



**KOREAN SOCIETY FOR INTERNET INFORMATION**

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# **The 20<sup>th</sup> Asia Pacific International Conference on Information Science and Technology (APIC-IST 2025)**

**July 06-09, 2025, SAii Laguna Resorts, Phuket, Thailand**  
<http://www.apicist.org>

## **Conference Program**

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**| Organized by |**

**Korean Society for Internet Information (KSII)**



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## Message from the Honorary Chair

I express my warm heartfelt welcome to all of attendants of the 20<sup>th</sup> Asia Pacific International Conference on Information Science and Technology (APIC-IST 2025) that will be held on July 06~09, 2025 in SAii Laguna Resorts, Phuket, Thailand.

I deeply appreciate all contributors for submitting papers, chairing sessions, and reviewing papers. And I must thank for the support we received from many companies.



Over the past 25 years, KSII (Korea Society for Internet Information) has increased its academic impact and influence in the area of Information Science, Computer Engineering and Internet Technology both worldwide and nationwide through this international conference and its SCIE-indexed journal, the *KSII Transactions on Internet and Information Systems* (TIIS).

As many of you have witnessed, APIC-IST is one of important International Conferences which KSII have provide annually. The amount of interest towards the internet is never decreasing among both the international academic and practitioners' communities. Topics covered in APIC 2025 truly represent the comprehensiveness of this conference. We are sure that APIC-IST 2025 will provide you with a wealth of information and many opportunities for future discussion.

Many people have worked hard to make APIC-IST 2025 successful. A variety of conference arrangements and special events as well as well organized program have been prepared by the Conference Chair, Prof. Chang Gyoong Lim (Chonnam National University, ROK) and Program Chair Dr. Thanh Tam Nguyen (Griffith University, Australia). I also express my special thanks to the Keynote Speaker, Dr. Jun Hyung Jo, an professor at Griffith University and President, Australian Robotics Association. In addition, my special thanks go to Organizing Committee members and Program Committee members.

Last but not least, I would like to thank all authors and speakers again for their valuable research papers and efforts to make the 20<sup>th</sup> APIC-IST 2025 a success! I wish a great success in their future endeavor and look forward to meeting you all again at ICONI 2025 that will be held in December 2025.

**Dr. Dongkyoo Shin**

**Honorary Chair of APIC-IST 2025**

# *Message from the Conference Chair*

It is with great pleasure that I welcome you to the 20th Asia Pacific International Conference on Information Science and Technology (APIC-IST 2025), taking place from July 06 to 09, 2025, at SAIi Laguna Resorts in the beautiful city of Phuket, Thailand. APIC-IST is an annual conference organized by Korean Society for Internet Information (KSII), providing an open forum for researchers, engineers, policymakers, and service providers in the field of Information Science and Technology (ICT).

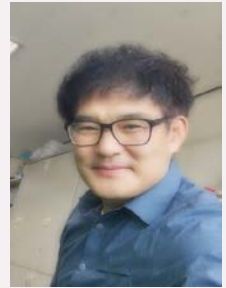
APIC-IST has a long-standing tradition of bringing together a diverse group of experts from around the world to share their latest research findings and innovations. This year's conference will continue this legacy by offering a platform for insightful discussions, knowledge exchange, and networking opportunities among professionals dedicated to advancing the field of ICT.

Over the years, APIC-IST has grown into a highly respected event, attracting numerous esteemed researchers who gather to present and discuss their valuable research findings. APIC-IST 2025 will feature a comprehensive program including one invited talk, 10 sessions, and a special workshop, all designed to present the latest advancements in various research fields of ICT.

I extend my deepest gratitude to all the authors and speakers for their valuable contributions and for sharing their significant research achievements. Your dedication and hard work are what make this conference a success. We are confident that this year's event will be no exception, providing valuable insights and fostering collaborations that will drive future innovations.

Phuket, our host city, is one of Thailand's most beautiful and historically rich destinations. I hope all participants will take this opportunity to explore and experience the unique charm and hospitality of Phuket while engaging in fruitful academic exchanges. From its scenic landscapes to its cultural landmarks, Phuket offers an unforgettable backdrop for this prestigious conference.

Thank you, and I look forward to seeing you in Phuket for APIC-IST 2025!



**Dr. Chang Gyoong Lim**  
**Chonnam National**  
**University**  
**Republic of Korea**

**Dr. Chang Gyoong Lim**  
**Conference Chair of APIC-IST 2025**

# *Message from the Program Chairs*

Information Science and Technology (APIC-IST 2025). The APIC-IST 2025 will be held in Phuket, Thailand on July 06-09, 2025.

APIC-IST is one of the premier conferences in the Asia Pacific region. The hosting organization (KSII) is one of the largest ICT related academic societies in Korea.

Over the past 20 years, APIC-IST has grown to be one of the major international conferences in the field of Information Science and Technology.

