The 8th International Conference on Artificial Intelligence in Information and Communication

IEEE ICAIIC 2026

IEEE ComSoc IEEE Communications Society

February 24 (Tue.) ~ 27 (Fri.), 2026

Tokyo University of Science, Tokyo, Japan & Virtual Conference

http://icaiic.org

Final Program

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Table of Contents

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Message from General Chairs

Welcome to ICAIIC 2026, the 8th International Conference on Artificial Intelligence in Information and Communication, organized by the Korean Institute of Communications and Information Sciences (KICS), Tokyo University of Science, Japan, and Kookmin University, Korea, and technically co-sponsored by IEEE ComSoc, IEICE-CS, and the IEICE NOLTA Society. It is our great honor and privilege to serve as the General Chairs of this prestigious conference. ICAIIC aims to be a premier international forum providing a valuable platform for exchanging cutting-edge research in artificial intelligence, information and communication technologies, and future ICT convergence technologies. The conference also fosters interdisciplinary collaboration and contributes to strengthening the global research community in these rapidly evolving fields.

Tokyo, the capital of Japan, is one of the world's most dynamic and influential cities, with a rich history that dates back to the early 17th century. Formerly known as Edo, Tokyo became the political center of Japan in 1603 and was renamed Tokyo in 1868 when it was designated as the imperial capital. Over the centuries, Tokyo has evolved into a global hub for innovation, technology, culture, and education. In addition to its academic excellence, Tokyo offers a wide range of cultural and historical attractions, including the Imperial Palace, Senso-ji Temple in Asakusa, Meiji Shrine, Tokyo Skytree, Shibuya Crossing, and the historic districts of Ueno and Ginza. Participants can also enjoy world-class museums, traditional cuisine, and vibrant city life.

We have prepared an exciting hybrid (online and offline) program for ICAIIC 2026. We extend our sincere gratitude to the committee members and reviewers for their invaluable contributions. On behalf of the ICAIIC Steering Committee and all attendees, we thank Professor Dong Seog Han, President of the KICS AI Society, for leading the development of an outstanding program. Special thanks go to the Technical Program Committee (TPC) Chairs, Professors Sunwoo Kim, Haewoon Nam, Mikio Hasegawa, Benaoumeur Senouci, Peng Hu, and all TPC members. Their dedication has ensured an exceptional mix of technical sessions, tutorials, and keynote speeches. We encourage you to take full advantage of this unique opportunity by attending the sessions, engaging with authors, and fostering collaborations with fellow researchers. The Organizing Committee has worked tirelessly to make this conference both academically enriching and enjoyable. Finally, we extend our deepest appreciation to all authors and attendees. We look forward to welcoming you to Tokyo and online and hope for your continued participation in future ICAIIC events.

Yeong Min Jang
Kookmin Univ., Korea

Takeo Fujii
The Univ. of Electro-Comms, Japan

Message from TPC Chairs

It is our great pleasure to welcome all of you to Tokyo, Japan, for the 8th International Conference on Artificial Intelligence in Information and Communication (ICAIIC). ICAIIC has addressed all aspects of artificial intelligence (AI), computing, networking, communications, and their convergence. This ICAIIC 2026 will also be a successful conference covering a wide range of topics on various AI technologies and many forms of information and communication systems with AI.

This year, we have received many papers contributed by researchers from around the world, reflecting the continued growth and strong technical quality of the conference. Among these, 291 papers have been accepted after a rigorous peer review process. Many of the papers were submitted from the Asia/Pacific region, with a steadily increasing number of submissions from Europe and North America. In ICAIIC 2026, 216 papers are assigned for oral presentation, and 75 papers are assigned for poster presentations. The conference program is organized into 5 parallel technical tracks with 42 oral sessions and 4 poster sessions. The program is designed to provide a broad range of Wireless Communication, Information and Communications Technology, Security, Robotics, AI Foundation, AI Systems/Applications, LLM and NLP, Blockchain and Application, Image Processing and Multimedia, Medical and eHealth, Smart Agriculture, Industrial and Automation/Control AI, Secure and Trusted Systems and Transportation and Logistics. The conference will also be highlighted by keynote speeches and tutorials from world-renowned researchers from around the world.

Along with the contributions of prominent authors from around the world, we believe that this year's valuable and interesting program is possible with the commitment of the technical program members. We are indebted to all of the 395 TPC members for their active participation and precious time. We would also like to thank our sponsors, IEEE Communications Society, IEICE Communications Society, and IEICE NOLTA Society for their kind support of this successful event. We express our deepest gratitude to the Organizing Committee Chairs, Prof. Yeong Min Jang and Prof. Takeo Fujii, for their continued support and guidance. We hope that all of you will enjoy the splendid program of ICAIIC 2026 as well as the beautiful scenery and charm of Tokyo.

Sunwoo Kim
Hanyang Univ.,
Korea

Haewoon Nam
Hanyang Univ.,
Korea

Mikio Hasegawa
Tokyo Univ. of Science,
Japan

M. Benaoumeur Senouci
Southern Denmark Univ.,
Denmark

Peng Hu
Univ. of Manitoba,
Canada

Program Matrix for ICAIIC 2026

Feb. 22 (Sunday)							
Start	End	Duration	Room A (211)	Room B (212)	Room C (223)	Room D (224)	Room E (221)
16:00	18:00	2:00	IAC/SC/OC Strategic Meeting for ICAIIC2026				

Feb. 23 (Monday)							
Start	End	Duration	Room A (211)	Room B (212)	Room C (223)	Room D (224)	Room E (221)
14:00	17:00	3:00	OC Local Meeting for ICAIIC2026				

Feb. 24 (Tuesday)							
Start	End	Duration	Room A (211)	Room B (212)	Room C (223)	Room D (224)	Room E (221)
12:30	13:00	0:30	Registration				
13:00	15:00	2:00	Oral Session – 1A IW of Intelligent Innovation G5-AICT Research Center I Chair: Dr. Geon Kim (Chonnam National Univ.)	Oral Session – 1B IW of Beyond-G Global Innovation Center on AI-Native Sensing and Communication I Chair: Prof. Sunwoo Kim (Hanyang Univ.)	Oral Session – 1C IW on FSO and OCC Chair: Prof. Yeong Min Jang (Kookmin Univ.)	Oral Session – 1D 5G&6G Communication and Networks and Big Data Workshop I Chair: Prof. Sungrae Cho (Chung-Ang Univ.)	Oral Session – 1E IW on 5G/6G Communications Chair: Prof. Seokjoo Shin (Chosun Univ.)
15:00	15:20	0:20	Coffee Break				
15:20	16:10	0:50	Tutorial I: Takumi Takahashi (Osaka University, Japan) (Room A, 211) Session Chair: Prof. Haewoon Nam (Hanyang Univ.)				
16:10	16:20	0:10	Break (for room arrangement)				
16:20	17:40	1:20	Oral Session – 2A IW of Intelligent Innovation G5-AICT Research Center II Chair: Dr. Geon Kim (Chonnam National Univ.)	Oral Session – 2B IW of Beyond-G Global Innovation Center on AI-Native Sensing and Communication II Chair: Prof. Soonmin Hwang (Hanyang Univ.)	Oral Session – 2C AI Systems Chair: Prof. Sang-Woon Jeon (Hanyang Univ.)	Oral Session – 2D 5G&6G Communication and Networks and Big Data Workshop II Chair: Prof. Wooyeol Choi (Chung-Ang Univ.)	Oral Session – 2E IW on Recent Results in AI Chair: Dr. Phuoc B. T. Huynh (Hanyang Univ.)

VIP and OC room : Room 222

Program Matrix for ICAIIC 2026

Feb. 25 (Wednesday)							
Start	End	Duration	Room A (211)	Room B (212)	Room C (223)	Room D (224)	Room E (221)
9:00	9:10	0:10	Registration				
9:10	10:30	1:20	Oral Session – 3A AI Application I Chair: Prof. Daeyoung Park (Inha Univ.)	Oral Session – 3B LLM and NLP I Chair: Prof. Hichan Moon (Hanyang Univ.)	Oral Session – 3C Localization and Sensing I Chair: Prof. Haewoon Nam (Hanyang Univ.)	Oral Session – 3D Image Processing and Multimedia I Chair: Prof. Sang-Woon Jeon (Hanyang Univ.)	Oral Session – 3E 5G/6G Communication I Chair: Prof. Sang-Hyo Kim (Sungkyunkwan Univ.)
10:30	11:00	0:30	Coffee Break				
11:00	11:20	0:20	Opening Address: Yeong Min Jang (General Chair, Kookmin University) (Room A, 211) Welcome Address: Inkyu Lee (President of KICS), Tomohiko Uematsu (President of IEICE), Seung Ryul Jeong (President of Kookmin University), Masatoshi Ishikawa (President of Tokyo University of Science)				
11:20	11:50	0:30	Keynote Speech I: Ning Zhang (University of Windsor, Canada) (Room A, 211) Session Chair: Prof. Sunwoo kim (Hanyang Univ.)				
11:50	12:20	0:30	Keynote Speech II: Sei Naito (KDDI Research, Japan) (Room A, 211) Session Chair: Prof. Sunwoo kim (Hanyang Univ.)				
12:20	14:00	1:40	Lunch Break				
14:00	15:20	1:20	Oral Session – 4A AI Application II Chair: Prof. Fahim Khan (Toyo Univ.)	Oral Session – 4B LLM and NLP II Chair: Prof. Hirotada Honda (Toyo Univ.)	Oral Session – 4C Localization and Sensing II Chair: Dr. Fitsum D. Tilahun (Korea Univ.)	Oral Session – 4D Image Processing and Multimedia II Chair: Prof. Sungtek Kahng (Incheon National Univ.)	Oral Session – 4E 5G/6G Communication II Chair: Prof. Sang-Hyo Kim (Sungkyunkwan Univ.)
15:20	15:40	0:20	Coffee Break				
15:40	17:20	1:40	Oral Session – 5A AI Application III Chair: Prof. Taesoo Jun (Kumoh National Institute of Tech.)	Oral Session – 5B LLM and NLP III Chair: Prof. Fahim Khan (Toyo Univ.)	Oral Session – 5C Transportation and Logistics Chair: Dr. Pinnaree Tea-makorn (Sasin School of Management)	Oral Session – 5D Image Processing and Multimedia III Chair: Dr. Simeon Okechukwu Ajakwe (Kumoh National Institute of Tech.)	Oral Session – 5E Wireless Communication Chair: Prof. Jingon Joung (Chung-Ang Univ.)
18:30	20:30	2:00	Banquet (Hotel Metropolitan Edmont Tokyo)				

VIP and OC room : Room 222

Program Matrix for ICAIIC 2026

Feb. 26 (Thursday)							
Start	End	Duration	Room A (211)	Room B (212)	Room C (223)	Room D (224)	Room E (221)
9:00	9:10	0:10	Registration				
9:10	10:30	1:20	Oral Session – 6A AI Foundation I Chair: Prof. Jae Min Lee (Kumoh National Institute of Tech.)	Oral Session – 6B LLM and NLP IV Chair: Dr. Simeon Okechukwu Ajakwe (Kumoh National Institute of Tech.)	Oral Session – 6C Medical and eHealth I Chair: Prof. Sang-Chul Kim (Kookmin Univ.)	Oral Session – 6D Industrial and Automation/ Control AI I Chair: Prof. Dong Seog Han (Kyungpook National Univ.)	Poster Session – P1 AI Systems and Applications Chair: Dr. Mohisn Ali (Hanyang Univ.)
10:30	10:40	0:10	Coffee Break				
10:40	11:30	0:50	Tutorial II: Soonmin Hwang (Hanyang University, Korea) (Room A, 211) Session Chair: Prof. Jin Nakazato (TUS)				
11:30	13:30	2:00	Lunch Break				Poster Session – P2 (11:30-12:30) Communication and Sensing Chair: Prof. Jingon Joung (Chung-Ang Univ.)
13:30	15:30	2:00	Oral Session – 7A AI Foundation II Chair: Prof. Taejoon Kim (Chungbuk National Univ.)	Oral Session – 7B Blockchain and Application Chair: Prof. Phunsak Thiennviboon (Kasetsart Univ.)	Oral Session – 7C Medical and eHealth II Chair: Prof. Yeon Ho Chung (Pukyong National Univ.)	Oral Session – 7D Industrial and Automation/ Control AI II Chair: Prof. Yongjin Kwon (Ajou Univ.)	Poster Session – P3 Information and Communication Technology Chair: Dr. Mitra Pooyandeh (Kyungpook National Univ.)
15:30	15:40	0:10	Coffee Break				
15:40	17:40	2:00	Oral Session – 8A AI Foundation III Chair: Prof. Heejung Yu (Korea Univ.)	Oral Session – 8B Edge AI and Intelligent Systems Chair: Prof. Soo-Hyun Park (Kookmin Univ.)	Oral Session – 8C Medical and eHealth II Chair: Prof. Geoffrey A. Solano (Univ. of the Philippines, Manila)	Oral Session – 8D Security I Chair: Prof. Insoo Sohn (Dongguk University)	Poster Session – P4 Secure and Trusted System Chair: Dr. Abdulahi Abiodun Badrudeen (Hanyang Univ.)

VIP and OC room : Room 222

Program Matrix for ICAIIC 2026

Feb. 27 (Friday)							
Start	End	Duration	Room A (211)	Room B (212)	Room C (223)	Room D (224)	Room E (221)
9:00	9:20	0:20	Registration				
9:20	11:00	1:40	Oral Session – 9A	Oral Session – 9B	Oral Session – 9C	Oral Session – 9D	Oral Session – 9E
			AI Application IV Prof. Mikio Hasegawa (Tokyo University of Science)	Robotics Chair: Prof. Insoo Sohn (Dongguk Univ.)	Special Session on Super-Intelligent Networking Chair: Prof. Takeo Fujii (The Univ. of Electro-Communications)	Security II Chair: Dr. Mitra Pooyandeh (Kyungpook National Univ.)	Smart Agriculture Chair: Dr. Hyeon-O Choe (Sunchon National Univ.)

VIP and OC room : Room 222

Keynote Speech

[Keynote I] 11:20 ~ 11:50, February 25, 2026 (Wednesday)
Speaker: Prof. Ning Zhang (University of Windsor, Canada)

Topic: Task Offloading in Mobile Edge Computing for Internet of Things

Abstract

Internet of things (IoT) lays the foundation for various emerging applications. As IoT devices are generally constrained with resources, mobile edge computing is proposed whereby data generated by IoT devices can be offloaded to nearby edge servers, so that their tasks can be served locally in real-time. Due to the dynamic, heterogenous, and time-varying operating environment, it is very challenging to utilize heterogeneous resources in an efficient way to meet the service requirements. In this talk, two research works on offloading will be presented, including i) deep reinforcement learning aided dynamic task offloading for IoT; and ii) multi-agent deep reinforcement learning for offloading in vehicular edge computing. Finally, future research directions are discussed.

