

All presented papers will be issued with soft copy of conference materials: Receipt/Invoice, Participation and Presentation Certificate, etc.

▪ Note:

(a) Log in the meeting room 15 minutes ahead of the session. (b) Learn the zoom skills. (c) Your punctual arrival and active involvement in each session will be highly appreciated. (d) Since the conference will be recorded, we will appreciate your proper behavior.

● Contact Us

Contact us by email: iccaivip@vip.163.com or WeChat for any inquiries.



Schedule at a Glance

Day 1-Mar. 28th, 2025 (Friday) | GMT+9

Arrival Registration

Time	Event	Venue
10:00-17:00	Arrival Registration & Conference Material Collection *The registration can also be done on Mar. 29, 2025	Hall (1F)
Equipment Test for Online Presentations		
Time	Event	Zoom A
09:00-12:00	Online Oral Sessions 1, 2, 3, 4, 5	ID: 88118529982

Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Opening Ceremony & Keynote Speeches & Invited Speeches

Zoom A, ID: 88118529982, Link: <https://us02web.zoom.us/j/88118529982>

Time	Event	Venue
09:00-09:10	Opening Remarks Prof. Yen-Wei Chen, Ritsumeikan University	Nakagawa Hall 大講義室(5F)
09:10-09:55	Keynote Speech I Prof. Xiao-Jun Wu, Jiangnan University Speech Title: "Deep Learning Models for Multimodal Visual Fusion"	
09:55-10:40	Keynote Speech II Prof. Kenji Suzuki, Institute of Science Tokyo Speech Title: "Small-Data Deep Learning for Diagnosis of Lesions and Medical AI Imaging"	
10:40-11:05	Coffee Break & Group Photo	
11:05-11:50	Keynote Speech III Prof. Yen-Wei Chen, Ritsumeikan University Speech Title: "Knowledge-Guided Deep Learning for Enhanced Medical Image Analysis"	
11:50-12:15	Invited Speech I Assoc. Prof. LEE John Sie Yuen, City University of Hong Kong Speech Title: "Student Use of Accurate and Inaccurate Chatbot Content: An Empirical Study"	Restaurant
12:15-13:00	Lunch	
13:00-13:25	Invited Speech II Assoc. Prof. Wei Liu, Shanghai Jiao Tong University Speech Title: "Deep Learning Based 3D Reconstruction and Understanding"	
	Invited Speech III Assoc. Prof. Tomoko Tateyama, Fujita Health University Speech Title: "Integration of Data Science and Artificial Intelligence for"	Multipurpose 2 多目的室 2 (1F)



	Advanced Clinical Support Systems”	
	Invited Speech IV Assoc. Prof. Peng Zhang, Huazhong University of Science and Technology Speech Title: “Automatic Detection and Risk Prediction of Atrial Fibrillation”	Classroom 205 205 教室(2F)
13:25-15:40	Oral Session 1 Topic: Machine Learning and Algorithms in Image Processing Paper ID: R0157, R0032, R0058, R0110, R3001, R2011-A, R2044-A, R0094, R0156	Multipurpose 1 多目的室 1(1F)
	Oral Session 2 Topic: Data-Driven Data Models and Privacy Protection Paper ID: R0115, R0135, R0141-A, R0158, R0038, R0011, R0114, R0121, R1012	Multipurpose 2 多目的室 2(1F)
	Oral Session 3 Topic: Machine Learning Models and Intelligent Computing Paper ID: R0028, R0033, R0051, R0072, R0159, R0092, R2028, R0007, R0008	Classroom 205 205 教室(2F)
15:40-15:55	Coffee Break	
15:55-18:10	Oral Session 4 Topic: Digital Image Analysis and Processing Methods Paper ID: R0077, R0080, R2038, R2043-A, R0042, R2029, R2031, R2015, R2032	Multipurpose 1 多目的室 1(1F)
	Oral Session 5 Topic: Data-Driven Information Management and Service Platform Development Paper ID: R0036, R0060, R0087, R0096, R0099, R0086-A, R0034, R0182, R0173	Multipurpose 2 多目的室 2(1F)
	Oral Session 6 Topic: Large Language Models and Key Technologies for Natural Language Processing Paper ID: R0005, R0017, R0179, R1001-A, R1011, R0169, R2042, R0022, R0171	Classroom 205 205 教室(2F)
15:30-17:30	Poster Session 1 Topic: Machine Learning Theory and Algorithms Paper ID: R0107, R0161-A, R0012, R0009-A, R0019, R0125, R0128, R0085, R0140, R0218-A	Corridor (1F)
	Poster Session 2 Topic: Computer Vision and Image Analysis Paper ID: R0183-A, R2004, R2006-A, R2030, R2033, R2034, R0054, R0172, R0061, R1007, R0062	
	Poster Session 3 Topic: Next-Generation Artificial Intelligence and Control Technology Paper ID: R1013, R0025, R0029, R0043-A, R0108-A, R0208-A, R0144-A, R0175, R0050	Corridor (2F)



15:30-17:30	Poster Session 4 Topic: Intelligent Optimization and Application of Digital Information Systems Based on AI Paper ID: R0004, R0046, R0052, R0053, R0064-A, R0098, R0106, R0205, R0162, R0165	Corridor (2F)
18:10-20:00	Dinner-Campus Lounge (1F)	Restaurant

Day 3-Mar. 30th, 2025 (Sunday) | GMT+9

Keynote Speeches & Invited Speeches

Zoom A, ID: 88118529982, Link: <https://us02web.zoom.us/j/88118529982>

Time	Event	Venue
09:00-09:45	Keynote Speech IV Prof. Fengchun Tian, Chongqing University Speech Title: "Wavelet Scattering Transform—A Solution to Problem of Scarce Samples in Machine Olfaction Technique"	Nakagawa Hall 大講義室(5F)
09:45-10:30	Keynote Speech V Prof. Donghyun Kim, Yonsei University Speech Title: "Machine Learning-Driven Metaplasmonic Light Engineering for Advanced Biophotonic Imaging and Sensing Applications"	
10:30-11:00	Coffee Break & Group Photo	
11:00-11:25	Invited Speech V Prof. Paolo Terenziani, University of Eastern Piedmont/Integrated Laboratory of AI and Medical Informatics DAIRI + DISIT Speech Title: "Medical Education about Clinical Guidelines Through AI: Project and Mid-term Results"	
11:25-11:50	Invited Speech VI Asst. Prof. Yvonne Leung, Northeastern University, USA & University of Toronto Speech Title: "Artificial Intelligence Based Patient Librarian"	
11:50-12:15	Invited Speech VII Asst. Prof. Jiaqing Liu, Ritsumeikan University Speech Title: "Advancing Depression Detection with AI"	
12:15-12:40	Invited Speech VIII Asst. Prof. Peng Liu, Singapore Management University Speech Title: "Improving Foreign Exchange Trading Strategies using Bayesian Optimization"	
12:40-13:30	Lunch	Restaurant
13:30-16:15	Oral Session 7 Topic: Intelligent Image Recognition and Classification Technology Paper ID: R0202, R1003, R0105, R2005, R0023, R0113, R0016, R0119, R2009, R1009	Multipurpose 1 多目的室 1(1F)
	Oral Session 8 Topic: Target Detection and Image Models	Multipurpose 2 多目的室 2(1F)



	Paper ID: R0021, R0196, R0030, R2018, R0083, R2041, R0020, R0006, R0078, R0180, R0076	
	Oral Session 9 Topic: Sensor-Based IoT Systems and Mobility Applications Paper ID: R0100, R0071, R0082, R0088, R0095, R0097, R0057, R0117-A, R0197, R0198, R0177	Classroom 205 205 教室(2F)

Day 4-Mar. 31th, 2025 (Monday) GMT+9		
Time	Online Event	Zoom
09:35-10:00	Invited Speech IX Dr. Salmah Binti Karman, University of Malaya Speech Title: "MoS ₂ -COOH Functionalized Gold Film Coated BK7 Prism for Surface Plasmon Resonance Sensing Platform for Viral Protein Detection"	Zoom A ID: 88118529982
10:00-12:15	Online Oral Session 1 Topic: Intelligent Recognition and Image Detection Technology Paper ID: R0187, R1014, R0188, R2017, R0079, R0139, R0145, R0160, R0137	Zoom A ID: 88118529982
	Online Oral Session 2 Topic: Machine Learning and Image Models in Medical Images Paper ID: R2014, R2019, R2035, R2047, R0059, R0168, R0176, R2040	Zoom B ID: 82433388415
12:15-13:00	Break	
13:00-15:30	Online Oral Session 3 Topic: Artificial Intelligence Theory and Engineering Applications Paper ID: R0112, R0167, R0199, R0181, R0209, R1015, R0018, R0146, R0134, R2021	Zoom A ID: 88118529982
	Online Oral Session 4 Topic: System Design, Model Simulation and Performance Optimization in Modern Electronic and Communication Systems Paper ID: R0191, R0073, R0189, R0151, R0192, R0201, R0193, R0149, R0195, R0055	Zoom B ID: 82433388415
15:30-15:40	Break	
15:40-17:55	Online Oral Session 5 Topic: Computer-aided Imaging and Image Processing Methods Paper ID: R2036, R0203, R0213, R1008, R0186, R2027, R0153, R0024, R1005, R0164	Zoom A ID: 88118529982

Note-1

Please arrive at the Conference Room 15 minutes ahead of the session. The duration for Keynote Speech: about 40 minutes of presentation and 5 minutes of Q&A. The duration for Invited Speech: about 20 minutes of presentation and 5 minutes of Q&A. The duration for Regular Presentation: about 12 minutes of presentation and 3 minutes of Q&A.

Note-2

The academic visit scheduled for Mar. 30th-31th, 2025 (Day-3&Day-4) has been canceled due to a low number of registrations for the academic visit.



Keynote Speech I



Nakagawa Hall/大講義室 (5F)

09:10-09:55, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Zoom A, ID: 88118529982, Link: <https://us02web.zoom.us/j/88118529982>

Prof. Xiao-Jun Wu

Jiangnan University

Xiao-Jun Wu received his B.S. degree in mathematics from Nanjing Normal University, Nanjing, PR China in 1991 and M.S. degree in 1996, and Ph.D. degree in Pattern Recognition and Intelligent System in 2002, both from Nanjing University of Science and Technology, Nanjing, PR China, respectively. He was a fellow of United Nations University, International Institute for Software Technology (UNU/IIST) from 1999 to 2000. From 1996 to 2006, he taught in the School of Electronics and Information, Jiangsu University of Science and Technology where he was an exceptionally promoted professor. He joined Jiangnan University in 2006 where he is currently a distinguished professor in the School of Artificial Intelligence and Computer Science, Jiangnan University. He won the most outstanding postgraduate award by Nanjing University of Science and Technology. He has published more than 400 papers in his fields of research. He was a visiting postdoctoral researcher in the Centre for Vision, Speech, and Signal Processing (CVSSP), University of Surrey, UK from 2003 to 2004, under the supervision of Professor Josef Kittler. His current research interests are pattern recognition, computer vision, fuzzy systems, and neural networks. He owned several domestic and international awards because of his research achievements. Currently, he is a Fellow of IAPR and AAIA respectively.