APIC-IST aims to provide a high-quality forum for researchers and practitioners to share research findings, practices and ideas on key issues in ICT-related technologies, services, and administrations. The APIC-IST 2025 Program Committee organizes 15 tracks featuring presentations of completed research papers, research-in-progress papers, panel discussions, and posters.

We greatly appreciate the talents, dedication and time of many reviewers from USA, Australia, Indonesia, Malaysia, Ireland, Ukraine, Serbia, Singapore and Republic of Korea. We would like to express special gratitude and appreciation to Dr. Dongkyoo Shin, Dr. Chang Gyoon Lim and session chairs.

All submitted papers have gone through a fair paper review process and 73 excellent papers will be presented at APIC-IST 2025. We would like to thank all the authors and speakers for submitting and presenting their valuable research works at APIC-IST 2025.



**Dr. Thanh Tam Nguyen**  
**Griffith University,**  
**Australia**

**Dr. Thanh Tam Nguyen**  
**Program Chair of APIC-IST 2025**

# Keynote Speaker

**Dr. Jun Hyung Jo**

**Griffith University, School of Information Technology,  
Queensland Australia  
Chair, International Robot Olympiad Committee  
President, Australian Robotics Association  
Director, Griffith Robotics Lab.**



**Title: Harnessing AI and Data Analytics for Real-Time Environmental Monitoring**

## **Abstract:**

This seminar introduces an integrated AI framework for real-time environmental monitoring, combining Machine Learning, Symbolic AI, Causal Inference, and Digital Twin technology. By leveraging satellite data and advanced remote sensing technologies, alongside knowledge graphs, we create predictive, explainable, and ethically responsible systems for disaster detection and environmental management.

The speaker will also introduce several research and industrial projects conducted with governments and industries in the space and mining sectors, showcasing real-world applications such as bushfire monitoring, flood damage estimation, water reservoir volume measurement, methane emission tracking, and crocodile monitoring.

## **Short Biography:**

Associate Professor Jun Jo earned his PhD from the University of Sydney in 1994, where his research focused on Artificial Intelligence, particularly in symbolic reasoning and knowledge-based systems. As part of his PhD, he developed an autonomous design system called EDGE. Following his doctorate, Dr. Jo served as a Postdoctoral Research Fellow at the Key Centre of Design Computing at the University of Sydney before joining Griffith University in 1996.

Dr. Jo has led numerous research projects across diverse fields, applying data analysis with satellite, IoT, and drone data to areas such as bushfire detection, medical image analysis, robotics, UAVs, and eLearning. He has published over 150 refereed papers, and his research team explores cutting-edge AI technologies, including advanced machine learning models such as transformers and LLMs, as well as symbolic reasoning techniques like knowledge graphs. Dr. Jo has organised the International Robot Olympiad in Australia twice, in 2006 and 2010. Currently, he serves as the Chair of the International Robot Olympiad Committee (IROC) and the President of the Australian Robotics Association (ARA).

# Organizing Committee

## | Honorary Chair |

**Dongkyoo Shin**, Sejong University, Republic of Korea

## | Conference Chair |

**Chang Gyoon Lim**, Chonnam National University, Republic of Korea

## | Program Chair |

**Thanh Tam Nguyen**, Griffith University, Australia

## | Technical Program Committee |

**Minho Jo**, Korea University, Republic of Korea

**Eui-Nam Huh**, Kyung Hee University, Republic of Korea

## | Publication Chairs |

**Jong-Moon Chung**, Yonsei University, Republic of Korea

**Moonseong Kim**, Seoul Theological University, Republic of Korea

## | Workshop Chairs |

**Kiwon Kwon**, KETI, Republic of Korea

**Woochun Jun**, Seoul National Univ. of Education, Republic of Korea

## | Program Committee |

**Kwanghoon Pio Kim**, Kyonggi University, Republic of Korea      **Jun Jo**, Griffith University, Australia

**R. Young Chul Kim**, Hongik University, Republic of Korea

**Made Sudarma**, Udayana University, Indonesia

**Jinsuk Baek**, Winston-Salem State University, USA      **Sahraoui Dhelim**, Dublin City University, Ireland

**Kyung won Cho**, Nanyang Technological University, Singapore

**Namje Park**, Jeju National University, Republic of Korea

**Jaemin Park**, George Mason University, USA      **Vladimir Simic**, University of Belgrade, Serbia

**Deden Witarsyah Jacob**, University of Tun Hussein Onn, Malaysia

**Taras Maksmyuk**, Lviv Polytechnic National University, Ukraine

**Sangmork Park**, Virginia Military Institute, USA

**Sang-Jin Kim**, Kyonggi University, Republic of Korea



# Conference Program

Sunday Jul. 06, 2025	Room 1
16:00-18:00	VIP Reception & Greetings

Monday Jul. 07, 2025	Room 1 (Similan A+B+C)	Room 2 (Tongfah)	Room 3 (Talay)
09:00-	Registration		
09:30-11:00		Session 1	Session 2
11:10-11:40	Opening Ceremony & Keynote Speech / Room 1		
11:30-14:00	Lunch (Terra & Mar)		
14:00-15:30	Session 3	Session 4	Session 5