Biography

Dr. Ning Zhang is a Full Professor and Canada Research Chair in the Department of Electrical and Computer Engineering at University of Windsor. He received the Ph.D degree in Electrical and Computer Engineering from University of Waterloo, Canada, in Jan. 2015. After that, he was a postdoc research fellow at University of Waterloo and University of Toronto, respectively. His research interests include connected vehicles, mobile edge computing, wireless networking, and security. He is a member of Royal Society of Canada College, a Distinguished Lecturer of IEEE, and a Highly Cited Researcher (Web of Science). He serves as the Chair for IEEE Technical Committee on Cognitive Networks and the Vice Chair for IEEE Technical Committee on Big Data. He also serves/served as an Associate Editor of IEEE Transactions on Mobile Computing, IEEE Communications Surveys and Tutorials, IEEE Internet of Things Journal, and IEEE Transactions on Cognitive Communications and Networking.

VIP and OC room : Room 222

Keynote Speech

[Keynote II] 11:50 ~ 12:20, February 25, 2026 (Wednesday)
Speaker: Dr. Sei Naito (KDDI Research, Japan)

Topic: Evolution of Processing and Transmission Technology toward Physical AI and 6G

Abstract

As we approach 2030, discussions surrounding 6G wireless technology are gaining momentum, with global research and development advancing at an unprecedented pace toward Physical AI as a key target application. This keynote will provide a comprehensive overview of 6G wireless and Physical AI, followed by an in-depth examination of the latest trends in processing and transmission technologies that enable these innovations. The presentation will highlight initiatives within the KDDI Group, showcasing efforts to drive technological progress in this rapidly evolving domain.

Biography

Sei Naito received his B.E., M.E., and Ph.D. degrees from Waseda University in 1994, 1996, and 2006, respectively. He joined Kokusai Densin Denwa Corporation (now KDDI Corporation) in 1996. Throughout his career, he has contributed to the advancement of television-related technologies and services through innovative and practical research and development, with a primary focus on compression coding and video signal processing. He is currently Executive Vice President of KDDI Research Inc., Japan.

Tutorial

[Tutorial I] 15:20 ~ 16:10, February 24, 2026 (Tuesday)
Speaker: Takumi Takahashi (Osaka University, Japan)

Topic: Fundamentals of Bayesian Message-Passing Algorithms for Generalized Linear Models

Abstract

This tutorial focuses on generalized linear models (GLMs), which frequently arise in physical-layer signal processing for wireless communications, and introduces the fundamentals of probabilistic inference algorithms for solving inverse problems based on GLMs. In particular, we highlight message-passing algorithms (MPAs) grounded in Bayesian inference, which can achieve optimal estimation under certain conditions. Starting from the most basic sum-product algorithm (SPA), we then proceed to Gaussian belief propagation (GaBP), which appears in a wide range of inference problems as a form of large-scale belief propagation, and finally provide a detailed derivation leading to the best-known MPA, generalized approximate message passing (GAMP). We conclude by presenting our recent research contributions related to Bayesian MPAs and their applications to wireless communications.

Biography

Takumi Takahashi (Member, IEEE) received the B.E., M.E., and Ph.D. degrees in communication engineering from The University of Osaka, Osaka, Japan, in 2016, 2017, and 2019, respectively. From 2018 to 2019, he was a Visiting Researcher at the Centre for Wireless Communications, University of Oulu, Finland. In 2019, he joined the Graduate School of Engineering, The University of Osaka, as an Assistant Professor, where he is currently an Associate Professor. His research focuses on signal processing and wireless communications. His current research interests include coding theory, Bayesian inference, compressed sensing, and MIMO technologies.

Tutorial

[Tutorial II] 10:40 ~ 11:30, February 26, 2026 (Thursday)
Speaker: Prof. Soonmin Hwang (Hanyang University, Republic of Korea)

Topic: Camera-Based Perception for Autonomous Driving: Fundamentals to End-to-End Learning

Abstract

This tutorial introduces the principles and methodologies of camera-based perception for autonomous driving. Beginning with camera sensor fundamentals and the role of multi-sensor calibration and synchronization, we systematically cover key perception tasks such as object detection, depth estimation, and trajectory prediction, among others. We then discuss recent trends toward end-to-end autonomous driving, where perception is jointly optimized with downstream decision-making modules. The tutorial concludes with an overview of Tesla's data engine, highlighting its role in enabling scalable, real-world physical AI systems.

Biography

Soonmin Hwang is an Assistant Professor in the Department of Automotive Engineering at Hanyang University. He was previously a Postdoctoral Researcher at the Robotics Institute, Carnegie Mellon University, and a Senior Machine Learning Scientist on the Autopilot team at Tesla, where he worked on practical machine learning models for autonomous driving. He received his Ph.D. in Electrical Engineering from KAIST in 2019 under the supervision of Prof. In So Kweon. His research focuses on computer vision and machine learning for autonomous driving, bridging academic research and real-world industrial applications. He was selected as an Outstanding Reviewer for CVPR 2023 and is a recipient of the Samsung HumanTech Paper Awards (Gold Prize, Honorable mention) and the First Place in the NVIDIA Korea Deep Learning Contest.

Oral Sessions

Oral Session - 1A : IW of Intelligent Innovation G5-AICT Research Center I

Chair: Dr. Geon Kim (Chonnam National Univ.) **Feb. 24 (Tue), 13:00~15:00**

1A-1 Prediction of Dynamic Random Access Memory Leakage Current Based Artificial Intelligence Model
JeongHyeon Yun, Geon Kim, Dongyeong Kim, Suyeon Kim, Jewon Park, Shinwook Kim, Ryun Kang, Sowon Kim, Chaehyuk Lim, Hyeona Seo, Juwon Lee, Hyerin Lee, Eojin Kim, Minwoo Jeong, Ujin Choi and Myoung Jin Lee (Chonnam National University, Korea (South))

1A-2 Prediction of Single Event Upset-Induced Drain Peak Current Using Machine Learning
Sowon Kim, Geon Kim, Dongyeong Kim, Suyeon Kim, Jewon Park, Shinwook Kim, Ryun Kang, Chaehyuk Lim, Hyeona Seo, JeongHyeon Yun, Juwon Lee, Hyerin Lee, Ujin Choi, Eojin Kim, Minwoo Jeong and Myoung Jin Lee (Chonnam National University, Korea (South))

1A-3 Design of a 3.5kW Low-Noise Current-Fed Converter for High-Integrity Data in AI-Based SOFC Systems
Geon Kim, Ryun Kang, Dongyeong Kim, Suyeon Kim, Jewon Park, Shinwook Kim, Sowon Kim, Chaehyuk Lim, Hyeona Seo, JeongHyeon Yun, Juwon Lee, Hyerin Lee, Ujin Choi, Eojin Kim, Minwoo Jeong and Myoung Jin Lee (Chonnam National University, Korea (South))

1A-4 Deep Learning-Based Pareto Optimization Framework for LDMOS Transistors
Shinwook Kim (School, Korea (South) & Chonnam National University, Korea (South)); Geon Kim, Dongyeong Kim, Suyeon Kim, Jewon Park, Ryun Kang, Sowon Kim, Chaehyuk Lim, Hyeona Seo, JeongHyeon Yun, Juwon Lee, Hyerin Lee, Ujin Cho, Eojin Kim, Minwoo Jeong and Myoung Jin Lee (Chonnam National University, Korea (South))

1A-5 Prediction of Trap Behavior under Repetitive Short-Circuit Stress in SiC MOSFETs Using Physics-Informed Gaussian Process Regressions
Hyeona Seo, Geon Kim, Dongyeong Kim, Suyeon Kim, Jewon Park, Shinwook Kim, Ryun Kang, Sowon Kim, Chaehyuk Lim, JeongHyeon Yun, Juwon Lee, Hyerin Lee, Ujin Choi, Eojin Kim, Minwoo Jeong and Myoung Jin Lee (Chonnam National University, Korea (South))

Oral Session – 1B : IW of Beyond-G Global Innovation Center on AI-Native Sensing and Communication I

Chair: Prof. Sunwoo Kim (Hanyang Univ.) **Feb. 24 (Tue), 13:00~15:00**

1B-1 UAV-Based Target Terminal Search System for Emergency Rescue
Boyoon Kim, Taejun Choi and Hichan Moon (Hanyang University, Korea (South))

1B-2 Secure Majority Voting for Multi-Rater Labelling
Taejeong Kim and Dong-Joon Shin (Hanyang University, Korea (South))

1B-3 Homomorphic Inference of Quantized CNNs via FHE16
Dohyuk Kim (Hanyang University, Korea (South)); Youngjun Kim (Walllnut, Korea (South)); SeungHwan Lee and Dong-Joon Shin (Hanyang University, Korea (South))

Oral Sessions

1B-4 System-Level Comparison of Multimodal and In-Band mmWave Sensing for Beam Prediction in 6G ISAC
Abidemi Matthew Orimogunje (Hanyang University, Korea (South) & Redeemer's University, Nigeria); Hyunwoo Park, Igbafe Orikumhi and Sunwoo Kim (Hanyang University, Korea (South)); Dejan Vukobratović (University of Novi Sad, Serbia)

1B-5 Information-Theoretic RL-Based Sensor Placement for Half-Plane AOA Localization
Seongyeol Park, Hanvit Kim, Jongchan Won and Sunwoo Kim (Hanyang University, Korea (South))

1B-6 Cross-modal Consistent Augmentation bridging 2D-3D Transformations
Donguk Kim and Soonmin Hwang (Hanyang University, Korea (South))

1B-7 Risk-Aware Grasping in Cluttered Environments via Modeling Aleatoric Uncertainty
Myungjoon Son, Seungjun Kim and Yoonseon Oh (Hanyang University, Korea (South))

1B-8 Seeing the Unseen: Geometry-Aware Test-Time Adaptation for LiDAR Segmentation
Yewon Song and Soonmin Hwang (Hanyang University, Korea (South))

Oral Session – 1C : IW on FSO and OCC

Chair: Prof. Yeong Min Jang (Kookmin Univ.) **Feb. 24 (Tue), 13:00~15:00**

1C-1 Qiskit-Based Simulation of HAP-Enabled Multi-User Entanglement QKD over FSO Channels
Yuma Kaminaga, Hoang Le, Cuong Trong Nguyen and Anh T. Pham (The University of Aizu, Japan)

1C-2 Development of a Simulated UAV Platform for Sensor-Fusion-Based SLAM
Muhammad Fairuz Mummtaz (Kookmin University, Korea (South)); Jaejun Yoo (Electronics and Telecommunication Research Institute, Korea (South)); Ida Bagus Krishna Yoga Utama, Irzal Zaini and Yeong Min Jang (Kookmin University, Korea (South))

1C-3 Camera-Assisted Drone OCC Ranging System in Low Resolution Point Clouds
Muhammad Alfi Aldolio, Moh Moh Thet Aung, May Thu, Muhammad Fairuz Mummtaz and Yeong Min Jang (Kookmin University, Korea (South))

1C-4 Development of Automatic Multiple LED Detection for Hybrid OOK-OFDM Optical Camera Communication System
Eun Bi Shin and Yeong Min Jang (Kookmin University, Korea (South))

1C-5 FPGA Architecture of Reliable High-Throughput Error Correction for UAV FSO Communication System
Irzal Zaini, Ida Bagus Krishna Yoga Utama, Fadhila Ahmad, Muhammad Fairuz Mummtaz and Yeong Min Jang (Kookmin University, Korea (South))

1C-6 Integrated Sensing and Communication for Optical Camera Communication
Ida Bagus Krishna Yoga Utama, Su Mon Ko, Irzal Zaini, Muhammad Fairuz Mummtaz and Yeong Min Jang (Kookmin University, Korea (South))

Oral Sessions

1C-7 Towards Reliable Point-Cloud Segmentation: A Robustness Evaluation of Benchmark Architectures
Su Mon Ko, Ida Bagus Krishna Yoga Utama and Yeong Min Jang (Kookmin University, Korea (South))

Oral Session – 1D : 5G&6G Communication and Networks and Big Data Workshop I

Chair: Prof. Sungrae Cho (Chung-Ang Univ.) **Feb. 24 (Tue), 13:00~15:00**

1D-1 Robust Backscatter Detection via Deep Reinforcement Learning Against an Evolving Adversarial Jammer
Hao Hoang Tran, Quang Tuan Do, Tung Son Do, Dongwook Won, Junsuk Oh and Sungrae Cho (Chung-Ang University, Korea (South))

1D-2 Recent Advancements in Rate-Splitting Multiple Access with a Focus on Antenna Technologies: A Survey
Kiet Nguyen Tuan Tran (Chung Ang University, Korea (South)); Huy Dang Mac, Tung Son Do, Dongwook Won and Sungrae Cho (Chung-Ang University, Korea (South))

1D-3 Energy-Efficient Federated Learning Over-the-Air with Perfect Amplitude Alignment Based on Magnitude-Scaled One-Bit Quantization
Junsuk Oh, Seonghun Hong, Donghyun Lee, Thwe Thwe Win, Hao Hoang Tran, Chunghyun Lee, Chihyun Song, Gahyun Kim, Seongjin Choi and Sungrae Cho (Chung-Ang University, Korea (South))

1D-4 A Survey on Deep Learning-Based Image Compression: Methods, Efficiency, and Open Challenges
Wondmagegn Ayalneh Bitew (Chung-Ang University, Korea (South)); Tam Dinh Ton That (Chung Ang University, Korea (South)); Thwe Thwe Win, Dongwook Won and Sungrae Cho (Chung-Ang University, Korea (South))

1D-5 A Review of Proximal Policy Optimization for Uplink Multi-user SIMO-RSMA Systems
Huy Dang Mac (Chung-Ang University, Korea (South)); Kiet Nguyen Tuan Tran (Chung Ang University, Korea (South)); Dongwook Won and Sungrae Cho (Chung-Ang University, Korea (South))

1D-6 A Demand-Driven Multi-Model Framework for Optimal Facilities Siting
Chunghyun Lee, Junsuk Oh, Anh-Tien Tran, Dongwook Won, Donghyun Lee and Sungrae Cho (Chung-Ang University, Korea (South))