Speech Title: “Deep Learning Models for Multimodal Visual Fusion”

Abstract: There is a huge amount of visual information in the construction of smart city (SC) in which the visual fusion is a very important topic. Deep Learning (DL) has found very successful applications in numerous different domains with impressive results. Visual Fusion (VisF) algorithms based on DL models and their applications will be presented in this talk in the context of SC. Initially, a brief introductory overview of related concepts and algorithms will be presented. Then, a comprehensive analysis of DL models and our recent works published on TPAMI, IJCV, TIP, CVPR, and ACMMM will be offered and their typical applications will be discussed, including Image Quality Enhancement, Object Tracking, Multi-Modal Image Fusion, Video Style Transformation, and Deep Fake of Facial Images respectively.



Keynote Speech II



Nakagawa Hall/大講義室 (5F)

09:55-10:40, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Zoom A, ID: 88118529982, Link: <https://us02web.zoom.us/j/88118529982>

Prof. Kenji Suzuki

Institute of Science Tokyo

Kenji Suzuki, Ph.D. worked at Hitachi Medical Corp, Aichi Prefectural University, Japan, as a faculty member, in Department of Radiology, University of Chicago, as Assistant Professor, and Medical Imaging Research Center, Illinois Institute of Technology, as Associate Professor (Tenured). He is currently a Full Professor (Tenured) & Founding Director of Biomedical Artificial Intelligence Research Unit, Institute of Integrated Research, Institute of Science Tokyo, Japan. He published more than 395 papers (including 125 peer-reviewed journal papers). He has been actively researching on deep learning in medical imaging and AI-aided diagnosis in the past 25 years, especially his early deep-learning model was proposed in 1994. His papers were cited more than 16,000 times, and his h-index is 63. He is inventor on 37 patents (including ones of earliest deep-learning patents), which were licensed to several companies and commercialized via FDA approvals. He published 16 books and edited 20 journal special issues. He has been awarded numerous grants including NIH, NEDO, and JST grants, totaling \$8M. He serves as Editors of more than 20 leading international journals including Pattern Recognition and AI. He chaired 110 international conferences. He is a Fellow of IARIA. He received 25 awards, including 3 Best Paper Awards in leading journals.

Speech Title: “Small-Data Deep Learning for Diagnosis of Lesions and Medical AI Imaging”

Abstract: Deep learning has shown to be a breakthrough technology in many fields including medicine. The performance of deep learning increases as the amount of data increases and reaches at the human performance. My group has been actively studying on deep learning in medical imaging in the past 25 years, including ones of the earliest deep-learning models for medical image processing, lesion/organ segmentation, and classification of lesions in medical imaging. In this talk, "small-data" deep learning that does not require "big data", but can be trained with a small number of cases is introduced. Our small-data AI was applied to develop AI-aided diagnostic systems (“AI doctor”) and deep-learning-based imaging for diagnosis (“virtual AI imaging”), including 1) AI systems for detection and diagnosis of lung, colon, breast, and liver cancer in medical images, and 2) virtual AI imaging systems for separation of bones from soft tissue in chest radiographs and those for radiation dose reduction in CT, tomosynthesis, and mammography. Some of them have been commercialized via FDA approval in the U.S., including the first FDA-approved deep-learning product. Our small-data deep-learning technology would be useful for the development of AI in “small-data” areas where “big data” are not available.



Keynote Speech III



Nakagawa Hall/大講義室 (5F)

11:05-11:50, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Zoom A, ID: 88118529982, Link: <https://us02web.zoom.us/j/88118529982>

Prof. Yen-Wei Chen

Ritsumeikan University

Yen-Wei Chen received the B.E. degree in 1985 from Kobe Univ., Kobe, Japan, the M.E. degree in 1987, and the D.E. degree in 1990, both from Osaka Univ., Osaka, Japan. He was a research fellow with the Institute for Laser Technology, Osaka, from 1991 to 1994. From Oct. 1994 to Mar. 2004, he was an associate Professor and a professor with the Department of Electrical and Electronic Engineering, Univ. of the Ryukyus, Okinawa, Japan. He is currently a professor with the college of Information Science and Engineering, Ritsumeikan University, Japan. He is the founder and the first director of Center of Advanced ICT for Medicine and Healthcare, Ritsumeikan University, Japan. His research interests include medical image analysis, computer vision and computational intelligence. He has published more than 300 research papers in a number of leading journals and leading conferences including IEEE Trans. Image Processing, IEEE Trans. Medical Imaging, CVPR, ICCV, MICCAI. He has received many distinguished awards including ICPR2012 Best Scientific Paper Award, 2014 JAMIT Best Paper Award. He is/was a leader of numerous national and industrial research projects.

Speech Title: "Knowledge-Guided Deep Learning for Enhanced Medical Image Analysis"

Abstract: Recently, Deep Learning (DL) has played an important role in various academic and industrial domains, especially in computer vision and image recognition. Although deep learning (DL) has been successfully applied to medical image analysis, achieving state-of-the-art performance, few DL applications have been successfully implemented in real clinical settings. The primary reason for this is that the specific knowledge and prior information of human anatomy possessed by doctors is not utilized or incorporated into DL applications. In this keynote address, I will present our recent advancements in knowledge-guided deep learning for enhanced medical image analysis. This will include two research topics: (1) our proposed deep atlas prior, which incorporates medical knowledge into DL models; (2) language-guided medical image segmentation, which incorporates the specific knowledge of doctors as an additional language modality into DL models.

Keynote Speech IV



Nakagawa Hall/大講義室 (5F)

09:00-09:45, Day 3-Mar. 30th, 2025 (Sunday) | GMT+9

Zoom A, ID: 88118529982, Link: <https://us02web.zoom.us/j/88118529982>

Prof. Fengchun Tian

Chongqing University

Prof. Fengchun Tian received his B.Sc., M.Sc., and Ph.D. degrees in radio engineering, biomedical instruments and engineering, theoretical electric engineering from Chongqing University, Chongqing, P.R. China, in 1984, 1986, and 1996, respectively. Since 1984, he has been working in Chongqing University as a teacher. Since 2001, he has been a professor at Chongqing University. From 2007 to 2016, he was an adjunct professor at the University of Guelph, Canada. From 2015 to 2023, he was the director of Key Laboratory of Chongqing for Bio-perception and Intelligent Information Processing. From 2022 to 2024, he was the China Chair of International Society for Olfaction and Chemical Sensing (ISOCS). Since 2019, he has been the chair of academic degrees committee, School of Electronics and Communication Engineering, Chongqing University. Since 2020, he has been a member of working group on the IEEE P2520.1 standard. His research interests are focused on artificial olfaction (electronic nose) and biomedical and modern signal processing technology.

Speech Title: "Wavelet Scattering Transform—A Solution to Problem of Scarce Samples in Machine Olfaction Technique"

Abstract: Deep learning has achieved significant success in fields such as image processing and natural language processing, with its advantage lying in being a data-driven algorithm. Users do not need to engage in tedious feature engineering; they simply input data into the deep learning model. However, this data-driven characteristic also presents challenges, especially when the number of samples is limited, resulting in poor recognition performance. In contrast, wavelet transform, as a model-based algorithm, does not rely on extensive data learning and can effectively extract features even in cases of scarce samples, although it still requires manual intervention. The wavelet scattering transform combines the advantages of both methods, overcoming the problem of scarce samples while enabling feature extraction without the need for manual intervention, showcasing a wide range of application prospects. This report introduces the fundamental principles and improvements of wavelet scattering transform, particularly its application in the gas recognition of machine olfaction systems (electronic noses) under weak signal conditions. Experimental results indicate that, under the same sample quantity, the performance of wavelet scattering transform surpasses that of traditional deep learning methods.

Keynote Speech V



Nakagawa Hall/大講義室 (5F)

09:45-10:30, Day 3-Mar. 30th, 2025 (Sunday) | GMT+9

Zoom A, ID: 88118529982, Link: <https://us02web.zoom.us/j/88118529982>

Prof. Donghyun Kim

Yonsei University

Donghyun Kim received B.S. and M.S. from Seoul National University in Electronics Engineering. He graduated from the Massachusetts Institute of Technology with Ph.D. in electrical engineering in the area of novel multi-dimensional display technologies and smart optical filters. He worked on next generation fiber-optic access communication systems at Corning Inc. as a senior research scientist and then investigated cellular biophotonic sensors for cell-based assays at Cornell University as a postdoctoral fellow. He has been leading Biophotonics Engineering Laboratory of Yonsei University, Seoul, Korea. The main theme of his research at Yonsei has been focused on sensing and imaging applications in biomedical engineering based on near-field manipulation by plasmonic techniques and metastructures. He has given 100+ invited lectures on related topics and written more than 200+ peer-reviewed journal and conference publications on nano and biophotonics, many of which were the results of domestic and international collaboration. He also holds 30+ international patents. Dr. Kim served as Undergraduate Chair of the School of Electrical Engineering of Yonsei University and chaired international conferences including CLEO Pacific Rim 2024. He is currently Vice President of the Optical Society of Korea. He is a Fellow of the SPIE and a Senior Member of the IEEE.

Speech Title: "Machine Learning-Driven Metaplasmonic Light Engineering for Advanced Biophotonic Imaging and Sensing Applications"

Abstract: This work presents advancements in molecular imaging and sensing using plasmonic metastructures, with a focus on machine learning and image processing. Plasmonic metastructure arrays enable label-free, nanoscale optical signal extraction beyond the diffraction limit, achieving enhanced resolution, superior signal-to-noise ratios, and increased detection sensitivity. The study investigates subcellular dynamics, such as viral internalization and mitochondrial movement, and introduces axial resolution enhancement for intracellular protein distribution via linearly graded metastructures. Machine learning is employed to optimize metastructure design for biosensing and imaging, while deep learning addresses metal-plasmon interaction mislocalization. The research highlights applications in super-resolved Raman microscopy, structured illumination, and plasmon-enhanced fluorescence spectroscopy, offering novel tools for precise intracellular imaging and sensing.