Tuesday Jul. 08, 2025	Room 1 (Similan A+B+C)	Room 2 (Tongfah)	Room 3 (Talay)
09:30-	Registration		
10:00-11:30		Session 6	Session 7
11:30-14:00	Lunch (Terra & Mar)		
14:00-15:30	Session 8	Session 9	Session 10
17:30-19:30	Award Ceremony & Banquet (Andaman Ballroom)		

Wednesday Jul. 09, 2025	
10:00-12:00	Panel Discussion : Collaborative Research

# Conference Program

## Sun, Jul. 06, 2025

16:00-18:00

VIP Reception & Greetings

## Mon, Jul. 07, 2025

09:30-11:00

Session 1: KETI Special Session I

Session 2: AI Metaverse Session

11:10-11:40

Opening Ceremony & Keynote Speech

"Harnessing AI and Data Analytics for Real-Time Environmental Monitoring" / Dr. Jun Hyung Jo

11:30-14:00

Lunch (Terra & Mar)

14:00-15:30

Session 3: Interactive Presentation Session I /  
KETI Special Session II

Session 4: Artificial Intelligence/Time Series Machine  
Learning I

Session 5: Security System/Information Security &  
Scientific Public Security/Crime  
Prevention/Intelligent CCTV Application &  
Graphics/Image Processing/Video Deep  
Learning/Video Control

# Conference Program

## Tue, Jul. 08, 2025

10:00-11:30	Session 6: Artificial Intelligence/Time Series Machine Learning II
	Session 7: Network/Mobile Computing/IoT & Educational Technology & Bigdata Platform/Analysis/ Application & Artificial Intelligence/Time Series Machine Learning & Cyber Education/Social Media/ Metaverse/UI/UX
11:30-14:00	Lunch (Terra & Mar)
14:00-15:30	Session 8: Interactive Presentation Session II
	Session 9: Scientific Public Security/Crime Prevention /Intelligent CCTV Application & Defense Information Technology/High Performance Computing & Intelligent ICT Convergence /Smart Building
	Session 10: Educational Technology workshop
17:30-19:30	Award Ceremony & Banquet (Andaman Ballroom)

## Wed, Jul. 09, 2025

10:00-12:00	Panel Discussion : Collaborative Research
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### \* Presentation Time

- Oral Session: 10 minutes Presentation / 5 minutes Q&A

# Conference Program

| 09:30-11:00, Mon, Jul. 07, 2025 |

## Session 1: KETI Special Session I (Room 2)

09:30-11:00, Mon, Jul. 07, 2025

Chair: Dr. Sungyoon Cho  
(KETI, ROK)

1-1	Evaluation of Material Properties of High-Density Polyethylene (HDPE) for Marine Application
	ChungRyong Kim, HyunHo Na, DoWon Oh (KOMERI, ROK), SooYeon Kwon (KOMSA, ROK)
1-2	Realizing Individual Active Carbon Harvest: Quantitative Performance Verification and Behavioral Change Potential via PCHNet's AI-Based MRV System
	Tae Uk Chang (Quantum Solution, ROK), Seok Gyun Jo (Hanyang Univ., ROK), Byeong Hwa Ahn (LOFA, ROK)
1-3	A Study on Field Implementation and Integration Strategies of Hydrographic Information Technology for Smart Ships
	JunYoung Kim, JooYoung Lee (KSPP, ROK), ChungRyong Kim (KOMERI, ROK)
1-4	Music mood and theme classification based on music representation model
	Dalwon Jang, Sera Kim, Jaewon Lee, JongSeol Lee (KETI, ROK)
1-5	A Comparative Study on Intelligent Anomaly Prediction and ByPASS System for Lithium Battery Modules based on Multi-Priority Virtual Sensors and Dynamic Ontology
	Tae Uk Chang (Quantum Solution, ROK), Ki Won Kwon (KETI, ROK), Seok Gyun Jo (Hanyang Univ., ROK), JooYoung Lee (KSPP, ROK)
1-6	Machine Learning-Based Automatic Estimation of Flatfish Biomass in Aquaculture Using RGB Images
	Seulki Song, Juhung Sung, Kiwon Kwon (KETI, ROK), Kyungwon Cho (GIST, ROK), Hankyu Lim (Mokpo National Univ., ROK), Sungyoon Cho (KETI, ROK)

# Conference Program

| 09:30-11:00, Mon, Jul. 07, 2025 |

## Session 2: AI Metaverse Session (Room 3)

Chair: Dr. R. Young Chul Kim  
(Hongik Univ., ROK)