1D-7 A Survey on AI-Enhanced CSI Feedback in Cell-Free Massive MIMO
Seongjin Choi, Donghyun Lee, Junsuk Oh, Thanh Phung Truong, Seungchan Lee, Juyoung Kim and Sungrae Cho (Chung-Ang University, Korea (South))

1D-8 Researches on Dynamic Metasurface Antenna based Wireless Communication System
Donghyun Lee, Junsuk Oh, Chihyun Song, Jaemin Kim, Seongjin Choi, Seungchan Lee and Juyoung Kim (Chung-Ang University, Korea (South)); Wonjong Noh (Hallym University, Korea (South)); Sungrae Cho (Chung-Ang University, Korea (South))

Oral Sessions

Oral Session – 1E : IW on 5G/6G Communications

Chair: Prof. Seokjoo Shin (Chosun Univ.) **Feb. 24 (Tue), 13:00~15:00**

1E-1 Machine Learning Assisted Design and Performance Modeling of a Tunable Microfluidic SIW Self-Diplexing Antenna
Tanisi Jha (IIIT Naya Raipur); Amritanshu Yadav and Preetam Priyadarshan (IIIT Naya Raipur, India); Archana Sharma (BARC, India); Shorya Kumar and Shashwati Bhattacharya (IIIT Naya Raipur, India); Neeraj Gautam (IIIT NAYA RAIPUR, India)

1E-2 MilitaryChain: Blockchain Routing Protocol in 6G Military Networks Using Cryptographic Addresses
Jonathan Mukisa Kalibbala (Kumoh National Institute of Technology, Gumi, Korea (South)); Love Allen Chijioke Ahakonye, Dong Seong Kim and Jae Min Lee (Kumoh National Institute of Technology, Korea (South))

1E-3 An SNR-Adaptive Deep Joint Source-Channel Coding Scheme for UAV Semantic Image Transmission
Quang Tuan Do, Tung Son Do, Thanh Phung Truong, Dongwook Won and Sungrae Cho (Chung-Ang University, Korea (South))

1E-4 Federated Learning: State-of-the-Art, Challenges and Research Opportunities
Tam Dinh Ton That (Chung Ang University, Korea (South)); Cuong Ho, Wondmagegn Ayalneh Bitew, Juyoung Kim and Sungrae Cho (Chung-Ang University, Korea (South))

Oral Session – 2A : IW of Intelligent Innovation G5-AICT Research Center II

Chair: Dr. Geon Kim (Chonnam National Univ.) **Feb. 24 (Tue), 16:20~17:40**

2A-1 Passing Word Line Row Hammering in DRAM via AI-Assisted Pi-BCAT Structure
Suyeon Kim, Geon Kim, Dongyeong Kim, Jewon Park, Shinwook Kim, Ryun Kang, Sowon Kim, Chaehyuk Lim, Hyeona Seo, JeongHyeon Yun, Juwon Lee, Hyerin Lee, Ujin Choi, Eojin Kim, Minwoo Jeong and Myoung Jin Lee (Chonnam National University, Korea (South))

2A-2 Machine Learning-Based Optimization of Boosted Voltage in 3T Gain Cell eDRAM
Chaehyuk Lim, Geon Kim, Dongyeong Kim, Suyeon Kim, Jewon Park, Shinwook Kim, Ryun Kang, Sowon Kim, Hyeona Seo, JeongHyeon Yun, Hyerin Lee, Juwon Lee, Ujin Choi, Eojin Kim, Minwoo Jeong and Myoung Jin Lee (Chonnam National University, Korea (South))

2A-3 Gate-Voltage-Conditioned Leakage-Aware Drain Current Prediction in BCAT Using Support Vector Regression
Lee Juwon (Chonnam National University, Gwangju, South Korea); Geon Kim, Dongyeong Kim, Suyeon Kim, Jewon Park, Shinwook Kim, Ryun Kang, Sowon Kim, Chaehyuk Lim, Hyeona Seo, JeongHyeon Yun, Hyerin Lee, Ujin Choi, Eojin Kim, Minwoo Jeong and Myoung Jin Lee (Chonnam National University, Korea (South))

Oral Sessions

2A-4 Axial-iFormer: Robust and Efficient Wafer Map Defect Classification via Modulated Axial Attention
Jaeho Song, Juhyeon Noh, Jihoon Lee, Yonggwan Won, Jaehyung Park and Jinsul Kim (Chonnam National University, Korea (South))

2A-5 SHAP-Based Data-Driven Analysis of an Offset-Canceling Sense Amplifier in DRAMs
Hyerin Lee, Geon Kim, Dongyeong Kim, Suyeon Kim, Jewon Park, Shinwook Kim, Ryun Kang, Sowon Kim, Chaehyuk Lim, Hyeona Seo, JeongHyeon Yun, Juwon Lee, Ujin Choi, Eojin Kim, Minwoo Jeong and Myoung Jin Lee (Chonnam National University, Korea (South))

Oral Session – 2B : IW of Beyond-G Global Innovation Center on AI-Native Sensing and Communication II

Chair: Prof. Soonmin Hwang (Hanyang Univ.) **Feb. 24 (Tue), 16:20~17:40**

2B-1 Multimodal Cost-Aware DRL for Beam Realignment in mmWave V2X Communications
Nuri Choi (Hanyang University, Korea (South)); TaeSik Nam (Yonsei University, Korea (South)); Han-Shin Jo (Hanyang University, Korea (South))

2B-2 One-Shot Training for Reduction of Performance Variance in LLM Rotation Quantization
Sangki Park, Chan-Hoon Kim and Ki-Seok Chung (Hanyang University, Korea (South))

2B-3 MLP-Assisted Agent Localization via Multipath Component Mapping
Seyeon Lee, Hongseok Jung and Sunwoo Kim (Hanyang University, Korea (South))

2B-4 A wideband Single Stage LNA Using a 200-nm GaN HEMT Process
Jiyong Chung and Ickhyun Song (Hanyang University, Korea (South))

2B-5 Data-Driven Path Loss Modeling Using Multilayer Perceptron Networks
Dongseok Lee (Hanyang University, Korea (South)); TaeSik Nam (Yonsei University, Korea (South)); Han-Shin Jo (Hanyang University, Korea (South))

Oral Session – 2C : AI Systems

Chair: Prof. Sang-Woon Jeon (Hanyang Univ.) **Feb. 24 (Tue), 16:20~17:40**

2C-1 A Gamified Knowledge-Guided Graph Learning Framework for Early Detection of Digital Cognitive Decline
Surruthisha Sundareswaran and Banuka Athuraliya (Informatics Institute of Technology, Sri Lanka)

2C-2 Hybrid Random Forest and Reinforcement Learning Framework for Adaptive CPU Resource Management
Pornnapa Panyadee, Sajja Tanchanpong, Sirapat Aunkaew, Kornprom Pikulkaew, Juggapong Natwichai and Suphakit Awiphan (Chiang Mai University, Thailand)

2C-3 Edge AI for Solar: Embedded Deployment of Neural Network MPPT on Low-Cost Microcontrollers
Salvador Yabar and Carlos A. Paragua-Macuri (Pontificia Universidad Católica del Perú, Peru)

Oral Sessions

2C-4 Adaptive Prefetch-Granularity Management for Locality Prediction in Unified Virtual Memory
Jeongha Lee, Kyungwoon Cho and Hyokyung Bahn (Ewha University, Korea (South))

2C-5 Federated DDQN for Edge-based Disaster Response: Leveraging the Extensible Front-line Augmented Communication Exchanger (X-FACE)
Babatunde Ojetunde (Advanced Telecommunications Research Institute International (ATR), Japan); Toshikazu Sakano (Advanced Telecommunications Research Institute International, Japan)

Oral Session – 2D : 5G&6G Communication and Networks and Big Data Workshop II

Chair: Prof. Wooyeol Choi (Chung-Ang Univ.) **Feb. 24 (Tue), 16:20~17:40**

2D-1 Research on Real-Time and Robust MU-MIMO Scheduling under O-RAN Architecture
Jaemin Kim, Dongwook Won, Donghyun Lee, Junsuk Oh, Chihyun Song, Seungchan Lee, Juyoung Kim and Sungrae Cho (Chung-Ang University, Korea (South))

2D-2 Deep Learning-Based Traffic Prediction for Non-Terrestrial Networks: A Hybrid Satellite-UAV Approach
Vaskar Chakma (Chung-Ang University, Korea (South)); Seong-Yong Moon (Chosun University, Korea (South)); Wooyeol Choi (Chung-Ang University, Korea (South))

2D-3 A Survey on Semantic Encoder Technology Trends for 6G Task-Oriented Semantic Communications
Chang Gyo Jeong and Woongsoo Na (Kongju National University, Korea (South))

2D-4 RSMA-Assisted ISAC: Technical Comparison, Integration Challenges, and a Deployment Playbook
Anh-Tien Tran, Thanh Thien-An Dang and Sungrae Cho (Chung-Ang University, Korea (South))

2D-5 A Survey on DQN-Based MAC Protocols for Wireless Networks
Junyoung Park and Woongsoo Na (Kongju National University, Korea (South))

2D-6 Recent Advances in Artificial Intelligence for RIS in 6G Wireless Networks
Seungchan Lee, Seongjin Choi, Donghyun Lee, Dongwook Won, Quang Tuan Do, Jaemin Kim and Sungrae Cho (Chung-Ang University, Korea (South))

2D-7 Deep Learning-Based Forecasting of Oceanic pCO2 at Station Papa: A Comparative Study of Time Series Models
Gwangun Yu (Kongju National University, Korea (South)); GilHan Choi (Kongju University, Korea (South)); Moonseung Choi (Kongju National University, Korea (South)); Sun-hong Min (Kongju National University, Korea (South) & INS Lab, Korea (South)); Junwoo Jang and Yonggang Kim (Kongju National University, Korea (South))

Oral Sessions

Oral Session – 2E : IW on Recent Results in AI

Chair: Dr. Phuoc B. T. Huynh (Hanyang Univ.) **Feb. 24 (Tue), 16:20~17:40**

2E-1 Formal Verification for Deep Learning-based Mobile Network Traffic Prediction
Thanh Le (National Institute of Information and Communications Technology, Japan); Takeshi Matsumura (National Institute of Information and Communications Technology (NICT), Japan & Kyoto University, Japan)

2E-2 IoT Device Identification Method by Using DNS Queries at Initial Phase
Haruki Ishimaru, Manato Fujimoto and Shingo Ata (Osaka Metropolitan University, Japan)

2E-3 Reliable Fruit Ripeness Classification from RGB Images via Calibrated Transfer Learning
Daniel A. Cevallos (Escuela Superior Politécnica del Litoral (ESPOL), Ecuador); Erasmo I. García (Universidad Internacional del Ecuador UIDE, Ecuador); Wilton E. Agila (Escuela Superior Politécnica del Litoral (ESPOL), Ecuador); Holger Cevallos (Escuela Superior Politécnica del Litoral, Ecuador)

Oral Session – 3A : AI Application I

Chair: Prof. Daeyoung Park (Inha Univ.) **Feb. 25 (Wed), 09:10~10:30**

3A-1 An Anime Recommendation System Integrating Sentiment Analysis and Metadata Similarity
Liao Yikang (Toyo University, Japan); M. Fahim Ferdous Khan and Ken Sakamura (The University of Tokyo, Japan)

3A-2 Classification of Tomatoes growth degree from Spectrum hue information measured Applying RBF-Kernel method
Yoshitsugu Nakagawa (Tokyo Metropolitan Industrial Technology Research Institute & Tama-Techno Plaza, Japan)

3A-3 Metalinguistic Indexing: A Quantitative Framework for Analyzing Oppositional Semantics in Computer-Mediated Communication
Aliaksandr Barkovich (Minsk State Linguistic University, Belarus)

3A-4 Evaluating Knowledge Distillation for Plant Leaf Disease Classification
David J. Richter, Md ilias Bappi and Kyungbaek Kim (Chonnam National University, Korea (South))

3A-5 Hybrid Machine Learning and Geostatistical Downscaling of ERA5-Land Data for High-Resolution Daily Precipitation Mapping over the Philippines
Kent Roger C Truita (Advanced Science and Technology Institute, Philippines); Elmer C Peramo (Advanced Science and Technology Institute & Department of Science and Technology, Philippines); Jeanette Badong-Carlos (Advanced Science and Technology Institute, Philippines); Karl Ezra Pilario (University of the Philippines Diliman, Philippines)

Oral Sessions

Oral Session – 3B : LLM and NLP I

Chair: Prof. Hichan Moon (Hanyang Univ.) Feb. 25 (Wed), 09:10~10:30

3B-1 Online Knowledge Graph Construction and Visualization from Classroom Discourse with LLMs
Woo-Hyun Choi, Jia Hong, Kyung Kim and Seunghyun Yoon (Korea Institute of Energy Technology, Korea (South))

3B-2 Low-Code Self-Hosting of RAG-Enabled Language Models Using Ollama And Open Web UI
Julius Noah H. Sempio (Advanced Science and Technology Institute & DOST Nexus for Artificial Intelligence Research and Applications, Philippines); Elmer C Peramo (Advanced Science and Technology Institute & Department of Science and Technology, Philippines)

3B-3 ReleaseScribe: An AI Agent for Automating Compliance Checklists in Product Release Processes
Barun Kumar Saha (Hitachi Energy, India)

3B-4 Benchmarking Readability-Aware Boosting and Re-Scoring Techniques for Hybrid Lexical-Dense Code Search
Budi Susanto (Gadjah Mada University, Indonesia & Universitas Kristen Duta Wacana, Indonesia); Ridi Ferdiana and Teguh Bharata Adji (Universitas Gadjah Mada, Indonesia)

3B-5 Noise, Distraction, and Mitigation: An Analysis of RAG Failure Modes in Medical Question Answering
Md Towhidul Islam Rahat, Riad Safowan, Mirza Abir and M. Rashedur Rahman (North South University, Bangladesh)

Oral Session – 3C : Localization and Sensing I

Chair: Prof. Haewoon Nam (Hanyang Univ.) Feb. 25 (Wed), 09:10~10:30

3C-1 Cooperative Multi-LiDAR Deployment using Decentralized Multi-Agent Reinforcement Learning
HyeongJun Park (Hanyang University, Korea (South)); Chang Mook Kang (Hanyang.ac.kr, Korea (South))

3C-2 AnonymEyes: Lightweight and Affordable Privacy-Enhanced Human Detection via Depth Sensing on Edge Devices
Sercan Yesilkoy (Pusan National University, Korea (South) & Zero Trust Cloud Security Center, Korea (South)); Mohsen Ali Alawami (Hankuk University of Foreign Studies, Korea (South)); Yoon-Ho Choi (Pusan National University, Korea (South))