Invited Speech I



Nakagawa Hall/大講義室 (5F)

11:50-12:15, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Zoom A, ID: 88118529982, Link: <https://us02web.zoom.us/j/88118529982>

Assoc. Prof. LEE John Sie Yuen

City University of Hong Kong

Prof. John S. Y. Lee is an Associate Professor at the Department of Linguistics and Translation at City University of Hong Kong. He received his BMath from the University of Waterloo in 2002, and his PhD in Computer Science from the Massachusetts Institute of Technology (MIT) in 2009. Prof. Lee's research focus is on natural language processing (NLP) and computational linguistics, especially their applications in language learning and in education. His recent projects have focused on automatic readability assessment; reading material recommendation; question and exercise generation for language learning; and the use of Large Language Models in teaching and learning.

Speech Title: "Student Use of Accurate and Inaccurate Chatbot Content: An Empirical Study"

Abstract: With the integration of generative artificial intelligence (AI) into education, high-quality materials generated by Large Language Models (LLMs) have been shown to bring pedagogical benefits. Although it is well known that these models can hallucinate, there has been relatively less empirical research on the impact of misinformation on students' learning outcome. This paper investigates whether university students can engage critically with LLMs and, specifically, the extent to which they can both benefit from accurate LLM content and recognize inaccurate content. In our study, 144 students answered short questions that required them to compare or distinguish between two concepts, scores or corpus queries. The correct answer may be one of the two options, or "both". The answers generated by a chatbot were also shown to the treatment group, but not to the control group. In questions where the chatbot was correct, the treatment group outperformed the control group. In questions where the chatbot was incorrect, student performance varied according to the content of the chatbot answer. When the answer should be "both" but the chatbot accepted only one of the two options, the treatment group was more likely than the control group to recognize the validity of both options. However, when the chatbot also argued that the other option was incorrect, the treatment group was more prone to agree with the chatbot. Educators may find these results helpful in preparing students for the use of chatbot in their studies.



Invited Speech II



Multipurpose 1/多目的室 1 (1F)

13:00-13:25, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Assoc. Prof. Wei Liu

Shanghai Jiao Tong University

Wei Liu received the B.S. degree from Xi'an Jiaotong University, Xi'an, China, in 2012. He received the Ph.D. degree from Shanghai Jiao Tong University, Shanghai, China in 2019. He was a research fellow in The University of Adelaide and The University of Hong Kong from 2018 to 2021 and 2021 to 2022, respectively. He has been working as an associate professor in Shanghai Jiao Tong University since 2022. His current research areas include image filtering, 3D detection, 3D reconstruction and self-supervised depth estimation. He has published many top-tier papers in TPAMI, ToG, IJCV, TIP, ICCV, AAAI, etc.

Speech Title: "Deep Learning Based 3D Reconstruction and Understanding"

Abstract: In this talk, I will report our recent work on deep learning based 3D reconstruction and understanding. For 3D reconstruction, I will present our continuous learning framework for 3D reconstruction of dynamic scenes, where our method shows promising performance in reconstruction quality, inference speed and scalability. For 3D scene understanding, I will introduce our recent work on 3D detection, we propose a multi-stage cross-modal fusion 3D object detection framework with IoU joint prediction. Our method achieves superior performance over state-of-the-art approaches on KITTI and nuScene datasets.



Invited Speech III



Multipurpose /多目的室 2 (1F)

13:00-13:25, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Assoc. Prof. Tomoko Tateyama

Fujita Health University

She received her M.E. degree in 2003 and D.E. degree in 2009, both from the Graduate School of Engineering and Science, University of the Ryukyus, Okinawa, Japan. She was a research member and assistant professor at College of Information and Science, Ritsumeikan University from 2009 to 2016. Then she was an Assistant Professor at Hiroshima Institute of Technology, Japan from 2016 to 2020, followed by an Associate Professor position at the Center for Data Science Education and Research, Shiga University from 2020 to 2021. She is currently an Associate Professor in the School of Medical Sciences, Fujita Health University. Her research interests include Data Science-driven Medical Image Analysis, Machine Learning, development of clinical support interaction systems and their applications. She is a member of IEICE, Japanese Society of Medical Imaging Technology, IEEE Engineering in Medicine and Biology Society (EMBC), ACM, and other professional societies.

Speech Title: “Integration of Data Science and Artificial Intelligence for Advanced Clinical Support Systems”

Abstract: The integration of Data Science into healthcare presents the challenge of effectively analyzing and utilizing huge amounts of medical data generated daily. This study addresses this problem by developing Data Science-driven clinical support systems. Through mathematical and statistical methodologies, our research group has created systems that integrate Data Science and Artificial Intelligence (AI) to analyze complex datasets including electronic medical records, diagnostic imaging, vital signs, and genetic information. The invited talk will present several research case studies that show various applications of these methodologies in clinical settings. These examples demonstrate how our Data Science-based systems contribute to enhanced healthcare delivery through effective data interpretation. Our studies show that approaches combining Data Science and AI can transform complex medical data into clinically meaningful knowledge, strengthening the medical-engineering collaboration essential for advancing modern healthcare.



Invited Speech IV



Classroom 205 /205 教室 (2F)

13:00-13:25, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Assoc. Prof. Peng Zhang

Huazhong University of Science and Technology

Peng Zhang received the B.S. degree in biomedical engineering and the Ph.D. degree in control science and engineering from Huazhong University of Science and Technology, Wuhan, China, in 2011 and 2018, respectively. He joined Wuhan National Laboratory for Optoelectronics, Huazhong University of Science and Technology, as a post-doctoral fellow in 2018. His research areas include intracortical brain-machine interface, biomedical signal analysis, and deep learning. He has published 25 SCI papers in high-level journals such as Med, Nature Chemistry, and IEEE Trans. He also authored a chapter in the book "Neural Interface: Frontiers and Applications" and applied for 16 patents (8 granted and one patent transformation with 1.27 million).

Speech Title: "Automatic Detection and Risk Prediction of Atrial Fibrillation"

Abstract: Atrial fibrillation is the most common arrhythmia in the general population, and can lead to dangerous complications. Effective automatic detection and risk prediction of atrial fibrillation are crucial for its prevention and treatment. This presentation will first introduce the research on atrial fibrillation detection, which involves developing a deep learning-based AI algorithm to accurately and automatically detect atrial fibrillation episodes from clinical 24-hour Holter ECG data. Subsequently, the presentation will present the research on atrial fibrillation risk prediction, where a deep learning-based AI algorithm is developed to effectively predict individual atrial fibrillation risks using only heartbeat information during sinus rhythm. Both studies have undergone comprehensive performance evaluations on large-scale real-world clinical datasets. Additionally, the presentation will explore how clinicians can utilize these AI tools to enhance their atrial fibrillation detection and risk prediction capabilities in real clinical practice.



Invited Speech V



Nakagawa Hall/大講義室 (5F)

11:00-11:25, Day 3-Mar. 30th, 2025 (Sunday) | GMT+9

Zoom A, ID: 88118529982, Link: <https://us02web.zoom.us/j/88118529982>

Prof. Paolo Terenziani

University of Eastern Piedmont/Integrated Laboratory of AI and
Medical Informatics DAIRI + DISIT

Paolo Terenziani was born in Turin (Italy) on July 4th, 1963. Since October 2000, he is Full Professor in the Department of Science and Technological Innovation of the University of Eastern Piedmont, Alessandria, Italy. The research activity of Paolo Terenziani has begun in 1987 and it concerns mainly the fields of Artificial Intelligence (knowledge representation, temporal reasoning, conformance analysis, process mining), Temporal Databases (query and data semantics, temporal indeterminacy, periodic data) and of Medical Informatics (clinical guidelines, decision support systems). Regarding these topics Paolo Terenziani has published more than 170 papers in peer-reviewed international journals, books, conference proceedings and workshops (in particular, he has achieved 15 publications on the IEEE Transactions of Knowledge and Data Engineering). As early as in 1998, for his research activity, he won the “Artificial Intelligence Prize” from Italian Association for Artificial Intelligence. He has won “distinguished\best” paper awards in several international conferences, including AMIA 2012, Chicago, USA, November 2012 (more than 1000 submissions). He is currently the responsible of the Integrated Laboratory of Artificial Intelligence and Medical Informatics of the Alessandria Hospital and the University of Eastern Piedmont, Alessandria, Italy.

Speech Title: "Medical Education about Clinical Guidelines Through AI: Project and Mid-term Results"

Abstract: Artificial Intelligence has the potentiality to innovate education in many areas, including medicine. Since 1996 we work on the GLARE (Guideline Acquisition, Representation and Execution) decision support system, within a long-term project for the design of advanced AI supports for the management of Computer-Interpretable Clinical Guidelines (CIGs). In the two-year project “Personalized Training of Professional Competences with AI”, we are investigating the adoption of AI and CIG systems for medical education. We address different tasks related to the adoption of medical knowledge for medical education, including knowledge acquisition, representation and reasoning. Our approach supports three facilities: the navigation of CIGs, their simulated application to virtual patients, and the verification of learners, through an evaluation of the conformance between learners’ recommendations and CIG’s ones. Our approach is domain-independent, and we use the melanoma and the dyslipidemia guidelines as concrete examples. In the last months of the project we are going to held a course for a cohort of more than 50 medical students, distinguishing between a class adopting the developed AI-based tools and a control class. At the end of the project, the learning results of the two classes will be compared.



Invited Speech VI



Nakagawa Hall/大講義室 (5F)

11:25-11:50, Day 3-Mar. 30th, 2025 (Sunday) | GMT+9

Zoom A, ID: 88118529982, Link: <https://us02web.zoom.us/j/88118529982>

Asst Prof. Yvonne Leung

Northeastern University & University of Toronto

Dr. Yvonne Leung is a multifaceted researcher and educator with extensive experience in psychosocial oncology, mental health, and healthcare analytics. She currently holds positions as an Assistant Teaching Professor in the Analytics program at Northeastern University, a Scientist at the University Health Network (UHN), and an Adjunct Lecturer at the Department of Psychiatry, University of Toronto. With a Ph.D. in Kinesiology and Health Science from York University, specializing in Health Psychology, Dr. Leung has over 15 years of experience in psychosocial and mental health research. She has secured more than C\$1.3 million in research funding and awards, publishing 49 peer-reviewed journal articles and presenting at over 70 conferences. Dr. Leung's research focuses on innovative applications of artificial intelligence in healthcare. She leads projects using deep learning-based natural language processing algorithms to develop chatbot solutions for automated self-care support, particularly for cancer patients. Her work aims to improve quality of life and access to care for patients, especially those with metastatic breast cancer. At Northeastern University, Dr. Leung teaches courses in the Analytics program, bringing her expertise in advanced statistical techniques. She also conducts workshops on building agents and Retrieval Augmented Generation Chatbots with open-source large and small language models.