09:30-11:00, Mon, Jul. 07, 2025

2-1	An Applied Practice on Software Quality Measurement Mechanism based on Non-Caching Iteration-Augmented Generation Jinmo Yang (Hongik Univ., ROK), Chansol Park (Wisenut Inc., ROK), R. Young Chul Kim (Hongik Univ., ROK)
2-2	Automatic Requirements Registration Mechanism Yejin Jin, R. Young Chul Kim (Hongik Univ., ROK)
2-3	Developing a RAG-based Intelligent Chatbot using Dify and Ollama: Focusing on educating Developers on the LMS Environment Jaeho Kim, Ji Hoon Kong, Ki Du Kim, R. Young Chul Kim (Hongik Univ., ROK)
2-4	Generating C3Tree Model with Non-Conditional Korean Requirements Specification for Cause-Effect Graph Woosung Jang, R. Young Chul Kim (Hongik Univ., ROK)
2-5	Scenario-based Modeling in AI Software Validation Janghwan Kim (Hongik Univ., ROK), Kidu Kim (TTA, ROK), Hyun Seung Son (Mokpo National Univ., ROK), R. Young Chul Kim (Hongik Univ., ROK)
2-6	Best Practices in Designing a Multi-Persona AI Avatar Platform for Solving Creative Problems Chaeyun Seo, Sanggyoon Kim, Dongnyeon Kim, Chaeyoung Yong, Jungmin Shon, Jihoon Kong, Janghwan Kim, R. Young Chul Kim (Hongik Univ., ROK)

# Conference Program

| 14:00-15:30, Mon, Jul. 07, 2025 |

## Session 3: Interactive Presentation Session I / KETI Special Session II (Room 1)

14:00-15:30, Mon, Jul. 07, 2025

Chair: Dr. Kiwon Kwon  
(KETI, ROK)

3-1	Relationship between Frontend and Backend for Web-based Fishing Vessel Design Platform
	Juhyoung Sung, Kyoungwon Park, Kiwon Kwon, Byoungchul Song (KETI, ROK)
3-2	An Automated Water Flow Control System for Aquaculture Tanks
	Juhyoung Sung, Sungyoon Cho, Yangseob Kim, Kiwon Kwon (KETI, ROK)
3-3	Experimental study for beat tracking based on music representation model
	Dalwon Jang, Jiyoung Beak, Jaewon Lee, JongSeol Lee (KETI, ROK)
3-4	An Experimental Approach to Estimating the Informational Complexity of Infectious Disease Infographics Using a Multimodal-Based Method
	Seohyun Yoo, Jaehong Kim, Yunsu Kim, Yewon Kwon, Jaehyuk Cho (Jeonbuk National Univ., ROK)
3-5	Predictive Pixel-Object Height Modeling for UAV Imaging Altitude Control Optimization
	Juyeong Hwang, Jong-Moon Chung (Yonsei Univ., ROK)
3-6	Intelligent C-DRX Parameter Optimization for Image Sensing UAVs Supported by Deep Reinforcement Learning based 5G MEC
	Shinhyeok Oh, Jong-Moon Chung (Yonsei Univ., ROK)
3-7	Implementation of an On-chip Learning Platform based on Restricted Coulomb Energy Neural Network
	Kyou Jung Son, Jaehack Lee, Byung-Soo Kim (KETI, ROK)
3-8	Big Data-Driven Prediction of Crowd Pressure Dynamics Before Collapse via P2PNet-Based Distance Analysis
	JeongHyeon Chang, Eunbi Cho (Kyonggi Univ., ROK), Myeonggi Hong (Catholic Kwandong Univ., ROK), Kyunghye Sun, Din-Lam Pham (Kyonggi Univ., ROK)

# Conference Program

| 14:00-15:30, Mon, Jul. 07, 2025 |

## Session 4: Artificial Intelligence/Time Series Machine Learning I (Room 2)

Chair: Dr. Dinh-Lam Pham

14:00-15:30, Mon, Jul. 07, 2025

(Dong Nai Technology Univ., Vietnam)