3C-3 Mutual Information-Based Communication Strategies for UAV Cooperative Odor Source Localization: 3D Simulation Experiments and Parameter Design
Ching-Po Chiu, JenYi Pan and Guan-Yin Lin (National Chung Cheng University, Taiwan)

3C-4 Memory-efficient 1D Neural Network for PMCW Interference Mitigation in FMCW-based Sensing Systems
Heekwon Yoon, Seonmin Cho and Seongwook Lee (Chung-Ang University, Korea (South))

Oral Sessions

3C-5 Hybrid 3D Graph Convolutional Network and Transformer for Lidar Fault Detection
Jaeho Seong (Korea Intelligent Automotive Parts Promotion Institute(KIAPI), Korea(South)); Jun Yeong Kim, Sun Ho Lee and Tae Hyeong Kim (Korea Intelligent Automotive Parts Promotion Institute (KIAPI), Korea (South)); Bong Seob Kim (Korea Intelligent Automotive Parts Promotion Institute & Hanyang univ., Korea (South)); Kyung Su Yun (KIAPI, Korea (South))

Oral Session – 3D : Image Processing and Multimedia I

Chair: Prof. Sang-Woon Jeon (Hanyang Univ.) **Feb. 25 (Wed), 09:10~10:30**

3D-1 Vehicle Make and Model Recognition from Low-Detail Bangkok Metropolitan Administration CCTV Footage
Chutikarn Kamsen, Nagul Cooharojananone and Supatana Auethavekiat (Chulalongkorn University, Thailand); Pinnaree Tea-makorn and Pavitra Jindahra (Sasin School of Management, Thailand); Stefano Starita (Sasin Graduate Institute of Business Administration of Chulalongkorn University, Thailand); Kanokwan Atchariyachanvanich (King Mongkut's Institute of Technology Ladkrabang, Thailand)

3D-2 Evacuation Drill Support Network System with Behavior History Recording/Reproduction Functions Utilizing Extended Reality
Riku Tono, Hideaki Miyaji and Hiroshi Yamamoto (Ritsumeikan University, Japan)

3D-3 MANTIS: Multi-granularity Adaptive Network for Taxonomy-Informed Species Classification
Junyoung Park, Hyung-Wook Kwon and Sungtek Kahng (Incheon National University, Korea (South))

3D-4 S2VAD: A Self-Supervised Framework for Unsupervised Visual Anomaly Detection
Mariam Ishtiaq (University of Science and Technology (UST), Korea (South) & Korea Railroad Research Institute (KRRI), Korea (South)); Jong-Un Won (Korea Railroad Research Institute, Korea (South))

Oral Session – 3E : 5G/6G Communication I

Chair: Prof. Sang-Hyo Kim (Sungkyunkwan Univ.) **Feb. 25 (Wed), 09:10~10:30**

3E-1 Beam Alignment for Massive MIMO Transmission Based on Multi-dimensional and Multi-particle Quantum Walks
Maki Arai (Shibaura Institute of Technology, Japan); Tomoki Yamagami (Saitama University, Japan); Takatomo Mihana and Ryoichi Horisaki (The University of Tokyo, Japan); Mikio Hasegawa (Tokyo University of Science, Japan)

3E-2 Reduced Complexity Real-Valued Time Delay Neural Network Based Behavioral Model of 5G RF Power Amplifiers
Reem Alnajjar and Oualid Hammi (American University of Sharjah, United Arab Emirates)

Oral Sessions

3E-3 Random Forest Regression-Based Power Allocation for Sub-Connected Hybrid Beamforming-NOMA Systems
Abdulahi Abiodun Badrudeen (Hanyang University, Korea (South) & Federal Polytechnic Ede, Nigeria); Chee Yen Leow (Universiti Teknologi Malaysia, Malaysia); SeungHwan Won (Connected Intelligence Research Group, Malaysia); Sunwoo Kim (Hanyang University, Korea (South))

3E-4 Enhanced Deep Learning-Based Channel Estimation for 5G NR System Using Lightweight U-Net Architecture
Kamruzzaman Mahedi (Khulna University of Engineering & Technology, Bangladesh); Mostafa Zaman Chowdhury (Khulna University of Enginnering & Technology, Bangladesh); Yeong Min Jang (Kookmin University, Korea (South))

Oral Session – 4A : AI Application II

Chair: Prof. Fahim Khan (Toyo Univ.) **Feb. 25 (Wed), 14:00~15:20**

4A-1 Hybrid Tree-Kernel Learning for Material-Family Recognition from Differential and Curve-Level Supercapacitor Signatures
Lance Dominic C Raquel (Quantum Computing Society of the Philippines, Philippines); Elmer C Peramo (Advanced Science and Technology Institute & Department of Science and Technology, Philippines)

4A-2 Backward Tracking and Instance Segmentation for Automated Leaf Emergence Ordering in Arabidopsis
Kei Hamaguchi, Masahiro Migita, Mitsuhiro Aida, Takumi Higaki and Masashi Toda (Kumamoto University, Japan)

4A-3 Integrating xLSTM with Signal Decomposition for Enhanced Stock Index Prediction: A Comparative Study with LSTM on the Hang Seng Index
Tsung-Jui Chiang Lin (Feng Chia University, Taiwan); Po-Yu Chen (National Taiwan University, Taiwan); Yong-Shiuan Lee (Feng Chia University, Taiwan)

4A-4 Deep Learning-Based Sea Surface Temperature Prediction in Korean Coastal Waters
Ji-Yeon Kim (Dong-Eui University, Korea (South)); Ki-Hwan Kim (Dongeui University, Korea (South)); Young-Jin Kang and Seok Chan Jeong (Dong-Eui University, Korea (South))

Oral Session – 4B : LLM and NLP II

Chair: Prof. Hirotada Honda (Toyo Univ.) **Feb. 25 (Wed), 14:00~15:20**

4B-1 Beyond System Calls: Uncovering Hidden I/O Behavior of mmap-Based On-Device LLMs
Heejin Kim, Jeongha Lee and Hyokyung Bahn (Ewha University, Korea (South))

4B-2 Technology Trend Forecasting and Idea Support Incorporating Generative AI Using Patent Information
Yurie Okuhara (The Open University of Japan, Japan); Antonio Oliveira Nzinga Rene (Toyama Prefectural University, Japan)

Oral Sessions

4B-3 Token Energy Optimization (Semantic Cost Proxy) in GPT-2 using Counterfactual Semantic Budgets: MetabolicGPT-2
Abhijit Nayak and Raj Bhowmik (USA)

4B-4 Evaluating the Impact of LoRA Fine-Tuning on A1-A2 Level English Sentence Generation
Muhammet Emin Aydınalp (Istanbul Sabahattin Zaim University, Turkey); Berna Altınel (Marmara University, Turkey); Abdullah Sönmez (İstanbul Sabahattin Zaim University, Turkey)

Oral Session – 4C : Localization and Sensing II

Chair: Dr. Fitsum D. Tilahun (Korea Univ.) **Feb. 25 (Wed), 14:00~15:20**

4C-1 A Real-Time Pedestrian Top-view Tracking System for Multicamera Environment
Jihoon Choi and Young-Woo Kwon (Kyungpook National University, Korea (South))

4C-2 Practical Assessment of Low-Cost LiDAR Sensors for Roadside Units in Autonomous Driving Infrastructure
Haneul Jang and JunHyeong Kim (Hanyang University, Korea (South)); Chang Mook Kang (Hanyang ac.kr, Korea (South))

4C-3 A General Framework for Neural Adaptive Sensing of Dynamical Fields
Felix Koester and Atsushi Uchida (Saitama University, Japan)

4C-4 Generalized Root Raised Cosine Window-based and Prony-Based Estimation Method for OTFS Sensing
Liangchen Sun and Yutaka Jitsumatsu (Kyushu University, Japan)

Oral Session – 4D : Image Processing and Multimedia II

Chair: Prof. Sungtek Kahng (Incheon National Univ.) **Feb. 25 (Wed), 14:00~15:20**

4D-1 Research on Network Embedding for YouTube Creator Recommendation
Hyeri Lee (Yonsei University, Korea (South)); Seunghwan Song and Haemin Jung (Korea National University of Transportation, Korea (South))

4D-2 FESL-YOLO: Improved YOLOv11 Small Object Detection Algorithm for Aerial Images
Wei-Qing Ge, Hyerim Ju and Wangsu Jeon (Kyungnam University, Korea (South))

4D-3 A Metric for Evaluating Face Image Deep Learning Classification Models
Fernando E Quiroz, Jr (Biliran Province State University, Philippines); Vladimir Y. Mariano (College of Computing and Information Technologies, Philippines)

4D-4 Deep-sea Biota Classification from Remote Operated Vehicle images through Efficient Deep Learning Models
Kazi Shaila Meraz, Nuzhat Tahsin, R. M. Alvi Amin and M. Rashedur Rahman (North South University, Bangladesh)

Oral Sessions

Oral Session – 4E : 5G/6G Communication II

Chair: Prof. Sang-Hyo Kim (Sungkyunkwan Univ.) **Feb. 25 (Wed), 14:00~15:20**

4E-1 DNN-Driven Adaptive GA for Resource Allocation in Private 5G Cybernetic Avatar Networks
Arif Dataesatu (National Institute of Information and Communications Technology, Japan); Zie Eya Ekolle (National Institute of Information and Communications Technology (NICT), Japan); Takeshi Matsumura (National Institute of Information and Communications Technology (NICT), Japan & Kyoto University, Japan)

4E-2 Advances in ISCAP: Toward Unified Sensing, Data Transmission, and Wireless Powering
Phuoc B. T. Huynh, Mohsin Ali and Sunwoo Kim (Hanyang University, Korea (South))

4E-3 Dual-Lane Voice-Preserving Real-Time Speech Translation: A System Architecture for Cross-Lingual Speaker Identity Retention
Aryuemaan Kumar Chowdhury (OSCOWL Ai, India & Indian Institute of Technology Hyderabad, India); Marpini Himabindu and Madhumithaa S (OSCOWL Ai, India)

4E-4 A Semantic Communication Model with Noise Reduction in a Cybernetic Avatar Teleoperation
Zie Eya Ekolle (National Institute of Information and Communications Technology (NICT), Japan); Homare Murakami (National Institute of Information and Communications Technology, Japan); Takeshi Matsumura (National Institute of Information and Communications Technology (NICT), Japan & Kyoto University, Japan)

Oral Session – 5A : AI Application III

Chair: Prof. Taesoo Jun (Kumoh National Institute of Tech.) **Feb. 25 (Wed), 15:40~17:20**

5A-1 Insights from Spatiotemporal Analysis of Taxi Supply-Demand Imbalance in Bangkok
Sooksan Panichpapiboon (King Mongkut's Institute of Technology Ladkrabang, Thailand); Kaiden Semapakdi-Chang (United Lisbon International School, Portugal)

5A-2 Causal Machine Learning Framework for Market Dynamics Analysis: Methodological Advances Beyond Pattern Recognition
Omaymah Almashaleh (Constructor University Bremen, Germany); Bhavana Bhat (Mercedes-Benz AG, Germany); Omid Fatahi Valilai (Constructor University Bremen, Germany)

5A-3 Integration of AI Chatbots in MSMEs: Factors Affecting Adoption and Their Effects on Organizational Performance
Gabriella Kristiani (BINUS University, Indonesia); Okky Rizkia Yustian (Bina Nusantara University, Indonesia)

5A-4 Architecting Regulatory Agility: The GCOA Framework for Decoupling Compliance Logic in Global E-commerce Systems
Sureshkumar Karuppuchamy (EBAY Inc, USA)

Oral Sessions

Oral Session – 5B : LLM and NLP III

Chair: Prof. Fahim Khan (Toyo Univ.) Feb. 25 (Wed), 15:40~17:20

5B-1 Fine-Grained Rewards for Visual CoT: Mitigating Hallucinations in Vision-Language Models
Jimyung Park (Yonsei University, Korea (South) & Operation Research Laboratory, Korea (South)); Minhyuk Jeong, Dongjun Kim, Hyunjun Yuh and Jeonghoon Mo (Yonsei University, Korea (South))

5B-2 Detection of Prompt Injection Attacks Using a Hierarchical Approach
Sujin Lee and Wooguil Pak (Yeungnam University, Korea (South))

5B-3 Toward Forecast-Aware LLM Agents for Network Management
Jaehyung Choi (Kyunghee University, Korea (South) & Mobile Communication Lab, Korea (South)); Taeil Jung (Kyung Hee University, Korea (South)); Kyung Sook Kim and Jeehyeon Na (ETRI, Korea (South)); Een-Kee Hong (Kyunghee University, Korea (South))

5B-4 Parameter-Efficient Style-Controlled Summarization: An Investigation into LoRA Dynamics and Stylistic Collapse
Josemaria Louis D. Fernando (University of Asia and the Pacific, Philippines); Elmer C Peramo (Advanced Science and Technology Institute & Department of Science and Technology, Philippines); Dantenelo Santi V Barretto and Ashley Trish Soriano (University of Asia and the Pacific, Philippines)

5B-5 FROC: A Unified Framework with Risk-Optimized Control for Machine Unlearning in LLMs
Si Qi Goh, Yongsen Zheng, Ziyao Liu, Sami Hormi and Kwok-Yan Lam (Nanyang Technological University, Singapore)

5B-6 A Generative Embedding Pipeline for Semantic Retrieval and Region-Aware Itinerary Optimization Using Native POI Data
Sofi Nafikova (Pusan National University, Korea (South)); Choon-Wook Park (Kyungpook National University, Korea (South)); Jun Young Son (Pusan National University, Korea (South))

Oral Session – 5C : Transportation and Logistics

Chair: Dr. Pinnaree Tea-makorn (Sasin School of Management) Feb. 25 (Wed), 15:40~17:20

5C-1 Simulation of Pedestrian Flow on Escalators
Akiho Yamaguchi, Shugo Nakamura, Takashi Sano and Hirotada Honda (Toyo University, Japan)

5C-2 Sensor Fusion for Cooperative Perception using Distance-weighted Dempster's Rule of Combination
Sumiko Miyata (Institute of Science Tokyo, Japan); Takamichi Miyata (Chiba Institute of Technology, Japan); Yasir Ali and Ashleigh Filtness (Loughborough University, United Kingdom (Great Britain))