Speech Title: “Artificial Intelligence Based Patient Librarian”

Abstract: Few online interventions meet the psychosocial and supportive care needs of Metastatic Breast Cancer (MBC) patients with HR+/ HER2- subtypes. The current report describes the development and evaluation of the Artificial Intelligence Patient Librarian (AIPL), an interactive chatbot to deliver patient education and navigation by leveraging curated resources at the Princess Margaret Cancer Center. AIPL offered conversational patient education about the disease, invited users to ask questions on topics of interest, and provided tailored online resource recommendations. A mixed-method study assessed the impact of AIPL on patient ability to manage the advanced disease. The study consisted of 3 Phases: 1. Educational content transformed to be delivered by the chatbot, annotating over 100 credible online resources to drive recommendations using a Convolution Neural Network (CNN). 2. Beta-testing of the chatbot with 42 participants who completed a pre-survey, used AIPL for two weeks, and then completed a post-survey, both measuring patient activation. Patient activation measure (PAM) assessed their skill, knowledge, and confidence in managing their health. Post-survey also assessed user experience of the AIPL using the System Usability Scale (SUS). 3. Focus groups exploring user experiences. Of 42 (70%) consenting participants, 36 (85.7%) completed the study, and 10 (23.8%) participated in focus groups. The majority of the participants were aged 40-64 years. No significant differences were observed in PAM scores between pre-survey (mean=59.33 , SD=5.19) and post-survey (mean=59.22, SD=6.16). SUS scores indicated good usability. Thematic analysis identified four themes describing the extent to which technology impacted their management of metastatic breast cancer: 1. AIPL offers basic guidance on wellness and



health, 2. AIPL provides limited support for managing relationships, 3. AIPL offers limited medical information unique to their conditions, and 4. AIPL is unable to offer hope to patients. Although AIPL showed no impact on PAM, possibly due to high baseline activation, it demonstrated good usability and addressed basic information needs, especially for newly diagnosed MBC patients. Future work will incorporate a large language model (LLM) in the AIPL to ensure that patients receive more comprehensive and personalized assistance.



Invited Speech VII



Nakagawa Hall/大講義室 (5F)

11:50-12:15, Day 3-Mar. 30th, 2025 (Sunday) | GMT+9

Zoom A, ID: 88118529982, Link: <https://us02web.zoom.us/j/88118529982>

Asst. Prof. Jiaqing Liu

Ritsumeikan University

Jiaqing Liu received the B.E. degree in 2016 from Northeastern University, China, the M.E. degree in 2018, and the D.E. degree in 2021, both from Ritsumeikan University, Kyoto, Japan. From 2020 to 2021, he was a JSPS Research Fellow for Young Scientists. From October 2021 to March 2022, he was a Specially Appointed Assistant Professor with the Department of Intelligent Media, ISIR, Osaka University, Osaka, Japan. He is currently an Assistant Professor with the College of Information Science and Engineering, Osaka University, Osaka, Japan. His research interests include computer vision, medical engineering, and deep learning.

Speech Title: "Advancing Depression Detection with AI"

Abstract: Depression is a widespread mental health disorder that significantly impacts global well-being, reducing quality of life, productivity, and overall health. Despite the rapid advancements in AI, current approaches using large language models (LLMs) struggle with integrating multimodal data and providing interpretable insights into emotions and underlying causes of depression. In this talk, I will present our research on a novel prefix-tuning approach that enhances the adaptability of LLMs for depression detection. By fine-tuning only a small subset of parameters, our method enables efficient adaptation while leveraging emotion-pretrained models to improve the detection of mental health indicators. This approach establishes a parameter-efficient and interpretable paradigm for applying LLMs to mental health analysis, offering a scalable solution for advancing AI-driven mental health support.



Invited Speech VIII



Nakagawa Hall/大講義室 (5F)

12:15-12:40, Day 3-Mar. 30th, 2025 (Sunday) | GMT+9

Zoom A, ID: 88118529982, Link: <https://us02web.zoom.us/j/88118529982>

Asst. Prof. Peng Liu

Singapore Management University

Peng Liu has a Ph.D. in Statistics and Data Science and a M.S. in Business Analytics from the National University of Singapore. Currently he is an Assistant Professor of Quantitative Finance (Practice) at the Lee Kong Chian School of Business, Singapore Management University. He is also an adjunct research fellow at the Institute of Operations Research and Analytics at National University of Singapore. He has over ten years of industry experience across multiple industries. His research highlights expertise in areas such as deep learning, sparse estimation, and Bayesian optimization with applications in Finance.

Speech Title: "Improving Foreign Exchange Trading Strategies using Bayesian Optimization"

Abstract: Bayesian optimization is a cost effective global optimization framework widely used in tasks such as hyperparameter tuning. We show that the Bayesian optimization framework can be used to create cointegrated currency portfolio in the foreign exchange market. A salient feature of the Bayesian approach is the ability to perform online updating of the cointegrated portfolio weights as new data become available. We compare the robustness of the portfolio performance with the convention cointegration approach through the use of standard econometric tools like the Johansen test. We also demonstrate its practical application using the net effective exchange rate in Singapore as a case study.



Invited Speech IX



Zoom A, ID: 88118529982, Link: <https://us02web.zoom.us/j/88118529982>
09:35-10:00, Day 4-Mar. 31th, 2025 (Monday) | GMT+9

Dr. Salmah Binti Karman

University of Malaya

Salmah Binti Karman (Member, IEEE) received the bachelor's degree in electrical and electronic engineering from Oita University, Oita, Japan, in 2003, the master's in engineering science (M.Eng.Sc.) degree from the Universiti Malaya, Kuala Lumpur, Malaysia, in 2011, and the Ph.D. degree from Universiti Kebangsaan Malaysia (National University of Malaysia), Bangi, Malaysia, in 2016. She is currently working as a Senior Lecturer with the Department of Biomedical Engineering, Faculty of Engineering, Universiti Malaya. Her research interest mostly focuses on biosensors and sensing systems. Currently she is actively involved in surface plasmon resonance-based biosensors for virus and bacteria protein detection. The outcome of these studies could be potential in environment safety management especially for infection disease control. She was also involved in molecular imprinted polymer (MIP) based biosensors for DNA detection, potentially applied for halal management systems. Salmah has a significant number of publications in high impact indexed journals and has experience in conducting the high value of project grants. Beside supervising the PhD and master students, she is also actively involved in teaching and learning in the department as part of the profession requirement.

Speech Title: "MoS₂-COOH Functionalized Gold Film Coated BK7 Prism for Surface Plasmon Resonance Sensing Platform for Viral Protein Detection"

Abstract: Functionalized films are key components in surface plasmon resonance (SPR) sensing platforms, especially for detecting viral proteins. SPR is a powerful technique that allows real-time, label-free detection of molecular interactions by measuring changes in the refractive index near a metal surface, typically gold. By functionalizing the metal surface with specific molecules, such as peptides, it becomes highly selective to target viral proteins, enabling precise detection. The functionalized film serves as a bio-recognition layer, where viral proteins can bind with high affinity. The viral protein interactions with the functionalized surface result in a measurable shift in the SPR signal, which can be quantified to determine the presence and concentration of the virus. In this study, we present the development of a highly sensitive surface plasmon resonance (SPR) sensing platform utilizing a novel MOS₂-COOH functionalized gold film coated BK7 prism for viral protein detection. The unique combination of two-dimensional molybdenum disulfide (MOS₂) with carboxyl (-COOH) functional groups, coupled with a gold film, enhances the surface plasmon resonance signal and provides high selectivity for detecting viral proteins. The BK7 prism serves as the optical component for the SPR system, ensuring efficient coupling and signal transmission. The functionalized MOS₂ layer facilitates strong interactions with target viral proteins through both electrostatic and covalent bonding, offering enhanced sensitivity and specificity compared to traditional SPR sensors. This innovative approach paves the way for the development of portable, cost-effective, and reliable sensors for early viral infection detection and diagnosis, with potential applications in medical diagnostics, environmental monitoring, and public health surveillance.



Oral Session 1

Multipurpose 1/多目的室 1(1F)

13:25-15:40, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Topic: Machine Learning and Algorithms in Image Processing

Session Chair: Assoc. Prof. Xiaojun Hei, Huazhong University of Science and Technology

S1-1 13:25-13:40	R0157	FusionMapper: Vectorized Map Construction by Multi-modal and Temporal Fusion based on Transformer Haoxiang Jie, Yaoyuan Yan , and Xinyi Zuo Neusoft Reach Automotive Technology Ltd.
S1-2 13:40-13:55	R0032	Refining Deep Active Learning Pipelines: Leveraging Pseudo-Labeling and Label Calibration for Enhancing Dataset Quality Tomoya Kasuga , Gongye Jin, Akira Yuasa, Daria Vazhenina, and Narimasa Watanabe IVIS Co., Ltd
S1-3 13:55-14:10	R0058	Deployment of a Deep Learning Model for the Automated Diagnosis of Thai Rubber Leaf Diseases via the LINE Platform Nattapong Kaewboonma , Puriwat Lertkrai, and Benjamin Chanakot Rajamangala University of Technology Srivijaya
S1-4 14:10-14:25	R0110	Identifying Ovarian Cancer Subtypes in a Multiple-Instance Learning Approach Zhefeng Ren, Haonan Wang, Xiaojun Hei , and Yuan Tian Huazhong University of Science and Technology
S1-5 14:25-14:40	R3001	Utilizing a Cross-Silo Federated Learning Approach with Wireless Backhaul VPN in Computer-Aided Healthcare Systems Atif Mahmooda, Saaidal Razalli Azzuhria , Zati Hakim Azizulb, and Miss Laiha Mat Kiaha Universiti Malaya
S1-6 14:40-14:55	R2011-A	Medical Image Diagnosis Support System with Image Anonymization Based on Deep Learning Techniques Katsuto Iwai , Hirokazu Nosato, and Yuu Nakajima Toho University
S1-7 14:55-15:10	R2044-A	Analysis of Dental Arch Features for Cleft Lip and Palate Based on Machine Learning and Probability Atlas Koiro Kurata and Tomoko Tateyama Fujita Health University
S1-8 15:10-15:25	R0094	A Novel Deep Learning Framework for Cactus Species Classification Sarunya Kanjanawattana , Bhuwadol Sriton, Peeranut Sangkhawasee, Komsan Srivisut, Supaporn Bunrit, and Nuntawut Kaoungku Guangxi Medical University
S1-9 15:25-15:40	R0156	Sparse Deep Interaction Fusion for 3D Object Detection Yaoyuan Yan and Haoxiang Jie Neusoft Reach Automotive Technology Ltd.