4-1	Performance Analysis of a Deep Learning-based Remaining Time Prediction Method for Business Processes via Elapsed Time Estimation
	Da-chan Jung, Tsagaantsooj Batzaya, Dinh-Lam Pham, Kwanghoon Plo Kim (Kyonggi Univ., ROK)
4-2	Meta Graph: A Graph-based Meta-learning Method for Indoor Air Quality Forecasting
	Heeji Hong, Helin Yin, Yeong Hyeon Gu (Sejong Univ., ROK)
4-3	Assessing and Predicting Salmon Distribution Shifts under Climate Change: A Spatiotemporal Analysis with AI-Integrated Environmental Data
	Dongseok Jang, YounSik Hong (Incheon National Univ., ROK)
4-4	Experimental Validation on Lightweight ECAPA-TDNN for On-Device Speaker Recognition
	Minuk Park, Gyun Woo (Pusan National Univ., ROK)
4-5	Adaptive Control of Dual-Axis Solar Tracking Systems Using Advanced Reinforcement Learning Algorithms
	Esanov Alibek Rustamovich, Chang-Gyoon Lim (Chonnam National Univ., ROK), YeonJae Oh (Suncheon National Univ., ROK)
4-6	An AI-Based Interview System with Parallel Modules for Linguistic and Nonverbal Feedback
	Ji-Yoon Kweon, Myeong-Soo Park, Han-Eum Lee, Jeong-Eun Kim, Seong-Ho Jang, Sang-Jin Kim (Kyonggi Univ., ROK)
4-7	Performance Analysis of a CNN-BiLSTM Autoencoder-Based Algorithm for Network Intrusion Detection
	Hyoseong Park, Dongil Shin, Dongkyoo Shin (Sejong Univ., ROK)
4-8	Multi-Object Tracking via Adaptive Feature Space and Dynamic Information Fusion
	HyunSung Yang, SungWook Park, ChunBo Sim, SeHoon Jung (Sunchon National Univ., ROK)

# Conference Program

| 14:00-15:30, Mon, Jul. 07, 2025 |

Session 5: Security System/Information Security & Scientific Public  
Security/Crime Prevention/Intelligent CCTV Application &  
Graphics/Image Processing/Video Deep Learning/Video Control  
(Room 3)

Chair: Dr. Jun Jo

14:00-15:30, Mon, Jul. 07, 2025

(Griffith Univ., Australia)

5-1	Technological Cyber Resilience for Preventing the Recurrence of Security Incidents
	Dongho Kim, Jaeho Hwang, Jeongin Lee, Moohong Min (Sungkyunkwan Univ., ROK)
5-2	Network Topology Obfuscation for Mitigating DDoS Attacks in Low Earth Orbit Satellite Networks
	Jaemin Myeong, Won-bin Kim, Daehee Seo (Sangmyung Univ., ROK)
5-3	Supplementary Evidence Forensics in Portable Operating Systems with Cold Boot Attack-Based Memory Acquisition
	Dongyoung Kim (Gyeongbuk Software Meister High School, ROK)
5-4	Blockchain Based High Reliability Donation System
	Heemin Choi, Heeyoul Kim (Kyonggi Univ., ROK)
5-5	Analyzing Patent Collaboration Networks in Service Robotics Using SNA
	Kwounghee Choi (KISTEP, ROK)
5-6	DualSplat : Streaming 3DGS via Foreground-Background Decomposition
	Hyemin Hwang (Sungkyunkwan Univ., ROK), Minho Yeom (SFACSPACE, ROK), Hannah Cho (Sungkyunkwan Univ., ROK), Heewon Kang (Hongik Univ., ROK), Jangwon Lee (Sungkyunkwan Univ., ROK)
5-7	Development of an LLM-based Application for Medication Management and Enhanced Accessibility for Elderly Users
	Yu Kim, Mincheol Shin, Jiyeong Eom, Junho Kim, Jeongeun Park, Junyoung Park, Kwan-Sang Na (Kyonggi Univ., ROK)



# Conference Program

| 10:00-11:30, Tue, Jul. 08, 2025 |

## Session 6: Artificial Intelligence/Time Series Machine Learning II (Room 2)

Chair: Dr. Dalwon Jang

10:00-11:30, Tue, Jul. 08, 2025

(KETI, ROK)

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|-----|---|
| 6-1 | Enhanced Energy Load Prediction using a Novel Feature Attention Network with HistGradientBoostingRegressor<br>Jun Jo (Griffith Univ., Australia), Chen Pan, Yuqiao Liu, Seonghwa Lim, Chang Gyoon Lim, Seung Bum Ha (Chonnam National Univ., ROK)   |
| 6-2 | Multi-Horizon Solar Forecasting with Sky Image and Time-Series Fusion using GNNs and Mixture-of-Experts<br>Sarvarbek Erniyazov, Chang Gyoon Lim (Chonnam National Univ., ROK), Dongok Kim (Jeonnam Technopark, ROK)   |
| 6-3 | Multi-Slice Feature Fusion for Coronary Artery Calcification Segmentation in CT Imaging<br>Sunwoo Pi, Seungha Noh, Junhyeon Sim, Byoung-Dai Lee (Kyonggi Univ., ROK)  |
| 6-4 | RAG-Based Generative Large Language Model for University Regulations<br>Youngwon Yu, Kyungmin Lim (Korea Univ., ROK), Taras Maksmyuk (Lviv Polytechnic National Univ., Ukraine), Jinsuk Baek (Winston-Salem State Univ., USA), Vladimir Simic (Univ. of Belgrade, Serbia), Minh Jo (Korea Univ., ROK) |
| 6-5 | A Novel Residual-Cross Attention Transformer for Multistep Solar Energy Forecasting<br>Chen Pan, Yuqiao Liu, Chang Gyoon Lim (Chonnam National Univ., ROK), Kieun Jeon (Turbinecrew, ROK)   |
| 6-6 | Text-Image Similarity-Guided Prompt Automation for Ultrasound Image Segmentation<br>Seungha Noh, Sunwoo Pi, Junhyeon Sim, Byoung-Dai Lee (Kyonggi Univ., ROK)   |
| 6-7 | HybridTransBiLSTM: A Fourier-Augmented Transformer-BiLSTM Framework with Focal Quantile Loss for Robust Mid-to-Long Term Energy Forecasting<br>Kyung won Cho (Nanyang Technological Univ., Singapore), Chen Pan, Chang Gyoon Lim, Yong Min Kim, Yuqiao Liu (Chonnam National Univ., ROK)              |
| 6-8 | A Study on the Reliability of the Generative Information by AI<br>Hyun Jung Lee (Goyang City Institute, ROK), Yong Sik Chang (Hanshin Univ., ROK)   |