Oral Sessions

5C-3 Resource Allocation leveraging Dual Traffic and Channel Predictions in Open-RAN Architecture
Yeonghun Jeong (Korea University, Korea (South)); Dongho Ham (DGIST, Korea (South)); Minhyun Kim (ETRI, Korea (South)); Jung Mo Moon (Electronis and Telecommunications Research Institute, Korea (South)); Jeongho Kwak (Korea University, Korea (South))

5C-4 GNN-Guided Surrogate-Accelerated Route Optimization for QoS- and QoE-Aware Urban Air Mobility
Yurika Maeda (Ochanomizu University, Japan)

5C-5 Learning-Based Resource Allocation for Heterogeneous Workloads in Cell-Free MEC Network
Fitsum Debebe Tilahun and Chung G. Kang (Korea University, Korea (South))

Oral Session – 5D : Image Processing and Multimedia III

Chair: Dr. Simeon Okechukwu Ajakwe (Kumoh National Institute of Tech.) **Feb. 25 (Wed), 15:40~17:20**

5D-1 Pose-Based Binary Shooting Posture Classification Using YOLO-Pose and SVM
Warakorn Luangluewut (Defense Institute Technology, Thailand & Kasetsart University, Thailand); Phunsak Thienmviboon (Kasetsart University, Thailand); Kittakorn Viriyasatr, Chayayot Saerejittima, Gunthorn Nathong, Kittituch Thanompongchart, Piyarose Maleecharoen, Naris Channum and Jedsada Kraikhow (Defence Technology Institute, Thailand); Prakorn Pratoomma (Defense Technology Institute (DTI), Thailand)

5D-2 Architectural Analysis of Hybrid-Attention: 2-Layer BACF-Net for Image Compression
Chen-Lin Chang and Hsu-Feng Hsiao (National Yang Ming Chiao Tung University, Taiwan)

5D-3 Disentangled Emotion-Controllable Color Palette Generation via β-CVAE with Conditional Prior
Mu Huan Sun and Tzren Ru Chou (National Taiwan Normal University, Taiwan)

5D-4 Automated Detection of IQI Wires and Weld Defects in Ship Pipe Radiographic Images Using Deep Object Detection Model
Shinhyo Kim, Seunghun Lim, Sungho Jo, Jungmo Oh and Jinkyu Park (Mokpo National Maritime University, Korea (South))

Oral Session – 5E : Wireless Communication

Chair: Prof. Jingon Joung (Chung-Ang Univ.) **Feb. 25 (Wed), 15:40~17:20**

5E-1 Semi-AI Approach for RSRP Prediction with Closed-Form Coverage Preservation in Cellular Networks
Passawee Sombunwanich (King Mongkut's Institute of Technology Ladkrabang, Thailand & KMITL, Thailand); Watid Phakphisut (King Mongkut's Institute of Technology Ladkrabang, Thailand); Tanun Jaruvitayakovit (Advanced Wireless Network, Thailand)

Oral Sessions

5E-2 Broad-Range Null-Steering Reception in Multi-RSU Cooperative V2I-MIMO Transmission
Keishi Hijikata, Sojin Ozawa, Yuta Tsunoda, Kotaro Fukue, Yuki Sasaki and Jin Nakazato (Tokyo University of Science, Japan); Haruki Osaki and Tetsuya Iye (Kozo Keikaku Engineering Inc., Japan); Kazuki Maruta (Tokyo University of Science, Japan)

5E-3 Retransmission Efficiency Investigation in Underwater Acoustic Networks
Andrej Stefanov (IBU Skopje, Macedonia, the former Yugoslav Republic of)

5E-4 An empirical study on radio propagation estimation for UAVs flying at low-altitude with machine learning
Arata Kato, Taka Maeno and Gemalyn Abrajano (Space-Time Engineering Japan, Inc., Japan); Lean Yao (Space-Time Engineering Japan, Japan); Mineo Takai (University of California, Los Angeles & Osaka University, USA); Mao Kubota and Hiroshi Yamamoto (Ritsumeikan University, Japan)

5E-5 Deep Learning-based Interference Mitigation of SF-Modulated Signals for FMCW Systems
Yeong Choi, Chanul Park and Seongwook Lee (Chung-Ang University, Korea (South))

5E-6 Machine learning supported sensor fusion based inter-UAV mmWave beamforming system
Gia Khanh Tran and Yuya Sugimoto (Institute of Science Tokyo, Japan)

Oral Session – 6A : AI Foundation I

Chair: Prof. Jae Min Lee (Kumoh National Institute of Tech.) **Feb. 26 (Thu), 09:10~10:30**

6A-1 Benchmarking CNN Components in EZKL: A Layer-Level Analysis for EVM-Compatible Deployment
George Chidera Akor, Love Allen Chijioke Ahakonye, Jae Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

6A-2 Examining Software Engineering Practices in the Pre-AI and Post-AI Era
Tito Ebiwonjumi (Vanderbilt University, USA); Love Allen Chijioke Ahakonye and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

6A-3 AL-X0: Cost-Aware Active Learning for Cloud-Scale NLP via Zero-Shot Proxy Valuation
Vihanga Supasan Kariyakaranage and Banuka Athuraliya (Informatics Institute of Technology, Sri Lanka)

6A-4 Revisiting the Expressive Power of Simple ReLU Neural Networks
Hirotada Honda (Toyo University, Japan)

6A-5 Do Generative AI Tools Change How Developers Comment and Document Code?
Tito Ebiwonjumi (Vanderbilt University, USA); Love Allen Chijioke Ahakonye and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

Oral Sessions

Oral Session – 6B : LLM and NLP IV

Chair: Dr. Simeon Okechukwu Ajakwe (Kumoh National Institute of Tech.) **Feb. 26 (Thu), 09:10~10:30**

6B-1 Tri-RoBiAtt: A Hybrid Deep Learning Model for Effective Classification of Offensive Speech in Multilingual Corpora
Mei-Ling Huang (National Chin-Yi University of Technology Taiping Taichung Taiwan, Taiwan); Chih-Chen Yang (National Chin-Yi University of Technology, Taiwan); Yu-Fang Huang, Ke Yi-Ru and Jiang Jia-Yu (National Chin-Yi University of Technology Taiping Taichung Taiwan, Taiwan)

6B-2 Prompt Injection Detection via Key Feature Integration in Large Language Models
Seyeon Won and Wooguil Pak (Yeungnam University, Korea (South))

6B-3 Design and Verification of a Query-Aware External Memory Pipeline for Small Language Models
Seowan Kim (Inje University, Korea (South)); Hoansuk Choi and Nam-Hyun Yoo (Kyungnam University, Korea (South)); Sungmoon Park (Inje University, Korea (South)); Jinhong Yang (INJE University, Korea (South))

6B-4 Attribution Techniques for Mitigating Hallucinated Information in RAG Systems: A Survey
Yuqing Zhao, Ziyao Liu, Yongsen Zheng and Kwok-Yan Lam (Nanyang Technological University, Singapore)

6B-5 Using Large Language Models to Predict Crude Oil Price based on Financial Sentiment Analysis
Hind Aldabagh (OLd Dominion University, USA); Xianrong Zheng, Mohammad Najand, Sandeep Kalari and Ravi Mukkamala (Old Dominion University, USA)

Oral Session – 6C : Medical and eHealth I

Chair: Prof. Sang-Chul Kim (Kookmin Univ.) **Feb. 26 (Thu), 09:10~10:30**

6C-1 Adaptive Chirplet Transform-Based Neural Network for Seizure State Detection
Rocklen H Jeong, Nishant Kumar and Steve Mann (University of Toronto, Canada)

6C-2 RCA U-Net with Dynamic Loss Weighting for Automated Crack Segmentation in Structural Health Monitoring
Andrew Prasetyo (Institut Teknologi Sepuluh Nopember & ITS, Indonesia); I Ketut Eddy Purnama and Eko Mulyanto Yuniarno (Institut Teknologi Sepuluh Nopember, Indonesia); Priyo Suprobo (Sepuluh Nopember Institute of Technology, Indonesia); Arief Kurniawan (Institut Teknologi Sepuluh Nopember, Indonesia)

6C-3 Domain-Bridged Visual Adaptation Framework for Clinical Ultrasound Image Understanding
Se-woon Choe (Kumoh National Institute of Technology, Korea (South))

Oral Sessions

6C-4 REMI: A Telemedicine System for Antenatal Care - Development and Feasibility Study
Piyawan Thongploy, Korawat Phonyiam, Pimwadee Chaovalit, Suporn Pongnumkul, Supiya Charoensiriwath and Chayakrit Charoensiriwath (National Electronics and Computer Technology Center, Thailand); Charintip Somprasit (Thammasat University, Thailand)

Oral Session – 6D : Industrial and Automation/Control AI I

Chair: Prof. Dong Seog Han (Kyungpook National Univ.) **Feb. 26 (Thu), 09:10~10:30**

6D-1 Dynamic Operations Conditions of Industrial Gas Turbine Emissions Monitoring: XGBoost-DT-SVM Hybrid Stacked Ensemble Model
Rudy Winarto (Sepuluh Nopember Institute of Technology, Indonesia); Wiwik Anggraeni (Institut Teknologi Sepuluh Nopember, Indonesia); Mauridhi Hery Purnomo (Institut of Technology Sepuluh Nopember, Indonesia)

6D-2 Improving Anomaly Detection Performance in Factory Sound Data through Noise Reduction
Jong Hyuk Lee (Kyunpook National University, Korea (South)); Min Young Kim (Kyungpook National University, Korea (South))

6D-3 A study on the types of sensors for machine anomaly analysis and their effectiveness
Mikiko Sode Tanaka (National Institute of Technology, Niihama College, Japan); Kazuki Ando (Niihama College, Japan)

6D-4 A Study on Design Requirements for Ensuring Cross-Compatibility in Korean Public-Sector AI Systems
NunSol Park (NIA (National Information Society Agency), Korea (South)); Eunju Kim (National Information Society, Korea (South)); Donghee Kim (National Information Society Agency, Korea (South)); Hankyoung Choi and JinKyu Yang (NIA, Korea (South))

Oral Session – 7A : AI Foundation II

Chair: Prof. Taejoon Kim (Chungbuk National Univ.) **Feb. 26 (Thu), 13:30~15:30**

7A-1 Mitigating Global Knowledge Forgetting via Adaptive Decoupled Knowledge Distillation
Hung-Chin Jang and Ping-Hsien Chou (National Chengchi University, Taiwan)

7A-2 Classification of Phonetic Syllables Using Stacked Autoencoder and Characterization via Centroid
Francisco dos Santos Viana (Federal University of Maranhão, Brazil & Federal Institute of Maranhão, Brazil); Carlos Eduardo Nascimento Cajado, Samuel Magalhães Pereira and Alexandre Cesar Muniz De Oliveira (Federal University of Maranhão, Brazil); Carlos Soares (University of Porto, Portugal); Areolino de Almeida, Neto (Federal University of Maranhão, Brazil)

7A-3 Synthetic Graph Data Generation to Mitigate Class Imbalance in Money Laundering Detection
Shahram Ghahremani and Uyen Trang Nguyen (York University, Canada)

Oral Sessions

7A-4 Bias-Corrected Imputation and Metaheuristic Boosting for Multi-Output Prediction
Tidarat Luangrungruang and Gawalee Phatai (Sakon Nakhon Rajabhat University, Thailand)

7A-5 Lightweight Adaptation of BERT for Negation Sentiment Classification
HongMo Tao and Hiroyuki Kamata (Meiji University, Japan)

7A-6 A Study on Training Data Influence for Identifying Inaccurate Instances
Saneyasu Yamaguchi and Shido Hosono (Kogakuin University, Japan)

Oral Session – 7B : Blockchain and Application

Chair: Prof. Phunsak Thiennviboon (Kasetsart Univ.) **Feb. 26 (Thu), 13:30~15:30**

7B-1 PredBlock: An AI-Blockchain Framework for Real-Time Integrity Management in CCS Pipelines
Ihunanya Udodiri Ajakwe, Victor Ikenna Kanu, Simeon Okechukwu Ajakwe and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

7B-2 VeraComm: Verifiable Communication Protocol for AI-Based Drug Screening using Blockchain
Victor Ikenna Kanu, Simeon Okechukwu Ajakwe and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

7B-3 PureChain-Enabled Asymmetric Temporal Knowledge Transfer for Scalable Energy Forecasting
Adah Lubwama Nanteza, Love Allen Chijioke Ahakonye, Dong Seong Kim and Jae Min Lee (Kumoh National Institute of Technology, Korea (South))

7B-4 Semi-Supervised Learning and Blockchain Integration for Transparent Smart Contract Security
Muhammad Sannan Khaliq, Love Allen Chijioke Ahakonye, Jae Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

7B-5 Blockchain meets Artificial Intelligence and Decentralized Storage: An Innovative Architecture for Decentralized Applications
Tajreean Ahmed, Rupam Ghosh and Ahmed Faizul Haque Dhrubo (North South University, Bangladesh); Khushnur Binte Jahangir (United International University, Bangladesh); Mohammad Abdul Qayum (North South University, Bangladesh)

Oral Session – 7C : Medical and eHealth II

Chair: Prof. Yeon Ho Chung (Pukyong National Univ.) **Feb. 26 (Thu), 13:30~15:30**

7C-1 Robust Inspired Detection Scheme Based on Learning Model for Multi-Class Identification in Energy Radiographic Images
Gorrepati Rajani Reddy (Koneru Lakshmaiah Education Foundation, India); Misbah Bibi and DoHyeun Kim (Jeju National University, Korea (South))

Oral Sessions

7C-2 A Pose-estimation Physical movement Training System with User-created Content
Atima Tharatipyakul and Suporn Pongnumkul (National Electronics and Computer Technology Center, Thailand); Dulyawat Wiriyaphong (Suranaree University of Technology, Thailand); Sarunya Kanjanawattana (SUT, Thailand); Gun Bhakdisongkhram (Suranaree University of Technology, Thailand)

7C-3 Federated Speech Encoder Fine-Tuning for Multilingual Cross Site Parkinson's Speech Classification: Performance Fairness Analysis
Shivani Sanjay Kolekar and Jisoo Shin (Chonnam National University, Korea (South)); Haewoon Nam (Hanyang University, Korea (South)); Kyungbaek Kim (Chonnam National University, Korea (South))

7C-4 Lifestyle-Driven CKD Risk Prediction in Diabetes Using AutoGluon
Chih-Hsuan Huang and YuTing Wu (Taipei Medical University, Taiwan); Yen-Hsi Chen (National Tsing Hua University, Taiwan); Te-Chao Fang and Fu-Der Mai (Taipei Medical University, Taiwan)