Oral Session 2

Multipurpose 2/多目的室 2(1F)

13:25-15:40, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Topic: Data-Driven Data Models and Privacy Protection

Session Chair: Assoc. Prof. Shunji Nishimura, National Institute of Technology

S2-1 13:25-13:40	R0115	CeMDISC-ViT: Cerebral Microbleed Detection using Inter-Slice Context via Vision Transformers Alessandro Andrei Agraam Araza , Joshua Kyle Kessel Entrata, Lex Zedrick Mendoza Lorenzo, Nigel Haim Nombrehemoso Sebastian, and Jessie James Profeta Suarez University of Santo Tomas
S2-2 13:40-13:55	R0135	Regularized Tensor Completion for Structural Health Monitoring Data Imputation Shenghao Xia, Tahsin Afroz Hoque Nishat, and Hongki Jo, and Jian Liu University of Arizona
S2-3 13:55-14:10	R0141-A	Extraction and Visualization of Vehicles' Complete Trajectories at Intersections Chunming Tang Tiangong University
S2-4 14:10-14:25	R0158	Deep Temporal Clustering for Long-Term Gait Recovery Patterns of Post-Stroke Patients using Joint Kinematic Data Teh-Hao Teng , Gyeongmin Kim, Hyungtai Kim, and Mun-Taek Choi Sungkyunkwan University
S2-5 14:25-14:40	R0038	Smart Predictive Modeling in Mobile Banking: Improving Customer Satisfaction through Cybersecurity, Data Privacy, and Best Practices Alexander V. Gutierrez , Arsenia U. Gallardo, Elna H. Barrantes, and Rommel Joseph G. Lazatin Our Lady of Fatima University
S2-6 14:40-14:55	R0011	Fusion-MTSI: Fusion-based Multivariate Time Series Imputation Sangyong Lee and Subo Hwang Seoul National University
S2-7 14:55-15:10	R0114	Towards Self-Adaptive Hyperparameter Strategies in Generative Models: A Proposed Algorithm for CTGAN Andrea Gregores Coto , Andrea Fernández Martínez , Ramon Angosto Artigues, and Santiago Muñíos Landín AIMEN
S2-8 15:10-15:25	R0121	Normalization-based Microservice Vertical Auto-Scaling Algorithm Kuan-Chou Lai National Taichung University of Education
S2-9 15:25-15:40	R1012	Natural Language Processing and Machine Learning for Detecting Harmful Speech in Kazakh Social Media Sagynay Moldir, Milana Bolatbek , Shynar Mussiraliyeva, and Kymbat Baisylbayeva Al-Farabi Kazakh National University



Oral Session 3

Classroom 205/205 教室(2F)

13:25-15:40, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Topic: Machine Learning Models and Intelligent Computing

Session Chair: Assoc. Prof. Neil Patrick Del Gallego, De La Salle University

S3-1 13:25-13:40	R0028	Integrating Embedding Representations with Graph Convolutional Networks for Enhanced Sentiment Analysis Aref Motamedi and Katie Ovens University of Calgary
S3-2 13:40-13:55	R0033	Generative and Evolutionary Approaches for Safe and Sustainable by Design Material Development: A Case Study on Acid Alternatives for Advanced Material Coatings Andrea Gregores Coto , Christian Eike Precker, Leticia Hernando Rodríguez, and Santiago Muñíos Landín AIMEN
S3-3 13:55-14:10	R0051	Predicting Operating Cash Flows: A Comparative Study of Machine Learning Algorithms Ubolarn Petchluan , Muhammad Syukur, Kasidit Saraphon, and Supansa Chaising Mae Fah Luang University
S3-4 14:10-14:25	R0072	A Data-driven Machine Learning Approach for Reservoir Water Level Forecasting Seubsuang Kachapornkul, Rangsarit Vanijjirattikhan , Jittiwut Suwatthikul, Kanokvate Tungpimolrut, and Toshiyuki Miyachi National Electronics and Computer Technology Center
S3-5 14:25-14:40	R0159	Train Everything, Everywhere, All at Once: A Version Control Convention for Training Multiple Machine Learning Models Neil Patrick Abarro Del Gallego De La Salle University
S3-6 14:40-14:55	R0092	Enhance Social Network Bullying Detection using Transfer Learning with Random Forest Classifier Sathit Prasomphan King Mongkut's University of Technology North Bangkok
S3-7 14:55-15:10	R2028	Psychological Stress Indicator Using HeartRate Variability (HRV) Saishashank Namala and Sritama Roy Vellore Institute of Technology
S3-8 15:10-15:25	R0007	Lowering the Barrier of Machine Learning: Achieving Zero Manual Labeling in Review Classification Using LLMs Yejian Zhang and Shingo Takada Keio University
S3-9 15:25-15:40	R0008	GENIE: GENetic Algorithm-Based RELiability Assessment Methodology for Deep Neural Networks Samira Nazari, Mahdi Taheri , Ali Azarpeyvad, Mohsen Afsharchi, Christian Herglotz, and Maksim Jenihhin Zanjan University



Oral Session 4

Multipurpose 1/多目的室 1(1F)

15:55-18:10, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Topic: Digital Image Analysis and Processing Methods

Session Co-Chair: Prof. Rui Ishiyama, Nara Institute of Science and Technology (NAIST)

Session Co-Chair: Asst. Prof. Guanqun Ding, Jiangxi University of Finance and Economics

S4-1 15:55-16:10	R0077	A Multimodal Perception System for Wheeled Robots Combining Vision and LiDAR Yang Ding Southwest Forestry University
S4-2 16:10-16:25	R0080	Enhanced Realism in Virtual Try-On Tasks Using Diffusion Methods Saris Kiattithapanayong and Suronapee Phoomvuthisarn Chulalongkorn University
S4-3 16:25-16:40	R2038	Revisit SwinIR with Entropy-based Training Scheme Yichao Zhang , Hong Wei, and Xia Hong University of Reading
S4-4 16:40-16:55	R2043-A	A Computational Approach to Enhancing Cardiothoracic Ratio (CTR) Measurements: Pseudo-CXR Images Generated from CT Scans Takashi Suzuki and Tomoko Tateyama Fujita Health University
S4-5 16:55-17:10	R0042	Rel-UNet: Reliable Tumor Segmentation via Uncertainty Quantification in nnU-Net Seyed Sina Ziaee , Farhad Maleki, and Katie Oven University of Calgary
S4-6 17:10-17:25	R2029	Attention Res-UNet for Coronary CPR Image Stenosis Assessment Xuan Nie , Zichen Yan, Qianru Wei, Bosong Chai, Minggang Huang, Li Li, Hao Dang, and Yiwen Liu Northwestern Polytechnical University
S4-7 17:25-17:40	R2031	An Automated System for Chromosome Instance Segmentation and Pair Matching Using YOLOv8-Seg Andres Alejandro Sanchez Plascencia , Francisco Javier Alvarez-Padilla, Maria Guadalupe Dominguez Quezada, and Thania Alejandra Aguayo Orozco Universidad de Guadalajara
S4-8 17:40-17:55	R2015	Towards Accurate Breast Tumor Segmentation in Ultrasound Images Using Center Representation Learning Guanqun Ding , Kaiwen Yang, Ziyi Chen, and Zizhi Huang Jiangxi University of Finance and Economics
S4-9 17:55-18:10	R2032	Counterfeit Medicine Detection by Visual Inspection of Package Design Using Multimodal LLMs with Text and Image Prompt Engineering Yona Zakaria , Eiki Ishidera, Rui Ishiyama, Tomokazu Matsui, and Keiichi Yasumoto Nara Institute of Science and Technology



Oral Session 5

Multipurpose 2/多目的室 2(1F)

15:55-18:10, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Topic: Data-Driven Information Management and Service Platform Development

Session Chair: Assoc. Prof. Sirapat Boonkrong, Suranaree University of Technology

S5-1 15:55-16:10	R0036	Autoencoder-Based Model of Nuclear Power Plant Core Temperature for Fast Overheat Event Detection Rémi Cogranne Troyes University of Technology-UTT
S5-2 16:10-16:25	R0060	Functional Type Expressions of Sequential Circuits with the Notion of Referring Forms Shunji Nishimura National Institute of Technology
S5-3 16:25-16:40	R0087	Material Supplier Selection Using Fuzzy Analytic Hierarchy Process: A Case Study of Rattan Basket Manufacturing Business in Chiang Rai Province Supansa Chaising and Wanus Srimaharaj Mae Fah Luang University
S5-4 16:40-16:55	R0096	LLMs Can Overcome Lack of Embodied Context Through Explicit Prompting Pattaradanai Lakkananithiphan, Warisa Sritriratanarak, and Paulo Garcia Chulalongkorn University
S5-5 16:55-17:10	R0099	Designing a Blockchain-Based Thai Lottery System Sirapat Boonkrong Suranaree University of Technology
S5-6 17:10-17:25	R0086-A	A Collective Detection Mechanism on Fake Accounts with Deep Learning and Feature Engineering Cheng-Yi Hua and Yung-Ming Li National Yang Ming Chiao Tung University
S5-7 17:25-17:40	R0034	TimesFNP:Contrastive Learning for Financial Domain with Noise-Resilient Prediction Shaofei Shen, Qing Li, Yan Chen , Rui Cheng, and Yu Zheng Southwestern University of Finance and Economics
S5-8 17:40-17:55	R0182	Agent AI Becomes Next Addictive Disorder Abbott po shun Chen Chaoyang University of Technology
S5-9 17:55-18:10	R0173	ChemAI: Empowering Robots to Automate Chemical Experiments with Large Language Models Yefan Lin, Ziyuan Wang, Lujia Zhang, Chengwei Zhang, and Xiaojun Hei Huazhong University of Science and Technology



Oral Session 6

Classroom 205/205 教室(2F)

15:55-18:10, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Topic: Large Language Models and Key Technologies for Natural Language Processing