# Conference Program

| 10:00-11:30, Tue, Jul. 08, 2025 |

Session 7: Network/Mobile Computing/IoT & Educational Technology & Bigdata Platform/Analysis/Application & Artificial Intelligence/ Time Series Machine Learning & Cyber Education/Social Media/ Metaverse/UI/UX (Room 3)

Chair: Dr. Jun Jo  
(Griffith Univ., Australia)

10:00-11:30, Tue, Jul. 08, 2025

7-1	YOLOv5-Tiny-Based Smart Home Package Security System for Efficient Delivery Monitoring
	Junhyong Park, Wontaek Hong, Seongjo Hong, Seoyoung Kim, Yujin Choo, Taeyoung Seo, Eunhan Kim (Kyonggi Univ., ROK)
7-2	Sori-Vision: A Situational Awareness Assistive Wearable Device for the Visually Impaired
	Minseong Kim, Seungeun Kang, Jin Kim, Gibeom Park, Suyeong Jeong, Sangjin Kim (Kyonggi Univ., ROK)
7-3	A Responsive Smart Care System Centered On Caregivers with Active Alert Induction
	Da-hee Kim, Tae-ok Yoon, Chan-hong Park, Seung-hyeon Wang, Yong-hyeon Jo, Seo-jin Yu, So-yun Yoon, Kwan-sang Na (Kyonggi Univ., ROK)
7-4	Quality Evaluation of AI-Generated Programming Problems in Microlearning: A One-Bite Platform Case Study
	Hyeong Ho Kim, Seong Won Park, Uk Jeong, Sang Hyeon An, Hak Ryong An, Ji Min Choi, Eun Han Kim (Kyonggi Univ., ROK)
7-5	Pitches: Real-Time Presentation Coaching with Low-Latency Speech Analysis and Generative AI
	Sanghyeon Ahn (Kyonggi Univ., ROK), Junyoung Heo (Hanshin Univ., ROK)
7-6	Design of an O2O Platform to Promote Eco-friendly Consumption and Local Store Marketing Strategies
	Taeyun Rho, Minju Jeon, Sumin Goo, Jisoo Yoo, Chanyeon Yoo, Sangjin Kim (Kyonggi Univ., ROK)
7-7	Retrieval-Based Fake-News with a Lightweight Transformer
	Dongoh Kang, Minjun Jo, Pilmo Kang, Donghyun Son, Hyeokmin Nam, Wanjin Kim, Eunhan Kim (Kyonggi Univ., ROK)

# Conference Program

| 14:00-15:30, Tue, Jul. 08, 2025 |

## Session 8: Interactive Presentation Session II (Room 1)

Chair: Dr. Thanh Tam Nguyen

14:00-15:30, Tue, Jul. 08, 2025

(Griffith Univ., Australia)

8-1	Implementation of a Li-Ion Battery-Based Simulator for Synthetic Abnormal Cell Data Generation, Analysis, and Visualization
	Taeil Yun, Changwoo Kim, Hyosub Choi (KETI, ROK)
8-2	Analysis of Global Supercomputing Deployment Trends Based on the TOP500 List
	Noori On, Myoungju Koh, Min-ho Seo (KISTI, ROK)
8-3	Analysis of Major Research Methodologies Used by HPC Researchers in Korea
	Myoungju Koh, Noori On, Hyungwook Shim, Jaegyeon Hahm, Minho Suh (KISTI, ROK)
8-4	Optimized Cyberattack Generation via Reinforcement Learning and the MITRE ATT&CK Framework
	Geon-Yun Shin (Hankyong National Univ., ROK)
8-5	Improving the Efficiency of Weapon System Software Configuration Management via Blockchain
	Jiseon Yu, Guntae Kim, Jiung Choi, JongHoon Kim (DTaQ, ROK)
8-6	Platform Power and Restaurant Resilience: Evaluating the Benefits and Costs of Digital Delivery Platforms in Korea
	Kyung Min Park (Yonsei Univ., ROK)