7C-5 Implementation of Glowworm Swarm Optimization-SVM Method for Predicting Antiproliferative Activity Against MDA-MB-231 Cell Line
Nurfaidzi Ramdhani Arifin (Universitas Telkom, Indonesia); Angel Metanosa Afinda and Isman Kurniawan (Telkom University, Indonesia)

7C-6 Exploring the Role of Transposons in Predicting Antimicrobial Resistance in Tuberculosis and Its Co-infections Using Explainable Machine Learning
Geoffrey A. Solano (University of the Philippines Manila, Philippines)

Oral Session – 7D : Industrial and Automation/Control AI II

Chair: Prof. Yongjin Kwon (Ajou Univ.) **Feb. 26 (Thu), 13:30~15:30**

7D-1 An Industrial IoT-based Feedback System for Collision Prevention in Worksites
Taein Yong, Sieun Kim, Taehoon Lee and Wonhee Cho (DoubleT Co., Ltd., Korea (South)); Hosuk Im (HNT Co., Ltd., Korea (South))

7D-2 Laser Cladding System with Deep Learning Capability
Sheng-Yi Tang, Jie-Ren Shie, Yong-Nong Chang and Yu-Siang Gu (National Formosa University, Taiwan)

7D-3 Improved Discrete Spider Monkey Optimization Using a Dynamic Penalty Function with Partial Constraint Violation Acceptance for Vending Machine Column Optimization Considering Sales and a Replenishment
Riko Hasegawa and Yoshikazu Fukuyama (Meiji University, Japan); Takuya Watanabe (Fuji Electric, Japan); Naoto Ishibashi (Fuji Electric Co., Ltd., Japan); Tatsuya Iizaka (Fuji Electric, Co. Ltd., Japan)

Oral Sessions

7D-4 Sybil Attack Detection in Industrial Internet of Thing Network using Hybrid Model
Adnan Nadeem (Islamic University of Madinah, KSA, Saudi Arabia); Amir Mehmood (Al-Kawthar University, Pakistan); Mohammad Zubair Khan (Taibah University, Medina, KSA, India); Muhammad Ashraf (Federal Urdu University of Arts Science and Technology Pakistan, Pakistan); Syed Saood Zia and Shakir Karim Baksh (Al-Kawthar University, Pakistan); Hani Almooamari (Islamic University of Madinah, Saudi Arabia)

7D-5 Interpretable Deep Reinforcement Learning for Dynamic Truck Dispatching in Open-Pit Mining
Francisco Rosales (ESAN Graduate School of Business, Peru); Angelo Diaz (IMCA, Peru)

7D-6 Know-How's: A Multi-modal Agent System for Converting Manufacturing Videos into Standard Operating Procedures
Jaegwang Sim, Jaemin Yoo, Mumin Chun and Yongjin Kwon (Ajou University, Korea (South))

Oral Session – 8A : AI Foundation III

Chair: Prof. Heejung Yu (Korea Univ.) **Feb. 26 (Thu), 15:40~17:40**

8A-1 Knowledge-Guided Graph Neural Networks for Low-Data Molecular Property Prediction
Yenuli Bimanya Indigahawela Gamage and Banuka Athuraliya (Informatics Institute of Technology, Sri Lanka)

8A-2 PatchCore-Q: Robust On-Device Anomaly Detection via Quantized Feature Compensation
Hyunyup Kwak (Sungkyunkwan University & Samsung Electronics, Korea (South)); Jitae Shin (Sungkyunkwan University, Korea (South))

8A-3 Convergence of Architecture and Machine Learning Product Development Life Cycle
Vijay Joshi and Iver Band (Concora Credit Inc, USA)

8A-4 Deep Learning-Based Calibration for a Two-Stage AVM Framework
Shinjae Kang, Dong Seog Han and Hangu Kim (Kyungpook National University, Korea (South))

8A-5 Round-Level Consensus for Energy-Efficient Federated Learning in Software-Defined Vehicles
Miraculous Udurume, Love Allen Chijioke Ahakonye, Jae Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

8A-6 ChickOut: Deep Learning-Based Poultry Retail and Inventory System with Real-Time Analytics
Fernan Frans Pelobello, Maxine Van Caparas and Jan Kevin Albior Galicia (Ateneo de Manila University, Philippines); Wen-Yaw Chung (Chung Yuan University, Taiwan); Maria Leonora Guico (Ateneo de Manila University, Philippines)

Oral Sessions

Oral Session – 8B : Edge AI and Intelligent Systems

Chair: Prof. Soo-Hyun Park (Kookmin Univ.) **Feb. 26 (Thu), 15:40~17:40**

8B-1 Parameter-Efficient Image Denoising for Noise-Robust Object Detection
Takamichi Miyata (Chiba Institute of Technology, Japan)

8B-2 Improving Flick Input Accuracy via Personalized Region Classification
Tomoya Kikuchi (Kogakuin University, Japan); Takeshi Kamiyama (Nagasaki University, Japan); Masato Oguchi (Ochanomizu University, Japan); Saneyasu Yamaguchi (Kogakuin University, Japan)

8B-3 On-Device AI for Maritime Communication: Trends, Challenges, and a Simulation-Only Case Study
Shrutika Sinha and Soo-Hyun Park (Kookmin University, Korea (South))

8B-4 Privacy by Voice: Modeling Youth Privacy-Protective Behavior in Smart Voice Assistants
Molly Campbell and Ajay K Shrestha (Vancouver Island University, Canada)

8B-5 A Low Complexity Visual Depth Estimation Model for Edge AI Devices
Chen-Hsuan Wen (Yuan Ze University, Taiwan)

8B-6 TRU-Net Based AI Model Implementation by Pure C for Real-time Speech Enhancement
Yonghun Lee and Minjung Kim (Kyungpook National University, Korea (South)); Daejin Park (Kyungpook National University (KNU), Korea (South))

8B-7 Architecture-Aware Neural Compression for TriCore Firmware using Knowledge Distillation
Hyunjoong Lee and Hoseong Kim (Kyungpook National University, Korea (South)); Daejin Park (Kyungpook National University (KNU), Korea (South))

Oral Session – 8C : Medical and eHealth II

Chair: Prof. Geoffrey A. Solano (Univ. of the Philippines, Manila) **Feb. 26 (Thu), 15:40~17:40**

8C-1 Ensemble Enhanced Residual Network Based Non-Contact Blood Pressure Estimation Using CW Radar
Vuong Tri Tiep, Hoang Thi Yen and Van-Phuc Hoang (Le Quy Don Technical University, Vietnam); Nguyen Huu Son (The University of Electro-Communications, Japan); My Anh Chu (Le Quy Don Technical University, Vietnam); Guanghao Sun (The University of Electro-Communications, Japan)

8C-2 Embedding-Only Federated Edge Learning for Privacy-Preserving eHealth
Bharathwaj Vijayakumar, Samyukta Alapati and Sahana Varadaraju (Rowan University, USA)

Oral Sessions

8C-3 Integration of Instagram Social Media Data in Forecasting Dengue Fever Cases Using Hybrid ARIMAX-LSTM
Wiwik Anggraeni and Muhammad Taqi Akmaluddin (Institut Teknologi Sepuluh Nopember, Indonesia); Aparna Kumari (Nirma University, India); Edwin Riksakomara (Institut Teknologi Sepuluh Nopember, Indonesia); Radityo Prasetianto Wibowo (Institut Teknologi Sepuluh Nopmber, Indonesia); Reza Fuad Rachmadi (Institut Teknologi Sepuluh Nopember, Indonesia)

8C-4 Adaptive Temperature DWA: A Flexible Task-Weighting Strategy for Simultaneous Tumor Segmentation and Classification
Muhammad Zaki Mubarak Hariyadi (Universitas Airlangga, Indonesia); Yulius Harjoseputro (Universitas Atma Jaya Yogyakarta, Indonesia); Yung-Yao Chen (National Taiwan University of Science and Technology, Taiwan); Aloysius Bagas Pradipta Irianto (Universitas Atma Jaya Yogyakarta, Indonesia); Warawut Janwittayachai (National Taiwan University of Science and Technology, Taiwan)

8C-5 Early Detection of Parkinson's Disease Using SiamDNN: A Dual Deep Neural Network Approach
Ryan Alturki (Umm Al-Qura University, Saudi Arabia); Mohammad Wedyan (Jordan University of Science and Technology, Jordan); Ahmad Nasayreh (University of Granada, Spain)

8C-6 AI-Based Mandibular Angle Analysis and Device Design for Sedation Airway Support: SafeDoze
Minsuk Park (Chungbuk National University, Korea (South))

8C-7 TexTKAN: Parameter-Efficient Text-Based Depression Detection Using Temporal Kolmogorov-Arnold Networks
Gede Aditra Pradnyana (Universitas Pendidikan Ganesha, Indonesia); Wiwik Anggraeni (Institut Teknologi Sepuluh Nopember, Indonesia); Mauridhi Hery Purnomo (Institut of Technology Sepuluh Nopember, Indonesia)

Oral Session – 8D : Security I

Chair: Prof. Insoo Sohn (Dongguk University) **Feb. 26 (Thu), 15:40~17:40**

8D-1 MagDDAE: Integrating Manifold Learning and Diffusion Purification for Three-Lane API Security
Devina Tirza Nugroho, Frederick Yonathan Ehowu Mendrofa, Frederick Benjamin Widiya and Yohan Muliono (Bina Nusantara University, Indonesia)

8D-2 Voice Watermarking for Authentication and Copyright Protection Using Neural Models
Minh The Quang Tran (RMIT University Vietnam, Vietnam); Nhat Minh Nguyen (Royal Melbourne Institute of Technology (RMIT), Vietnam); Dat Man Nguyen (Royal Melbourne Institute of Technology Vietnam, Vietnam); Sung Jae Lee, Huo-Chong Ling and Linh Duc Tran (RMIT University Vietnam, Vietnam)

8D-3 The Trust Tax of Privacy and Robustness: An Empirical Study Across Vision, NLP, and Tabular ML
Jayachander Reddy Kandakatla (Ford Motor Credit Company & Pixis IT Inc, USA)

Oral Sessions

8D-4 When API Keys Leak: Securing AI Services with Post-Quantum Proof-of-Possession
Sunwoo Lee (Korea Institute of Energy Technology (Kentech), Korea (South)); Hyuk Lim and Seunghyun Yoon (Korea Institute of Energy Technology, Korea (South))

8D-5 PC-CDS: Real-Time Secure Authentication and Intelligent Steering for Hybrid TN-NTN Networks
Abdul Samim, Love Allen Chijioke Ahakonye, Jae Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

8D-6 Blockchain for Data Integrity Against Timestamp Attacks in Digital Twin-Based EV Battery Monitoring
Mitra Pooyandeh (Kyunpook National University, Korea (South)); Dong Seog Han (Kyungpook National University, Korea (South))

Oral Session – 9A : AI Application IV

Chair: Prof. Mikio Hasegawa (Tokyo University of Science) **Feb. 27 (Fri), 09:20~11:00**

9A-1 Deep Multi-Task Learning for Energy Consumption Forecasting of Household Water Heater Usage
Junichiro Niimi (Meijo University, Japan); Takahiro Tsukamoto (Chukyo University, Japan); Makito Takeuchi (Nagoya City University, Japan); Atomu Shibata (Rinnai Corp., Japan)

9A-2 WSN Clustering with Decision Transformer and Dynamic Cluster Head Selection
Homin Oh and Young-June Choi (Ajou University, Korea (South))

9A-3 Implementation and Experimental Evaluation of a Frog-Chorus-Based Autonomous Decentralized Collision Avoidance Method for LoRa Networks
Dai Kojima (Tokyo University of Science, Japan); Hiroyuki Yasuda (The University of Tokyo, Japan); Song-Ju Kim (SOBIN Institute LLC, Japan); Maki Arai (Shibaura Institute of Technology, Japan); Jin Nakazato and Mikio Hasegawa (Tokyo University of Science, Japan)

9A-4 Multi-Armed-Bandit-Based Dynamic Optimization for Coexisting IEEE 802.11ah and IEEE 802.15.4g Networks in Sub-GHz Band
Hiroya Kai (Tokyo University of Science, Japan); Song-Ju Kim (SOBIN Institute LLC, Japan); Maki Arai (Shibaura Institute of Technology, Japan); Jin Nakazato and Mikio Hasegawa (Tokyo University of Science, Japan)

9A-5 Edge-IoT based AI Sensing for Airflow Pattern Detection and Hazard Prediction in Deep Canadian Mining Environments
Williams Paul Nwadiugwu (Laurentian University, Canada & NeXNet Research Lab, Canada); Ashif Ahmed (NeXNet Research Laboratory, Canada); Eugene Ben-Awuah (Laurentian University, Canada)

Oral Sessions

Oral Session – 9B : Robotics

Chair: Prof. Insoo Sohn (Dongguk Univ.) **Feb. 27 (Fri), 09:20~11:00**

9B-1 Zero-Knowledge Proof-based Verification System based on Environmental Sensing for Reliable Operation of AI-Driven Autonomous Robots
Arata Nakajima, Hideaki Miyaji and Hiroshi Yamamoto (Ritsumeikan University, Japan)

9B-2 Design of RSSI-Only UAV Path Planning for Search and Rescue: Greedy, Prudent, and DRQN-Based Algorithms in GPS-Denied Mountains
Jiwoong Jeon, Hyerim Jeon, Jonghyeon Bae, Juyeol Park and Hoki Baek (Kyungpook National University, Korea (South))

9B-3 Towards Vision-based Intersection Navigation: Explainable Insights from Synthetic and Real-World Model Adaptation
Yehan Kodithuwakku (University of Moratuwa, Sri Lanka); Chathuranga Hettiarachchi (University of Moratuwa, Sri Lanka & Nanyang Technological University, Singapore); Sulochana Sooriyaarachchi (University of Moratuwa, Sri Lanka)

9B-4 Wireless Center of Pressure Feedback System for Humanoid Robot Balance Control using ESP32-C3
Muhtadin Muhtadin and Faris Rafi Pramana (Institut Teknologi Sepuluh Nopember, Indonesia); Dion Hayu Fandiantoro (Kumamoto University, Japan & Institut Teknologi Sepuluh Nopember, Indonesia); Moh. Ismarintan Zazuli and Atar Fuady Babgei (Institut Teknologi Sepuluh Nopember, Indonesia)

Oral Session – 9C : Special Session on Super-Intelligent Networking

Chair: Prof. Takeo Fujii (The Univ. of Electro-Communications) **Feb. 27 (Fri), 09:20~11:00**