Session Chair: Assoc. Prof. LEE John Sie Yuen, City University of Hong Kong

S6-1 15:55-16:10	R0005	Getting LLM to Think and Act Like A Human Being: Logical Path Reasoning and Replanning Lin Zhang, Qing Li , Yang Wang, and Jingmei Zhao Southwestern University of Finance and Economics
S6-2 16:10-16:25	R0017	Enhancing Telecom Operation Support Systems with Multi-Agent Large Language Models Kuan-Yin Lee , Po-An Tseng, and Wei-Cheng Chen Chunghwa Telecom Laboratories
S6-3 16:25-16:40	R0179	Sentiment and Response Priority Detection in Latvian E-mails Using Large Language Models: A Case Study for Low-Resource Languages Ilze Birzniece , Ilze Andersone, Janis Bicans, and Signe Balina Riga Technical University
S6-4 16:40-16:55	R1001-A	Tourists' Emotional Dynamics of Multimodal AI Chatbots in Travel Planning Hui-Wen Huang and Jianhao Zhang Shaoguan University
S6-5 16:55-17:10	R1011	An AI-Powered Patent Document Generation System Based on Large Language Model Wanghe Gao, Xufeng Ling, and Jie Yang Shanghai Normal University
S6-6 17:10-17:25	R0169	How Conversational AI Impacts FOMO: The Stimulus-Response-Action View Yijie Lin and Abbott Po Shun Chen Chaoyang University of Technology
S6-7 17:25-17:40	R2042	A Method for Real-Time Detection of Patient's Anger Levels Yuichiro Ueno and Vasily Moshnyaga Fukuoka University
S6-8 17:40-17:55	R0022	Fine-Tuned Mistral Model for Multi-Agent Mental Health Counseling System Ankit Patel , Pratyush Lohumi, Vishank Shah, Meenakshi Arya, and Madhumita Dash Accrete.AI
S6-9 17:55-18:10	R0171	Impulsive Buying Behaviors Foresee AI-Assisted Games Future Ying-Hsiao Lai , Yu-Tzu Chang, and Jen-Chieh Chung Chaoyang University of Technology



Oral Session 7

Multipurpose 1/多目的室 1(1F)

13:30-16:00, Day 3-Mar. 30th, 2025 (Sunday) | GMT+9

Topic: Intelligent Image Recognition and Classification Technology

Session Chair: Assoc. Prof. Yiu-Kai Ng, Brigham Young University

S7-1 13:30-13:45	R0202	Retrieving Math Information Based on Equation Detection and Recognition Within Digital Images Angel Wheelwright and Yiu-Kai Ng Brigham Young University
S7-2 13:45-14:00	R1003	Automatic Identification of CTC in Fluorescence Microscopy Images Based on Incorporating SPP into SqueezeNet Kazuki Nakamichi, Kouki Tsuji, Kazue Yoneda and Tohru Kamiya Kyushu Institute of Technology
S7-3 14:00-14:15	R0105	GPT as a Reviewer: Automatic Evaluation of Academic Papers Berfin Tas and Meltem Aksoy Technical University Dortmund
S7-4 14:15-14:30	R2005	Biomimetic Olfactory Neural Network-Enhanced Electronic Nose for Early Lung Cancer Detection Hantao Li , Fengchun Tian, Siyuan Deng, Zhiyuan Wu, and Yue Liu Chongqing University
S7-5 14:30-14:45	R0023	An Innovative Approach for Vehicle Speed Recognition through Noise Emission Analysis by Using Machine Learning Pengfei Fan , Yuli Zhang, Ruiyuan Jiang, Xinheng Wang, Chengming Wang, Shangbo Wang, Benson Zhu, and Chenhao Wen Xi'an Jiaotong-Liverpool University
S7-6 14:45-15:00	R0113	Deep Learning Techniques for Identifying Slope Anomalies in Multi-Resolution Aerial Images Chwen-Huan Wang , Chiung-Yun Hu, and Yu Chieh Li Chung Yuan Christian University
S7-7 15:00-15:15	R0016	REMOC: A CNN-Based Framework for Automated Rehabilitation Movement Classification Fadilla Atyka Nor Rashid , Ezzati Bahrom, Nurhidayah Bahar, and Nor Surayahani Suriani National University of Malaysia
S7-8 15:15-15:30	R0119	SMCA: Movie Trailer Audience-Suitability Rating Classification using Staged Multimodal Cross-Attention Kyle Andre Samonte Castro, Carl Mitzchel Padua, Edjin Jerney Hinojosa Payumo, Nathaniel David Palma Samonte , and Jessie James Profeta Suarez University of Santo Tomas
S7-9 15:30-15:45	R2009	Multi-task Learning Approach for Colorectal Polyp Screening via Tongue Image Analysis Kaiwen Yang , Guanqun Ding, Jianghua Huang, and Chenghai He Guizhou University of Traditional Chinese Medicine
S7-10 15:45-16:00	R1009	A Mixed-Supervision Spectral Super-Resolution Methodology for Multispectral Image Shuo Wang , Ting Hu , Zhe Li, Siyuan Cheng, Kebin Jia, and Jinchao Feng Beijing University of Technology



Oral Session 8

Multipurpose 2/多目的室 2(1F)

13:30-16:15, Day 3-Mar. 30th, 2025 (Sunday) | GMT+9

Topic: Target Detection and Image Models

Session Co-Chair: Assoc. Prof. Wewei Du, Kyoto Institute of Technology

Session Co-Chair: Prof. Vasily Moshnyaga, Fukuoka University

S8-1 13:30-13:45	R0021	Single-view 3D Generation via Related Structure Pattern Matching Junnosuke Takarabe, Junnosuke Takarabe, Weiwei Du , Emiko Horikawa Kyoto Institute of Technology
S8-2 13:45-14:00	R0196	Advancing Industrial Safety: A Spatio-Temporal Framework for PPE Detection Using YOLOv11 Teeraphat Inta and Choosak Pornsing Silpakorn University
S8-3 14:00-14:15	R0030	Single 2D Image Inpainting for Sparse-View 3D Reconstruction Using Expanded-Scale Stable Diffusion Irawati Nurmala Sari and Weiwei Du Kyoto Institute of Technology
S8-4 14:15-14:30	R2018	Hip Fracture Detection in X-ray Images Using Deep Learning Piti Krittayanukoon , Proadpran Punyabukkana, Ploy N. Pratanwanich, Pathit Sirichuchnin, Saran Tantavisut, and Punnarai Siricharoen King Chulalongkorn Memorial Hospital, Thai Red Cross Society
S8-5 14:30-14:45	R0083	Plastering Location Recognition System with a Robot Arm Weiwei Du , Rihito Morimoto, Ikumi Noborio, and Makoto Muramoto Kyoto Institute of Technology
S8-6 14:45-15:00	R2041	A Low-Complexity LSTM Model for Real-Time Fall Detection by a Video Camera Toshiki Kuwae and Vasily Moshnyaga Fukuoka University
S8-7 15:00-15:15	R0020	Age Prediction from Fundus Images by a Multi-Branch Swin-Transformer Model Xiaozhong Xue , Weiwei Du, Yusuke Fujiwara, Masahiro Miyake, and Keina Sado Kyoto Institute of Technology
S8-8 15:15-15:30	R0006	Appearance Defect Detection and Localisation using Lightweight CNN based Detector Remi Cогranne and Lucien Derouet Troyes University of Technology
S8-9 15:30-15:45	R0078	A Comparative Constraint Deep Learning Model for Blood Vessel Segmentation in OCTA Images Xiaozhong Xue , Nao Yanagihara, Weiwei Du, Masahiro Miyake, and Keina Sado, Kyoto Institute of Technology
S8-10 15:45-16:00	R0180	A Bibliometric Analysis of Trust in Conversational Agents over the Past Fifteen Years Meltem Aksoy and Annika Bush Technical University Dortmund
S8-11 16:00-16:15	R0076	Structural Line Detection for Room Layout Estimation from a Painting Kanako Endon and Weiwei Du Kyoto Institute of Technology



Oral Session 9

Classroom 205/205 教室(2F)

13:30-16:15, Day 3-Mar. 30th, 2025 (Sunday) | GMT+9

Topic: Sensor-Based IoT Systems and Mobility Applications

Session Chair: Asst. Prof. Ilze Andersone, Riga Technical University

S9-1 13:30-13:45	R0100	Enhancing Wi-Fi in Dynamic Interference Environments: A Joint Rate Adaptation and Channel Access Approach via Deep Reinforcement Learning Shangwen Zhuang , Chengxiang Mi, Yayu Gao, and Chengwei Zhang Huazhong University of Science and Technology
S9-2 13:45-14:00	R0071	Automatic Smoke/Forest Fire Detecting System based on Visual IoT Kanokvate Tungpimolrut , Jessada Karnjana, Montri Chatpoj, Nathavuth Kitbutrawat, Praphan Pavarangkoon, and Ken T. Murata National Electronics and Computer Technology Center
S9-3 14:00-14:15	R0082	Comparing CNN and LSTM Networks for Magnetic Localization of IoT Devices and Pedestrian Tracking Konstantin Klipp , Edgar Blumenthal, Marten Eckart, Jasper Windirsch, Bernd Schäufole, Johannes Wortmann, and Ilja Radusch Daimler Center for Automotive IT Innovations
S9-4 14:15-14:30	R0088	Inter-Domain handover based on Blockchain for SDN-based Network Mobility Parin Sornlertlamvanich Suranaree University of Technology
S9-5 14:30-14:45	R0095	Evaluation of Multi-Armed Bandit Decision Making in Multi-Agent Cyber Physical Games Nutthapong Dissanon, Paulo Garcia, and Warisa Sritriratanarak Chulalongkorn University
S9-6 14:45-15:00	R0097	Load and Fragmentation-Aware Demand Routing on Hybrid Single/Multi-Band EONs Der-Rong Din National Changhua University of Education
S9-7 15:00-15:15	R0057	Learning Encoding Phasors with Fractional Power Encoding Pere Verges , Alexandru Nicolau, and Tony Givargis University of California Irvine
S9-8 15:15-15:30	R0117-A	Development of an Automatic Foreign Matter System for Detection and Sorting Jer-Huan Jang , Ssu-Han Chen, and Meng-Jey Youh Ming Chi University of Technology
S9-9 15:30-15:45	R0197	Comprehensive Analysis of Security Risks in Android File Sharing Applications: Reverse Engineering, Methodologies, and Optimization Zhirui Wang, Chengwei Zhang , and Guohui Zhong Huazhong University of Science and Technology
S9-10 15:45-16:00	R0198	Assymmetric Fusion of Heterogeneous Occupancy Grid Maps Ilze Andersone Riga Technical university
S9-11 16:00-16:15	R0177	Voice Cloning Method Based on Speaker Encoding with Global Timbre Constraints Baixu Chen, Yangui Fang, Chengwei Zhang , and Guohui Zhong Huazhong University of Science and Technology

Poster Session 1

Corridor (1F)

15:30-17:30, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Topic: Machine Learning Theory and Algorithms