Continue next page (session 8)

# Conference Program

| 14:00-15:30, Tue, Jul. 08, 2025 |

## Session 8: Interactive Presentation Session II (Room 1)

Chair: Dr. Thanh Tam Nguyen

14:00-15:30, Tue, Jul. 08, 2025

(Griffith Univ., Australia)

8-7	ViT-QMQA: A Vision Transformer with Quantum Multi Query Attention for Medical Image Classification
	Min Jung Kwon, Seong Yeol Park, Xianghua Piao, Dong Jin, Yeong Hyeon Gu (Sejong Univ., ROK)
8-8	AmbI2Plan: Sub-Task Planning with Vision-Language Models under Ambiguous Instructions
	Xianghua Piao, Dong Jin, Min Jung Kwon, Seong Yeol Park, Yeong Hyeon Gu (Sejong Univ., ROK)
8-9	RAG-Based Generative Large Language Model for Sentencing Prediction
	Munki Park, Sunghwan Kim (Korea Univ., ROK), Made Sudarma (Udayana Univ., Indonesia), Deden Witarsyah Jacob (Univ. Tun Hussein Onn, Malaysia), Sahraoui Dhelim (Dublin City Univ., Ireland), Minh Jo (Korea Univ., ROK)
8-10	Design of an AI-Based Digital Cognitive Training System for Enhancing Cognitive Function in Older Adults
	Yeon-Jae Oh (Sunchon National Univ., ROK), Yoon-Young Kim (Sungyeongju Univ., ROK)

# Conference Program

| 14:00-15:30, Tue, Jul. 08, 2025 |

Session 9: Scientific Public Security/Crime Prevention/Intelligent CCTV Application & Defense Information Technology/High Performance Computing & Intelligent ICT Convergence/Smart Building (Room 2)

Chair: Dr. Dinh-Lam Pham

14:00-15:30, Tue, Jul. 08, 2025

(Dong Nai Technology Univ., Vietnam)

- |     |   |
|-----|---|
| 9-1 | Real-Time Automated Detection and Enforcement of Electric Scooter Safety Violations Using YOLOv11 and Edge Computing              |
|     | Chang-Ryul Park, Gangmin Lee, Woohyun Jin, SeoJun Yoon, Jaeseong You, Minkyoo Choi (Kyonggi Univ., ROK)                           |
| 9-2 | An Evaluation of Environmental Factors Before and After CPTED Projects in Seoul by Using Virtual Observation Based on Street View |
|     | Junho Park, Naeun Kim, Euigab Hwang (Kyonggi Univ., ROK)  |
| 9-3 | Investigating Digital Forensic Procedures for Medical Images via PACS and DICOM Analysis  |
|     | Sojung Oh, Eunji Lee, Seoyeon Lee, Gibum Kim (Sungkyunkwan Univ., ROK)  |
| 9-4 | YOLO-based Object Movement Pattern Analysis and its Application for Pedestrian-Risk Prediction                                    |
|     | Tsagaantsooj Batzaya, Eunbi Cho, Jeong-Hyeon Chang, Kwanghoon Pio Kim (Kyonggi Univ., ROK)  |
| 9-5 | A RAM-C Based Approach for Determining the Optimal Operational Plan of Drone Weapon Systems                                       |
|     | Gahyun Kim, Ki-young Lee (MOASOFT, ROK)   |
| 9-6 | Toward Low-Speed IR Communications for Small Drone Operations   |
|     | Sangmork Park, Benjamin Davis, Sarah Fitzsimmons (Virginia Military Institute, USA), Jaemin Park (George Mason Univ., USA)        |
| 9-7 | Learning to Optimize RIS Phase Shifts for Sum-Rate Maximization via MLP-Mixer Architecture  |
|     | Jihyung Kim (ETRI, ROK), Nahyeon Kwon, Junghyun Kim (Sejong Univ., ROK)   |

# Conference Program

| 14:00-15:30, Tue, Jul. 08, 2025 |

## Session 10: Educational Technology workshop (Room 3)

Chair: Dr. Woonchun Jun

14:00-15:30, Tue, Jul. 08, 2025 (Seoul National Univ. of Education, ROK)