9C-1 ML-Assisted Empirical Modeling with Blockage-Aware Attenuation for Sub-6GHz Private 5G Using 3D City Maps and Satellite Imagery
Takuma Matsumoto and Takeo Fujii (The University of Electro-Communications, Japan)

9C-2 Indirect Notification of Interference Status Through Resource Mapping in LoRaWAN
Yuto Hayasaka (University of Electro-Communications, Japan); Koichi Adachi (Keio University, Japan)

9C-3 Frequency Spectrum Sharing of Time Scheduling and Adaptive Beam Forming for Local 5G System
Osamu Takyu, Haruka Sakamoto, Takeru Nanjo and Hayato Mitsuhashi (Shinshu University, Japan); Kohei Akimoto (Akita Prefectural University, Japan)

9C-4 Flow-Level Required Throughput and 5QI Driven Adaptive TDD Slot Allocation Method
Musashi Hayashi (Kyushu Institute of Technology, Japan); Yuzo Taenaka (Nara Institute of Science and Technology, Japan); Yi-Wei Ma (National Taiwan University of Science and Technology, Taiwan); Kazuya Tsukamoto (Kyushu Institute of Technology, Japan)

Oral Sessions

9C-5 Two-Stage Beam Index Estimation Method Using Spectrum Sensing in Local 5G
Hayato Mitsuhashi and Osamu Takyu (Shinshu University, Japan); Kohei Akimoto (Akita Prefectural University, Japan)

Oral Session – 9D : Security II

Chair: Dr. Mitra Pooyandeh (Kyungpook National Univ.) **Feb. 27 (Fri), 09:20~11:00**

9D-1 LSTM-Driven Multi-Class Intrusion Detection in IoMT Networks with Chi-Square Feature Selection
Kadir Ileri (Bandirma Onyedi Eylul University, Turkey)

9D-2 Enhancing Email Security: Adaptive Detection Systems for Sophisticated Threat
Firas Abdel Nour and Makram Hatoum (AOU, Lebanon); Ali El Attar (Arab Open University (AOU), Lebanon); Mohammed Ibrahim El-hajj (Arab Open University - Lebanon (AOU), Lebanon); Maya Dawood (Lebanese University and Lille1 University, Lebanon); Ahmad B. Mikati (Arab Open University-Lebanon, Lebanon)

9D-3 MT-MO: Efficient and Robust Non-Profiled Side-Channel Analysis Using Multitask Learning
(Van-Phuc Hoang, Huy-Thanh Le, Ngoc-Tuan Do, Xuan Nam Tran (Le Quy Don Technical University, Vietnam)

9D-4 A Hybrid AI-Graph Engine for the All-in-One Automated Security Operations Center (SOC)
Ghaylan Muhammad Fatih, Ghazi Akmal Fauzan, Abdillah Ahmad and Jong UK Choi (MarkAny)

9D-5 Generation of High-Entropy, Bandwidth-Enhanced Chaos in Semiconductor Lasers for Tbit/s Random Bit Generation
Chin-Hao Tseng and Atsushi Uchida (Saitama University, Japan); Sheng-Kwang Hwang (National Cheng Kung University, Taiwan)

Oral Session – 9E : Smart Agriculture

Chair: Dr. Hyeon-O Choe (Sunchon National Univ.) **Feb. 27 (Fri), 09:20~11:00**

9E-1 Comparative Analysis of AI Models for Zone-Level Microclimate Prediction in a Partially Sealed Greenhouse
Hyuntae Shin, Hyeonchang Jeong and Hyun Yoe (Sunchon National University, Korea (South))

9E-2 Design of a Multimodal Fusion Architecture for Anomaly Detection in Smart Greenhouse Environments
Jeong JooWon, Kiwoong Song and Hyun Yoe (Sunchon National University, Korea (South))

Oral Sessions

9E-3 A Data-Driven Machine Learning Study on Environmental Factors Affecting Paprika Growth Across Developmental Stages
Gwang Hoon Jung and Hyunrok Seo (Sunchon National University, Korea (South)); Meong Hun Lee (SunChon National University, Korea (South))

9E-4 Designing a Smartfarm Energy Digital Twin Using Multi-Year Power Consumption
Hyeono Choe and Hwa Yeong Shin (Sunchon National University, Korea (South)); Meong Hun Lee (SunChon National University, Korea (South))

9E-5 Analysis of the Impact of Greenhouse Environmental Variability on Growth Uniformity in Melons
Kwangho Yang and Uhyeok Jung (Sunchon National University, Korea (South)); Meong Hun Lee (SunChon National University, Korea (South))

9E-6 A Study on Super-Resolution Techniques for Improving Tomato Disease Image Classification Performance
Kim Hyeonwoo and Hyun Yoe (Sunchon National University, Korea (South))

Poster Session

Poster Session – P1 : AI Systems and Applications

Chair: Dr. Mohisn Ali (Hanyang Univ.) Feb. 26 (Thu), 09:10~10:30

P1-1 SDN and BBR Based Friendly Congestion Control for MPTCP
Ganlin Tang and Sang-Chul Kim (Kookmin University, Korea (South))

P1-2 The Analysis of Next-Generation HPC Architecture Based on CXL through RAMSES-HR5 Performance Optimization
Hyun Mi Jung (KISTI, Korea (South)); Hyunjo Lee and Cheol-Joo Chae (Korea National University of Agriculture and Fisheries, Korea (South))

P1-3 Edge-AI Detection with Blockchain in Military IoT
Sium Bin Noor, Mohtasin Golam, Subroto Kumar Ghosh, Jae-Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

P1-4 CROSS: Contrastive Representation Learning for Optimal Source-to-Source Transfer Learning
Seunghwan Song (Korea National University of Transportation, Korea (South)); Joo-Hyuk Oh (Samsung Electronics Company Ltd., Korea (South)); Jun-Geol Baek (Korea University, Korea (South))

P1-5 Trust Framework for AI-Based Carbon Reduction Activity Certification
Junhye Baek, Jae Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

P1-6 Delay Tolerant Precaching Scheme based on Proximal Policy Optimization in Content-Centric Vehicular Networks
Jeongtak Na (Chungbuk National University, Korea (South)); Jongpil Youn and Irina Em (Chungbuk national university, Korea (South)); Euisin Lee (Chungbuk National University, Korea (South)); Youngju Nam (Kunsan National University, Korea (South))

P1-7 Deep Reinforcement Learning Approach with Digital Twin Toward Smarter Warehouse
Kanita Jerin Tanha, Md Mahinur Alam and Taesoo Jun (Kumoh National Institute of Technology, Korea (South))

P1-8 Data-Level Parameter Sampling for Channel-Adaptive Semantic Communications
Chan Hyung Kim, Geonhui Lee and Minju Chae (Hankyong National University, Korea (South)); Seung-Chan Lim (Hongik University, Korea (South))

P1-9 Event-Aware Relabeling for Addressing Future Leakage in End-to-End Autonomous Driving
Haechul Chang (Korea Advanced Institute of Science & Technology, Korea (South)); Siewoo Kim, Adeeb M. Islam, Seong-Jun Kim and Seung-Hyun Kong (Korea Advanced Institute of Science and Technology, Korea (South))

P1-10 Defending Against Prompt Injection Attacks Using Automatic System Prompt Engineering
Hyeokjin Kwon and Wooguil Pak (Yeungnam University, Korea (South))

Poster Session

P1-11 Empirical Analysis of Text Segmentation for Statute-Level Retrieval in Regulatory RAG Pipelines
Beomseok Kim (Inje University, Korea (South)); Hoansuk Choi and Nam-Hyun Yoo (Kyungnam University, Korea (South)); Jinhong Yang (INJE University, Korea (South))

P1-12 Layer-aware TDNN: Speaker Recognition Using Multi-Layer Features from Pre-Trained Models
Jin Sob Kim, Hyun Joon Park, Wooseok Shin and Juan Yun (Korea University, Korea (South)); SungWon Han (University of Korea, Korea (South))

P1-13 Empirical Analysis of Parameter-Efficient Fine-Tuning Strategies for Domain-Specific Time-Series Anomaly Detection
Seoyeon Kim and Yunho Jeon (Hanbat National University, Korea (South))

P1-14 DQN-based Resource Allocation and Offloading (DQN-RAO) Algorithm for Multi-User Multi-Server MEC Network
Hoa Tran-Dang (Kumoh National Institute of Technology, Korea (South) & IT Convergence Engineering, Korea (South)); Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

P1-15 Conditional Implicit Neural Representations via Cross-Attention for Multivariate Time-Series Imputation
Shin Eunho, Janghun Hyeon and Yunho Jeon (Hanbat National University, Korea (South))

P1-16 FIGUR: An AI-Driven Collaborative Robotic System for Expressive Portrait Generation
Hojeong Kim and Jinho Son (Sogang University, Korea (South))

P1-17 Designing Distillation Losses for Effective Knowledge Transfer from SupCon Representations
Yujin Lee (Hanbat National University, Korea (South)); Janghun Hyeon (Hanbat National University, Korea (South), Korea (South)); Yunho Jeon (Hanbat National University, Korea (South))

P1-18 PureCertificate: A Privacy-Preserving Small and Local VLM Framework for Secure Certificate Analysis
Odinachi Udemezuo Nwankwo, Hee-Jae Shin, Victor Ikenna Kanu, Chigozie Athanasius Nnadiekwe and Ihunanya Udodiri Ajakwe (Kumoh National Institute of Technology, Korea (South)); Jonathan Mukisa Kalibbala (Kumoh National Institute of Technology, Gumi, Korea (South)); Adah Lubwama Nanteza, Dong Seong Kim and Jae Min Lee (Kumoh National Institute of Technology, Korea (South))

P1-19 Adaptive Channel Switching Algorithm for Enhanced Resilience in Hybrid OCC-RF Drone Systems
Yukang Kim (Ajou University, Korea (South)); Ki-Hyung Kim (Ajou University, Korea (South) & AJ, Korea (South))

P1-20 From Script to Delivery: An AI-Based Presentation Coaching System
Beom-gyu Choi, Jeong-min Park, Tae-i Lee, Hoyoung Kwak and Joon-Min Gil (Jeju National University, Korea (South))

Poster Session

Poster Session – P2 : Communication and Sensing

Chair: Prof. Jingon Joung (Chung-Ang Univ.) Feb. 26 (Thu), 11:30-12:30

P2-1 Joint Beamforming Design under Target Reflected Interference in RIS-Assisted Bi-Static ISAC System
Mohsin Ali (Hanyang University, Korea (South)); Abdulahi Abiodun Badrudeen (Hanyang University, Korea (South) & Federal Polytechnic Ede, Nigeria); Seungwoo Baek, Yekaterina Kim and Sunwoo Kim (Hanyang University, Korea (South))

P2-2 Enhancing Energy Efficiency in STAR-RIS-Assisted Massive MIMO-RSMA Networks
Ridho Hendra Yoga Perdana (Chungbuk National University, Korea (South)); Thong Nhat Tran (Hongik University, Korea (South)); Wonseok Lee, Young Jeon and Taejoon Kim (Chungbuk National University, Korea (South))

P2-3 OTFS-based Delay-Doppler Detection Framework for Passive Coherent Location
Ji-Hyeon Kim, Min-Wook Jeon and Hyoung-Nam Kim (Pusan National University, Korea (South))

P2-4 SLAM System for Sparse Feature Environments Using Marker Matching Evaluation
Byungwoo Ye, Junseok Oh and Min Young Kim (Kyungpook National University, Korea (South))

P2-5 A PDR-based Map Matching Method for Estimating the Movement Path of Smartwatch Wearers
Jae Uk Kwon and Seong Yun Cho (Kyungil University, Korea (South))

P2-6 Cross-RIS-Aware Phase Design for Multi-cell Multi-RIS Networks
Sungyun Oh and Heejung Yu (Korea University, Korea (South))

P2-7 Implementation of O-RAN SMO and AI/ML Framework for Closed-loop Control via O1 Interface
Juhee Shin, Hyun-Min Yoo, Hoseong Choi, Hyuk Sun Kwon and Een-Kee Hong (Kyunghee University, Korea (South))

P2-8 Tamperproof Quantum-Inspired Hierarchical Federated Learning for Side-Channel Security in 6G Resource-Constrained V2X Communications
Simeon Okechukwu Ajakwe and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

P2-9 A Coarse-to-Fine Approach for Estimating FHSS Parameters of UAVs
Soon-Young Kwon, Nayun Park and Hyoung-Nam Kim (Pusan National University, Korea (South))

P2-10 Selection of PRACH Detection Interval for 5G NR-Based LEO NTN
Min-gyu Kim and Yeongchae Noh (Korea Maritime and Ocean University, Korea (South)); Seokhyeon No (National Korea Maritime & Ocean University, Korea (South)); Jeongchang Kim (Korea Maritime and Ocean University, Korea (South)); Pansoo Kim (ETRI, Korea (South)); Jae-young Lee (Electronics and Telecommunications Research Institute (ETRI), Korea (South))

Poster Session

P2-11 Deep Learning-based Range-Doppler Map Reconstruction for 1-bit Quantized PMCW Systems
Hyun Joung Lee, Seonmin Cho and Seongwook Lee (Chung-Ang University, Korea (South))

P2-12 AI-Centric Energy-Efficient Cell-Free MIMO Networks: Research Trends and Future Directions
Minji Lee, Seungcheol Oh and Joongheon Kim (Korea University, Korea (South)); Soohyun Park (Sookmyung Women's University, Korea (South))

P2-13 GNN-Based Multi-Agent RL for Dynamic AP-CPU Assignment in Cell-Free Massive MIMO
Mahnoor Ajmal, Joohwan Park and Dongkyun Kim (Kyungpook National University, Korea (South))

P2-14 Deep Learning-based Nonlinearity Compensation for Ghost Target Suppression in PMCW Radar Systems
Hyunbin Kim, Soyoon Park and Seongwook Lee (Chung-Ang University, Korea (South))

P2-15 Decision Transformer for Dynamic Radio Resource Management in Network Slicing
Harun Ur Rashid and Seong Ho Jeong (Hankuk University of Foreign Studies, Korea (South))

P2-16 AI-Enhanced UWB-Cartographer SLAM for Drift-Accumulating Indoor Environments
Oyasi Zaki Ananta and Dae-Ho Kim (Chosun University, Korea (South)); Jae-Young Pyun (Chosun University & Dept. of Information and Communication Engineering, Korea (South))