P1-1	R0107	Portfolio Rebalancing using Deep Reinforcement Learning Trakal Kum, Ethan Tyezhung Koay , Hoik Chai Quek, and Douglas Leslie Maskell Saint Joseph Institution
P1-2	R0161-A	Comparison of Fault Diagnosis Accuracy for Marine Fuel Pumps in Noisy Environments Using Conv1D Deep Learning and Envelope Transform Hyung-Jin Kim , Kwang-Sik Kim, Won-Joon Lee, and Jang-Hyun Lee Inha University
P1-3	R0012	Smart-Init of Neural Networks David Denisov , Dan Feldman, Shlomi Dolev, and Michael Segal University of Haifa
P1-4	R0009-A	Backdoored Model Defense with Neuron Pruning Chun-Shien Lu , William Linn, and Marco Wong Academia Sinica
P1-5	R0019	Improving Fault Localization with Semantic Enhancement and Decision Fusion Benyu Liu and He Pan Chongqing University of Posts and Telecommunications
P1-6	R0125	Progressive Generation of Electrocardiogram Signals Based on Generative Adversarial Networks Guangqi Chen, Qiang Li, and Peng Zhang Huazhong University of Science and Technology
P1-7	R0128	Multimodal Social Relation Extraction Based on Hypergraph Attention Neural Networks Zijian Wu and Ling Zhang Guangdong University of Technology
P1-8	R0085	Leaders and Managers Insights on the Development of Artificial Intelligence for Industry Application Miguel Louis Baldemeca Belen , Prince Tafalla Hernandez, Jaypy Tenerife, Janelle Saplad Flores, Jacel Samonte Padullon, Michaela Theresa Landicho, Rochelle Ann Villena Dela Cruz, Justin Carl Pagulayan Candaza, Nikko Luis Tabasa, and Maricar Navarro Technological Institute of the Philippines
P1-9	R0140	Urban Traffic Accident Severity Prediction and Influencing Factors Analysis Based on Machine Learning Xuehui Hou University of Electronic Science and Technology of China
P1-10	R0218-A	Using the extracted SERS characteristic peak regions as machine learning data to fast screening COVID-19 inpatient samples Jaya Sitjar, Huey-Pin Tsai, and Jiunn-Der Liao National Cheng Kung University

Poster Session 2

Corridor (1F)

15:30-17:30, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Topic: Computer Vision and Image Analysis

P2-1	R0183-A	A Simple ViT-Based Scene Text Recognition Technique for Maritime Vessel Re-Identification Joonhyuk Yoo Daegu University
P2-2	R2004	Research on Identifying Lung and Bronchial Diseases Based on Machine Learning Methods Haoyang Zhang , Changjiang Song, Jiantong Tang, Shaokang Chen, and Huiquan Wang Hebei University of Technology
P2-3	R2006-A	Improvement of Benign/Malignant Classification Metrics of Mammograms Using Radiomics Kenji Yoshitsugu , Kazumasa Kishimoto, and Tadamasa Takemura University of Hyogo
P2-4	R2030	Deep Learning Radiopathology Based on the Enhanced Twins-SVT Model Predicts the Effect of Neoadjuvant Therapy for Rectal Cancer Yao Li and Xiaoying Tang Beijing Institute of Technology
P2-5	R2033	Hierarchical Spatial Attention Mamba Network for Predicting Pathological Complete Response to Neoadjuvant Chemotherapy from Breast DCE-MRI Jiazhi He , Jinmiao Song, Shuang Zhao, Xiaodong Duan, and Yiqun Yao Dalian Minzu University
P2-6	R2034	Detection Network for Low Contrast Organs in Mouse Micro-CT Images with Prior Knowledge of Inter-Organ Spatial Relationship Jiamao Geng and Hongkai Wang Dalian University of Technology
P2-7	R0054	An Improved RT-DETR Model for Small Object Detection on Construction Sites Gan Zhang and Xi Zhao Wuhan University of Technology
P2-8	R0172	Joint Pre-training Based on Hybrid Contrast and Feature Fusion for Unsupervised Domain Adaptive Person Re-identification Xiaohong Li, Jing Wang , Shijie Hao, Shuo Zhuang, and Meibin Qi Hefei University of Technology
P2-9	R0061	Automatic Segmentation for Wrist x-ray Based on nnU-Net Jiachao Niu , Xin Zhang, Lijie Zhou, and Ju Feng Shanghai Normal University
P2-10	R1007	A Tree-based RAG-Agent Recommendation System: A Case Study in Medical Test Data Yahe Yang , Chengyue Huang, and Cailian Ruan George Washington University
P2-11	R0062	Identification Method of Poisonous Mushroom Based on Graph Neural Network Ju Feng , Bo Yu Wang, Hao Yuan, and Tao Wang Li Shanghai Normal University



Poster Session 3

Corridor (2F)

15:30-17:30, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Topic: Next-Generation Artificial Intelligence and Control Technology

P3-1	R1013	A Path Planning Method for UAV Target Detection Based on Improved Genetic Algorithm Shufang Xu, Heng Li , and Hongmin Gao Hohai University
P3-2	R0025	A Survey on AI-Based Approaches for Traffic Signal and Joint Vehicle-Signal Control Yuli Zhang , Pengfei Fan, Ruiyuan Jiang, Hankang Gu, Chengming Wang, Shangbo Wang, and Dongyao Jia Xi'an Jiaotong-Liverpool University
P3-3	R0029	Research on Task Correlation of Artificial Intelligence Datasets Based on Stacked Sparse Auto Encoder Networks Shaoshi Wu , Yan He, Zhenwei Hou, Yishan Ding, and Xiaofei Zhang National Innovation Institute of Defense Technology
P3-4	R0043-A	Artificial Intelligence Enhanced Vacuum Freeze Drying of the Kiwifruit Wei-Mon Yan National Taipei University of Technology
P3-5	R0108-A	AI-Driven High-Efficiency Antenna Automation Design System Yih-Chien Chen Lunghwa University of Science and Technology
P3-6	R0208-A	Elasto-Magnetic Sensor based Tension Force Estimation using Explainable AI incorporated RNN Model Sae-Byeok Kyung, Ho-Jun Lee, and Ju-Won Kim Dongguk University WISE
P3-7	R0144-A	Advanced Environmental Monitoring with AI and Ground-Penetrating Radar (GPR) Images Chien-Yuan Chen and Ho Wen Chen National Chiayi University
P3-8	R0175	Representation Alignment for Deepfake Detection ZiFeng Li , Wenzhong Tang, Shijun Gao, yanyang Wang, and Shuai Wang Beihang University
P3-9	R0050	Smart Stroller design based on STM32F103C8T6 Yuyang Hu , Jiabin Chen, Bingying Jia, and Xiao Huang Wuhan Business University



Poster Session 4

Corridor (2F)

15:30-17:30, Day 2-Mar. 29th, 2025 (Saturday) | GMT+9

Topic: Intelligent Optimization and Application of Digital Information Systems Based on AI

P4-1	R0004	An Adaptive Multi-Source Correlation Fusion Approach for Lane-Level Traffic Flow Prediction Ruiyuan Jiang , Pengfei Fan, Yuli Zhang, Shangbo Wang, and Dongyao Jia Xi'an Jiaotong-Liverpool University
P4-2	R0046	Enhancing Recommendation Systems with Knowledge Graphs and Dynamic Preferences Guanfeng Li , Yuyin Chen, Yunli Wang and Feizhou Qin Ningxia University
P4-3	R0052	SignaShield: Guarding Your Signature via Font Style Watermarking Rensong Wang , Jie Zhang, Zhiwen Ren, Weiming Zhang, and Nenghai Yu University of Science and Technology of China
P4-4	R0053	MarineCrewScenes: A Dataset for Multi-Scale Crew Monitoring in Ship Bridges Kewei Deng and Xi Zhao Wuhan University of Technology
P4-5	R0064-A	Dry Dock Scheduling under Decision Dependent Knapsack Uncertainty Shengnan Shu National University of Singapore
P4-6	R0098	A Data-Aware and Adaptability-Enhanced Framework for Cardinality Estimation Wei Liu , Wenlong Dong, Rui Xi, and Mengshu Hou University of Electronic Science and Technology of China
P4-7	R0106	Development of the Truku Language Text-to-Speech Model and Its Application in Digital Audiobook Conversion Yi-Hao Hsiao , Yi-Ting Guo, Meng-Chi Huang, and Wen-Yi Chang National Center for High-performance Computing
P4-8	R0205	Optimization of Gmapping Algorithm Based on Fusion of IMU and Odometer in Multiple Scenarios Wei Dai , Lin Zhang, and Limin Yu Xi'an Jiaotong-Liverpool University
P4-9	R0162	Numerical Simulation of Liquid Tank Sloshing Based on Graph Neural Network with Self-Attention Mechanism Wenkang Zhang , Xiaofeng Sun, Yiping Zhong, and Hai Wei Dalian Maritime University
P4-10	R0165	A Hybrid Architecture Combining CNN, LSTM and Attention Mechanisms for Automatic Speech Recognition Wenye Song and Ian Deng Emory University



Online Oral Session 1

Zoom A, ID: 88118529982

10:00-12:15, Day 4-Mar. 31th, 2025 (Monday) | GMT+9

Topic: Intelligent Recognition and Image Detection Technology

Session Chair: TBA

OS1-1 10:00-10:15	R0187	Research and Implementation of Parallel Detection and Tracking Algorithm Based on Embedded Processor Zhaoyang Han , Qiang Wu, Xin Zheng, and Wei He Beijing University of Technology
OS1-2 10:15-10:30	R1014	Research on the Application of Large Language Models with Modular Knowledge Enhancement in Automated Project Proposal Generation Chengwei Li , Xufeng Ling, and Yijun Ling Shanghai Normal University
OS1-3 10:30-10:45	R0188	Horizon Line Detection Algorithm Based on Interference-Aware Scene Perception Yushuo Li , Qiang Wu, Xin Zheng, and Jinling Cui Beijing University of Technology
OS1-4 10:45-11:00	R2017	Application of the YOLOv5-MC Model Integrating Contextual Information in Embryo Image Detection Wenbo Yue , Xiaming Wu, Xinglong Wu, Huixi Li, and Guoping Xu Wuhan Institute of Technology
OS1-5 11:00-11:15	R0079	Enhancing Bidirectional Sign Language Communication: Integrating YOLOv8 and NLP for Real-Time Gesture Recognition & Translation Hasnat Jamil Bhuiyan , Mubtasim Fuad Mozumder, Md. Rabiul Islam Khan, Md. Sabbir Ahmed, and Nabuat Zaman Nahim BRAC University
OS1-6 11:15-11:30	R0139	Multimodal Emotion Detection and Analysis from Conversational Data Abhinay Jatoth, Faranak Abri , and Tien Nguyen San José State University
OS1-7 11:30-11:45	R0145	LLM-NER: Advancing Named Entity Recognition with LoRA+ Fine-Tuned Large Language Models Yuanjing Zhu and Yunan Liu Duke University
OS1-8 11:45-12:00	R0160	A Machine Learning-Based Calligraphy Font Recognition System Using HOG Features and Support Vector Machine Chenfei Xu , Jingxin Liang, and Xufeng Ling Shanghai Normal University
OS1-9 12:00-12:15	R0137	AI-Generated Text Detection and Source Identification Anjana Tatavarthi , Faranak Abri, and Nada Attar San José State University