10-1	Organoid Intelligence Educational Contents for Pre-service Teachers in Preparation for the Post-AI Era
	Eunsun Choi (Gwangju National Univ. of Education, ROK), Keunbae Choi, Namje Park (Jeju National Univ., ROK)
10-2	A Pedagogical Approach to Signature-based Malware Detection Principles Using Polarization Visualization Techniques
	Jinsu Kim, Keunbae Choi, Namje Park (Jeju National Univ., ROK)
10-3	A Study on the Impact of Leisure Activities on Smartphone Overdependence among Koreans
	Woonchun Jun (Seoul National Univ. of Education, ROK)
10-4	Operational Status and Satisfaction Analysis of AI·SW Experience Festival: A Case Study of the 2025 Gwangju AI·SW Experience Festival
	In-seong Jeon (Gwangju National Univ. of Education, ROK)
10-5	Research on the Impact of AI Convergence Education on Social-Emotional Learning
	Hyemi Park, SunJu Park (Gwangju National Univ. of Education, ROK)
10-6	Federated Learning-Based Quality Classification of Single Oysters Using Blockchain
	Jinsu Kim, Keunbae Choi, Namje Park (Jeju National Univ., ROK)

## Venue Information

| SAii Laguna Resorts, Phuket, Thailand |

<https://www.saiiresorts.com/phuket/laguna>



### | Conference contact |

Address : 323 Moo 2 Srisoonthorn Road, Cherngtalay, Thalang,  
Bangtao Bay, Phuket , Thailand

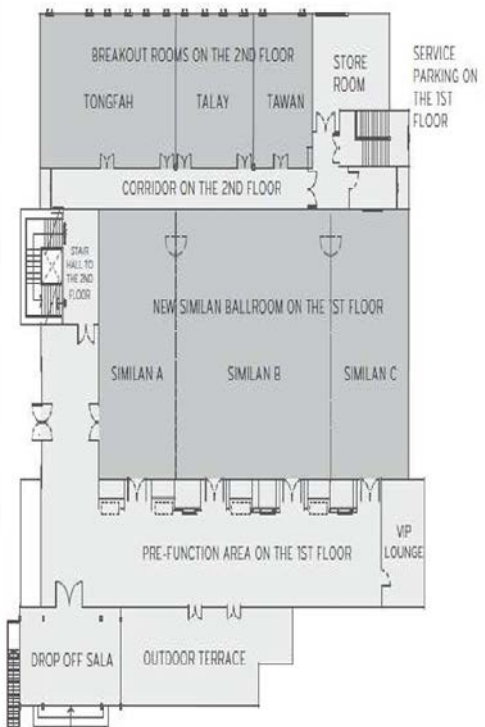
Phone : +66 (0)76 360 600 / Email : [rsvn.laguna@SAiiresorts.com](mailto:rsvn.laguna@SAiiresorts.com)

# Venue Information

| **SAii Laguna Resorts, Phuket, Thailand** |  
<https://www.saiiresorts.com/phuket/laguna>



## Similan Ballroom



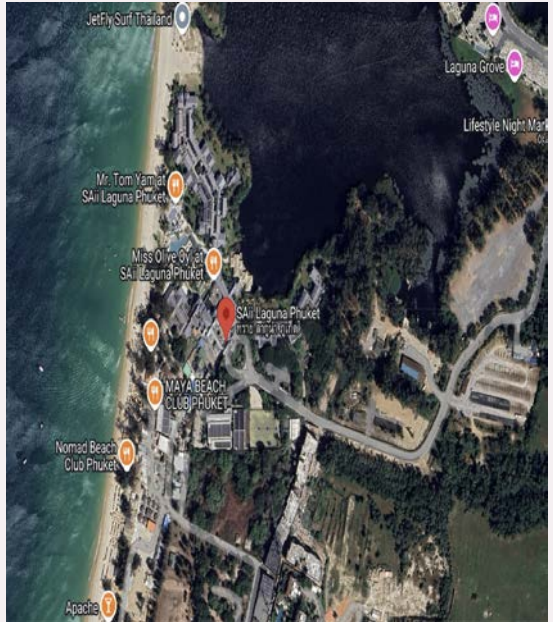
- Room 1 : Similan A + B + C (1<sup>st</sup> Floor)
- Room 2 : Tongfah (2<sup>nd</sup> Floor)
- Room 3 : Talay (2<sup>nd</sup> Floor)



# Venue Information

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<https://www.saiiresorts.com/phuket/laguna>



## | **How to reach SAii resorts** |

- By Plane: SAii Laguna Phuket is located only 25-minute drive from Phuket International Airport.
- Transfer: Airport Transfers can be arrange with car and van  
Car THB 1,200 net per way (maximum of 3 persons)  
Van THB 1,600 net per way (maximum of 6 persons)

## Venue Information (Banquet)

| SAii Laguna Resorts, Phuket, Thailand |  
<https://www.saiiresorts.com/phuket/laguna>



### | Banquet Info. (at resort lobby level) |

- Date : July 08(Tue.), 2025
- Hours : 17:30 pm~ 19:30 pm
- Place : SAii Laguna Resorts, Andaman Ballroom
- Admission deadline : 18:00pm
- Attention : Please You must enter with a ticket.

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# *Memo*

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| Organized by |