P2-17 Radar SINR Enhancement in Active RIS-Assisted ISAC Systems via Movable Antenna Optimization
Seungseok Sin (Chonnam National University, Korea (South)); Insik Cho (Chonnam University, Korea (South)); Kyunam Kim (Alps Electric Korea Company Limited, Korea (South)); Huaping Liu (Oregon State University, USA); Sangmi Moon (Korea Nazarene University, Korea (South)); Intae Hwang (Chonnam National University, Korea (South))

P2-18 A Probabilistic LiDAR-Inertial SLAM Framework Considering Uncertainty of Deep Learning-based Registration
DaeGeun Kang and Dong Seog Han (Kyungpook National University, Korea (South))

Poster Session

Poster Session – P3 : Information and Communication Technology

Chair: Dr. Mitra Pooyandeh (Kyungpook National Univ.) **Feb. 26 (Thu), 13:30~15:30**

P3-1 Bi-LSTM based LIB RUL prediction
Haejun Kim, Kibum Cheon and Jongho Shin (Chungbuk National University, Korea (South))

P3-2 Hierarchical 6D Pose Estimation Strategy for Mobile Manipulator
Hyeonwook Song and YangJin An (Hanyang University, Korea (South)); Chang Mook Kang (Hanyang.ac.kr, Korea (South))

P3-3 Machine-learning assisted nm-scale thin film prediction with Hyperspectral imaging system
Sungjae Park and Dahye Kim (Korea Electronics Technology Institute, Korea (South)); Yong-Hoon Kim (Sungkyunkwan University, Korea (South)); Jae Won Shim (Korea University, Korea (South)); Kyoungwon Park (Korea Electronics Technology Institute, Korea (South))

P3-4 Reliable GPR-based SOH Estimation using Partial Charging Data
Kibum Cheon, Haejun Kim and Jongho Shin (Chungbuk National University, Korea (South))

P3-5 Multi-Robot SLAM System using Feature Matching for Accurate Mapping
Do Gyeom Kim, Junseok Oh and Min Young Kim (Kyungpook National University, Korea (South))

P3-6 A Study on Deep Learning-Based Sampling Rate Estimation of Drone Signals
YeCheol Lee (Korea Maritime and Ocean University, Korea (South)); Chaehui Back (Korea Maritime & Ocean University, Korea (South)); Jeongchang Kim (Korea Maritime and Ocean University, Korea (South))

P3-7 Dashcam-Based Ego-Vehicle Speed Estimation via Lane-Aware Spatiotemporal Learning
Woong-Chan Byun (Korea Advanced Institute of Science & Technology, Korea (South)); Seung-Hyun Song and Chan-Bin Lim (Korea Advanced Institute of Science and Technology (KAIST), Korea (South)); Donghee Paek and Seung-Hyun Kong (Korea Advanced Institute of Science and Technology, Korea (South))

P3-8 Automated RESTful API Sequence Construction with Cross-Document Inconsistencies
Seokwon Oh and Taekyoung Ted Kwon (Seoul National University, Korea (South))

P3-9 Intersection Flood Detection Using a Grid-Based Two-Stage Classifier
Jang Woon Baek (ETRI, Korea (South)); Jinhong Kim (Electronics and Telecommunications Research Institute (ETRI), Korea (South)); Kwangju Kim (ETRI, Korea (South)); Yun-Won Choi (Electronics & Telecommunications Research Institute, Korea (South))

P3-10 Deep Reinforcement Learning-based Mobile Robot Navigation Using Truncated Quantile Critics
Sang Uk Bae (Kyungpook University, Korea (South) & Kyungpook National University, Korea (South)); Dong Seog Han (Kyungpook National University, Korea (South))

Poster Session

P3-11 Multi-Scale Convolutional Reconstruction Defense Against Adversarial and Real-World Corruptions in Plant Disease Recognition
Md ilias Bappi, Urusha Shakhakarmi, Jisoo Shin and Kyungbaek Kim (Chonnam National University, Korea (South))

P3-12 CAUNet: Cross-Attention UNet for Image Steganography
Wei Bingxin and Haewoon Nam (Hanyang University, Korea (South))

P3-13 On Representation Redundancy and Disentanglement in Deep Reinforcement Learning for Robot Navigation
Zhiyuan Nan (Hanyang University, Korea (South)); Yifang Shi (Hangzhou Dianzi University, China); Haewoon Nam (Hanyang University, Korea (South))

P3-14 Adaptive Split Federated Learning for Network-Driven Cut Selection in Vehicular Edge Intelligence
Youngjoon Yang (Kyungpook National University, Korea (South) & IT College, Korea (South)); Sunghyun Kim, Chaehyeon Kim and Dongkyun Kim (Kyungpook National University, Korea (South))

P3-15 Development of Standards for Building Energy Efficiency Using AI
Changhoon Lee, Jong-Cheon Son and Jiwon Yum (Korea Smart Grid Institute, Korea (South))

P3-16 CardioHARNet: A Lightweight Hybrid Deep Model Using Raw IMU Signals for Human Activity Recognition
Morsheda Akter and Junyoung Son (Pusan National University, Korea (South))

P3-17 A Dual-Branch Network for Classifying Pulmonary Disease Using Flow-Volume Loops
Jaeun Kim and Hongjun Kim (Daejeon University, Korea (South))

P3-18 Pose360: Metric-Scale Visual Odometry by Grounding Learned Features with LiDAR depth
Kemal Mudie Tosora (University of Science and Technology, Korea (South)); Seher Kanwal (University of Science and Technology and ETRI, Korea (South)); Seung-Ik Lee (Electronics and Telecommunications Research Institute, Korea (South))

P3-19 Flow Matching Integrated Decision Transformer for Offline Reinforcement Learning
Asel Nurlanbek kyzy, Chang-Hun Ji, Min-Jun Kim and Youn-Hee Han (Korea University of Technology and Education, Korea (South))

P3-20 Fine-Tuning EfficientNet Feature Extraction for Efficiency in Image Retrieval Applications
Ghazal Saadloonia (Chosun University, Korea (South)); Ijaz Ahmad (Korea University, Korea (South)); Seokjoo Shin (Chosun University, Korea (South))

Poster Session

Poster Session – P4 : Secure and Trusted System

Chair: Dr. Abdulahi Abiodun Badrudeen (Hanyang Univ.) **Feb. 26 (Thu), 15:40~17:40**

P4-1 Quantum-Infused Deep Reinforcement Learning for Intrusion Detection in Surveillance Autonomous Vehicles
Collins Izuchukwu Okafor, Love Allen Chijioke Ahakonye, Dong Seong Kim and Jae Min Lee (Kumoh National Institute of Technology, Korea (South))

P4-2 Secure Federated Learning for Real-Time Cyber Threat Detection in EV Charging Infrastructures
Hamza Ibrahim, Love Allen Chijioke Ahakonye, Jae Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

P4-3 A Generalizable Framework for Print Defect Detection using Frequency Filtering and Data-Driven Feature Selection
WonWoo No (Korea Institute of Industrial Technology, Korea (South)); Hyunchul Tae (KITECH, Korea (South))

P4-4 Hybrid Blockchain-Assisted Federated Learning Intrusion Detection System for DoS Attacks in UAV Sensor Network
Odinachi Udemezuo Nwankwo, Simeon Okechukwu Ajakwe, Dong Seong Kim and Jae-Min Lee (Kumoh National Institute of Technology, Korea (South))

P4-5 RV-FedPRS: Rare-Variant-Aware Framework For Handling Data Heterogeneity For Federated Polygenic Risk Score
Josiah Isong, Simeon Okechukwu Ajakwe and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

P4-6 Energy-Aware Client Participation for Federated Intrusion Detection in IoT Networks
Miracle Udurume, Vladimir V. Shakhov and Insoo Koo (University of Ulsan, Korea (South))

P4-7 PS-CAMM: A Crypto-Agility Maturity Model for Real-Time Substation Automation
Sunwoo Lee (Korea Institute of Energy Technology (Kentech), Korea (South)); Woo-Hyun Choi (Korea Institute of Energy Technology (KENTECH), Korea (South)); Hyuk Lim and Seunghyun Yoon (Korea Institute of Energy Technology, Korea (South))

P4-8 Deep Learning-based PureChain-backed Robust Intrusion Detection System for Industrial IoT
Mahbuba Iasmin Sumona (Kumoh National Institute of Technology, Korea (South)); Esmot Ara Tuli (Kumoh National Institute of Technology & Networked Systems Lab, Korea (South)); Mehedi Hasan, Dong Seong Kim and Jae-Min Lee (Kumoh National Institute of Technology, Korea (South))

P4-9 A PureChain-Protected AI-Based Misbehaviour Detection System for IoV
Mehedi Hasan (Kumoh National Institute of Technology, Korea (South)); Esmot Ara Tuli (Kumoh National Institute of Technology & Networked Systems Lab, Korea (South)); Mahbuba Iasmin Sumona, Jae-Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

Poster Session

P4-10 Adversarial Robustness Analysis of Deep Learning-Based Automatic Modulation Classification in Wireless Communication
Sunjun Hwang, Eunho Choi and Hwang Dohyun (Yonsei University, Korea (South))

P4-11 ClaimGuard: A Blockchain-Backed Access Control Gateway for Privacy-Preservation in Auto-Insurance Claims
Anthony Uchenna Eneh, Love Allen Chijioke Ahakonye, Jae Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

P4-12 Asynchronous Blockchain Recording for Chain-of-Thought Tracing in Small Language Models
Sungmoon Park and Seowan Kim (Inje University, Korea (South)); Hoansuk Choi and Nam-Hyun Yoo (Kyungnam University, Korea (South)); Jinhong Yang (INJE University, Korea (South))

P4-13 Enhancing Large Vision-Language Models for Multimodal Defect Detection via SFT-GRPO Reinforcement Learning
Hung Viet Nguyen (Inje University, Korea (South)); Hyojin Park (Gyeongnam Intelligence Innovation Center (GIIC) Kyungnam University); NamHyun Yoo (Kyungnam University Changwon); Jinhong Yang (INJE University, Korea (South))

P4-14 Integrating XAI and Blockchain to Enhance Security and Resilience in Industrial Operations
Love Allen Chijioke Ahakonye and Hamza Ibrahim (Kumoh National Institute of Technology, Korea (South)); Cosmas Ifeanyi Nwakanma (West Virginia University, USA); Jae Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

P4-15 AttentionChain: Self-Attention DL Model with Blockchain Logging for Intrusion Detection in IoMT
Subroto Kumar Ghosh, Mohtasin Golam, Sium Bin Noor, Jae-Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

P4-16 HCAPO: Transformer-Based Adaptive Policy Orchestration for Hybrid-Cloud Security
Geonmin Kim, Yejin Kim, Taerim Kim and Kyungbaek Kim (Chonnam National University, Korea (South))

P4-17 AIDT-Chain: AI Enabled DT Framework with Blockchain-Based Security for Industrial IoT
Heui kyeong Yang, Sium Bin Noor, Jae-Min Lee and Dong Seong Kim (Kumoh National Institute of Technology, Korea (South))

P4-18 A Local Differential Privacy-Enabled Blockchain System for Anonymous IoT Data Reporting and Integrity Verification
Jung-Hyun Woo (Sang-Ji University, Korea (South)); Byung-Suk Seo and Kwangman Ko (Sangji University, Korea (South))

Venue

Conference Venue

Building #2, Kagurazaka Campus, Tokyo University of Science, Tokyo, Japan
Address: 1-3 Kagurazaka, Shinjuku-ku, Tokyo 162-8601 Japan

◈ Directions to the Venue

Option A: Tokyo Metro (Iidabashi Station)
1. Exit Iidabashi Subway Station at Exit B3.
2. Walk to Building #2 (a few minutes).
3. Proceed to the 1st floor for registration.

Option A: JR (Iidabashi Station):
(JR Sobu Line)
1. Exit JR Iidabashi Subway Station at the West Gate.
2. Walk to the right along the street; the university building will appear on your left; continue to Building #2 (about 5 minutes).
3. Proceed to the 1st floor for registration.

Lunch

University Cafeteria, at the 2nd Floor of Building #8, Kagurazaka Campus, Tokyo University of Science

Banquet Hotel

Hotel Metropolitan Edmont Tokyo
hhttps://edmont-tokyo.hotel-metropolitan.com/
Address: 3 Chome-10-8 Iidabashi, Chiyoda City, Tokyo 102-8130 Japan

Travel Information

Tokyo is Japan's capital and the world's most populous metropolis. It is also one of Japan's 47 prefectures, consisting of 23 central city wards and multiple cities, towns and villages west of the city center. Prior to 1868, Tokyo was known as Edo. Previously a small castle town, Edo became Japan's political center in 1603 when Tokugawa Ieyasu established his feudal government there. A few decades later, Edo had grown into one of the world's largest cities. With the Meiji Restoration of 1868, the emperor and capital moved from Kyoto to Edo, which was renamed Tokyo ("Eastern Capital"). Large parts of Tokyo were destroyed in the Great Kanto Earthquake of 1923 and the air raids of 1945.

Today, Tokyo offers a seemingly unlimited choice of shopping, entertainment, culture and dining to its visitors. The city's history can be appreciated in districts such as Asakusa and in many excellent museums, historic temples and gardens. Contrary to common perception, Tokyo also offers a number of attractive green spaces in the city center and within relatively short train rides at its outskirts.

February in Tokyo offers crisp, cold, but mostly dry weather, ideal for bundling up and enjoying fewer crowds, plum blossoms (late Feb), winter illuminations, Setsubun festivals (bean throwing!), hearty food like hot pots, and Valentine's treats, with temperatures averaging 3-10°C (37-50°F) requiring layers, scarves, and gloves, making it a great, authentic time to see local life and seasonal events without peak tourist rush.

Visit Tokyo – The Official Travel Guide of Tokyo, GO TOKYO:
https://www.gotokyo.org/en/index.html

Best Things to Do and See in Tokyo in February:
https://www.gotokyo.org/en/story/guide/february/index.html

Tokyo: All You Must Know Before You Go (2025):
https://www.tripadvisor.com/Tourism-g298184-Tokyo_Tokyo_Prefecture_Kanto-Vacations.html

Your essential guide to visiting Tokyo, Japan:
https://www.nationalgeographic.com/travel/article/tokyo-essential-travel-guide

Tokyo Travel Guide: What to Do, Eat and Where to Stay:
https://www.nytimes.com/interactive/2025/travel/tokyo-japan-guide.html

The Amazing City of Tokyo – Things to Do & Travel Guide:
https://itravelforthestars.com/tokyo-travel-guide/

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ICAIIC 2026

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Final Program