Online Oral Session 2

Zoom B, ID: 82433388415

10:00-12:00, Day 4-Mar. 31th, 2025 (Monday) | GMT+9

Topic: Machine Learning and Image Models in Medical Images

Session Chair: Dr. Fnu Neha, Kent State University

OS2-1 10:00-10:15	R2014	<p>AGEM-Net: Optimization Method for Subtype Classification of Liver Tumors via Adaptive Gamma Transform for Dark Region Enhancement, Improved Metabolic Differentiation, and Enhanced Edges</p> <p>Zhe Huang, Huiyan Jiang, Yang Zhou, Xianhua Han, and Yen-Wei Chen Northeastern University</p>
OS2-2 10:15-10:30	R2019	<p>Consistency of Along Tract Quantification Between Ex-vivo and In-vivo Human Brain</p> <p>Lingyu Li and Hongjian He Zhejiang University</p>
OS2-3 10:30-10:45	R2035	<p>A Machine Learning Model Based on Multimodal Features of Ultrasound Videos for Predicting Postoperative Pregnancy</p> <p>Fengwei Liu, Wei Chen, Xu Qiao, and Wenxiu Yang Shandong University</p>
OS2-4 10:45-11:00	R2047	<p>An Efficient Automated Diagnosis of Kidney Tumors by Integrating Image Processing based localization and Enhanced U-Net Based Semantic Segmentation</p> <p>Fnu Neha and Arvind K. Bansal Kent State University</p>
OS2-5 11:00-11:15	R0059	<p>Improved Multi-Category Classification of Breast Cancer Histopathology Images Using Weighted Cross-Entropy Loss and Convolutional Block Attention Module</p> <p>Chenchen Yue and Jiajun Zhou University of Electronic Science and Technology of China</p>
OS2-6 11:15-11:30	R0168	<p>Beyond Classical Approaches: Fine-Tuning Clinical BERT Models on Structured Data for Alzheimer's Disease Diagnosis</p> <p>Hager Saleh, Michael McCann, John G. Breslin, and Shaker El-Sappagh University of Galway</p>
OS2-7 11:30-11:45	R0176	<p>ConvNeXt for Breast Cancer HER2 Scoring using Different Types of Histopathological Stained Images</p> <p>Lamiaa Abdel-Hamid Misr International University</p>
OS2-8 11:45-12:00	R2040	<p>Enhanced Detection of Lung Nodules in Complex Chest X-rays Using YOLO Models and Weighted Box Fusion</p> <p>Yifan Wang, Tahereh Hassanzadeh, and Sonit Singh University of New South Wales</p>



Online Oral Session 3

Zoom A, ID: 88118529982

13:00-15:30, Day 4-Mar. 31th, 2025 (Monday) | GMT+9

Topic: Artificial Intelligence Theory and Engineering Applications

Session Chair: TBA

OS3-1 13:00-13:15	R0112	Predicting Droughts: A Comparative Study of ARIMAX, LSTM, XGBoost, and Random Forest Models Yashnil Mohanty Independent Researcher
OS3-2 13:15-13:30	R0167	CogniLearn: Integrating AI-Powered Insights for Class 10 Syllabus Chandan K H, Brunda L, Bhoomika B K, Prachi Shivanand Anure, and Sujatha R Upadhyaya PES University
OS3-3 13:30-13:45	R0199	Automated ICD-9 and ICD-10 Coding with Machine Learning: A Real-World Study Using Electronic Medical Record Text from Udon Thani Cancer Hospital, Thailand Kanokwong Chuabsombat and Praisan Padungweang Khon Kaen University
OS3-4 13:45-14:00	R0181	RJ-AI: A Radio Jockey Agent developed using Markov Models and Personality Fine-tuning. Darsh Agarwal and Ramamoorthy Srinath PES University
OS3-5 14:00-14:15	R0209	LLM Performance in Multimodal Learning Environments: Study of Integration of Text with Visual, Audio, and Sensor Data for Holistic Decision-Making Nikunj Agarwal , Aditya Gupta, Aditi Choudhary, Pulkit Jain, Mukund Wagh, and Dinesh Besiahgari Amazon
OS3-6 14:15-14:30	R1015	Exploration of Computer Programming Teaching Reform Based on Large Language Model Yanni Zhao , Huaizhong Zhu, Feng Zhou, Zhiruo Deng, and Xufeng Ling Shanghai Normal University
OS3-7 14:30-14:45	R0018	A Katz-Attention Enhanced Decomposition-Fusion Framework for Robust Traffic Forecasting Yanzan Hu and Pan He Chongqing University of Posts and Telecommunications
OS3-8 14:45-15:00	R0146	Optimization Techniques for Dealing with Small Dataset for Sentiment Analysis Isfaque AL Kaderi Tuhin , Zhengkui Wang, Li Xiaorong, and Wei Zhang Singapore Institute of Technology
OS3-9 15:00-15:15	R0134	Tailored Tales: Enhancing Children's Reading Comprehension with Preference-Tuned Automatic Story Generation Salsabeel Shapsough, Aadith Shankarnarayanan, Taufiq Syed, Imran Zualkernan , and Ekaterina Kochmar American University of Sharjah
OS3-10 15:15-15:30	R2021	Dual-stream Generative Network Based Staining Transfer for Biomarker in Breast Cancer Ziyang Jin, Jiansheng Wang , Qingli Li, and Yan Wang East China Normal University

Online Oral Session 4

Zoom B, ID: 82433388415

13:00-15:30, Day 4-Mar. 31th, 2025 (Monday) | GMT+9

Topic: System Design, Model Simulation and Performance Optimization in Modern Electronic and Communication Systems

Session Chair: TBA

OS4-1 13:00-13:15	R0191	Design and Implementation of On Orbit Satellite Realtime Detection and Identification System Keshuai He , Qiang Wu, Jinling Cui, and Xin Zheng Beijing University of Technology
OS4-2 13:15-13:30	R0073	Kissat_MAB_CoRephase: Combining Different Rephasing Heuristics Using MAB in SAT Jinjin Liu , Jianmin Zhang, Yan Sun, and Tiejun Li National University of Defense Technology
OS4-3 13:30-13:45	R0189	Design of Dual Redundancy MLVDS Communication Based on FPGA Donghai Yuan , Jinling Cui, Xin Zheng, and Qiang Wu Beijing University of Technology
OS4-4 13:45-14:00	R0151	Modeling and Simulation of Intelligent Vehicle Systems Using Simulink and MATLAB Programming for Advanced Automotive Application Wenjun Guo and Yan He Aston University
OS4-5 14:00-14:15	R0192	Design of Embedded Switching System Based on PCIe Gen3 Hongwei Li , Jinling Cui, Wei He, and Qiang Wu Beijing University of Technology
OS4-6 14:15-14:30	R0201	Systematic Survey of Various Prompt Optimization Methods and Their Classifications Aditi M Jain , Mayank Jindal, and Shubham Garg Independent Researcher
OS4-7 14:30-14:45	R0193	Review of Research on Time-Sensitive Networking Testing Ran Guan , Qiang Wu, Lei Chen, and Pengyun Liu Beijing University of Technology
OS4-8 14:45-15:00	R0149	Automating Cricket Narration Using LLMs and Multi-Modal Analysis Priyangshu Mazumder , Chava Govardhana Rao, N Sai Harshith Varma, Kashish K C, and Prema Ramaswamy PES University
OS4-9 15:00-15:15	R0195	Design of 4MHz 1553B Bus Waveform Acquisition Embedded System Zijian Zhao , Qiang Wu, Wei He, and Xin Zheng Beijing University of Technology
OS4-10 15:15-15:30	R0055	Optimizing Small-Scale Language Models for Robotic Task Planning: Insights into Prompt Design Fan Wu , Zhigang Wang, Yikang Li, and Qiang Wu Beijing University of Technology

Online Oral Session 5

Zoom A ID: 88118529982

15:40-17:55, Day 4-Mar. 31th, 2025 (Monday) | GMT+9

Topic: Computer-Aided Imaging and Image Processing Methods

Session Chair: TBA

OS5-1 15:40-15:55	R2036	Machine Learning-Based Prediction of Breast Cancer Risk and Analysis of Significant Risk Factors Xuecheng Fang , Wei Chen, Feng Zhang, Liyuan Liu, and Xu Qiao Shandong University
OS5-2 15:55-16:10	R0203	Localization of Deep Faked Facial Images Through U-NET Architecture Khushi Kiran Sheelavantmath, Bhuvisha N, Vaibhav Isloor, and Sheetal B PES University
OS5-3 16:10-16:25	R0213	Regression-Based and Isophote-Constrained Cloud Removal for Time-Series Remote Sensing Imagery YinNing Huang , YaXing Sun, and Hao Zheng Nanjing University of Science
OS5-4 16:25-16:40	R1008	A Multi-Stage Deep Learning Pipeline for 3D Coronary Artery Reconstruction from X-Ray Angiograms Sai Harshith Narra, Sarthak Aryan, Shreya Gunnan Ramkumar, Shreya Prasad , Madhusudan Raikar, and Jayashree R PES University
OS5-5 16:40-16:55	R0186	Design and Implementation of High-speed Camera Concurrent Network and Multi core System Based on MPSoc Jiapei He , Qiang Wu, Jinling Cui, and Xin Zheng Beijing University of Technology
OS5-6 16:55-17:10	R2027	A Hip Fracture Prediction Model for Chinese Middle-aged and Elderly People Based on the CHARLS2020 Database Yunxiang Pang, Wen Zheng, Yiqun Pang , and Changjun Jiang Southwest Petroleum University
OS5-7 17:10-17:25	R0153	Enhancing English Pronunciation and Word Differentiation Through Virtual Reality: A Study on Interactive Learning and Training Yingling Chen and Chinlun Lai National Defense University
OS5-8 17:25-17:40	R0024	Bundle Service Recommendation Based on Graph Representation Learning Jiawei Lu and Wanchuang Cai Jiliang University
OS5-8 17:25-17:40	R1005	Palm Vein Recognition Technique based on the SegNet Network Yihan Guan , Qiang Gao, Yinping Wang, Jianfeng Chen, Wenhui Zhang, and Guangxu Li Tiangong University
OS5-9 17:40-17:55	R0164	MULTILEAK: A Multi-Modal Feature Fusion Network for Information Leakage Detection in Short Videos Songyu Zou , Yue Zhu, Jun Xing, and Li Zhang State Grid Corporation of China Hami Coal



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