

Final Program

30th IEEE/ACIS International Conference on Software Engineering, Artificial Intelligence, Networking and Parallel/Distributed Computing (SNPD2025-Summer II)



**Fukui Prefecture International Exchange Hall
Fukui, Japan
Jun 30-July 2, 2025**

Conference Organizing Committee Members

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Otemon Gakuin University, Japan

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Central Michigan University, USA

Program at a Glance

Monday, Jun 30, 2025

Time	Activity	Location
9:00 – 12:00	Registration	3 rd Floor Hallway
10:00 – 10:15	Opening Ceremony	Special conference room (3 rd Floor)
10:15 – 10:30	Coffee Break	
10:30 – 12:00	Keynote	Special conference room (3 rd Floor)
12:00 – 13:00	Lunch on your own	
12:30 – 17:00	Registration	2 nd Floor Hallway
13:00 – 15:00 13:00 – 15:00 13:00 – 15:00	Regular Session 1 Special Session 1A Special Session 3A	1 st meeting room (2 nd Floor) 2 nd meeting room (2 nd Floor) 3 rd meeting room (2 nd Floor)
15:00 – 15:30	Coffee Break	
15:30 – 17:00 15:30 – 17:00 15:30 – 17:00	Regular Session 2 Special Session 1B Special Session 3B	1 st meeting room (2 nd Floor) 2 nd meeting room (2 nd Floor) 3 rd meeting room (2 nd Floor)

Tuesday, July 1, 2025

Time	Activity	Location
9:00 – 17:00	Registration	2 nd Floor Hallway
9:30 -11:30 9:30 -11:30 9:30 -12:00	Regular Session 3 Regular Session 4 Special Session 4	1 st meeting room (2 nd Floor) 2 nd meeting room (2 nd Floor) 3 rd meeting room (2 nd Floor)
12:00 – 13:00	Lunch on your own	
13:00 – 15:00 13:00 – 15:00	Regular Session 5 Special Session 2A	1 st meeting room (2 nd Floor) 2 nd meeting room (2 nd Floor)
15:00 – 15:30	Coffee Break	
15:30 – 17:00 15:30 – 17:30	Regular Session 6 Special Session 2B	1 st meeting room (2 nd Floor) 2 nd meeting room (2 nd Floor)
18:00 – 20:00	Dinner Banquet & Award Ceremony	Special conference room (3 rd Floor)

Wednesday, July 2, 2025

Time	Activity	Location
9:00 – 10:00	Registration	2 nd Floor Hallway
9:30 – 11:00	Regular Session 7	1 st meeting room (2 nd Floor)
11:00– 11:10	Closing Remark	1 st meeting room (2 nd Floor)

Keynote

Personal Health Coaching Framework Using Digital Twin and On-Device AI

Prof. Yeong-Tae Song
Towson University

Abstract

When a person comes down with a disease, it is important to get proper treatment at the right time to get it cured but due to various reasons, it may not be always possible. What is more important is to try not to be in such a situation by monitoring their own health and take necessary actions in a timely manner when any abnormal conditions occur. Clinical institutions such as hospitals are the places to get treatments but when it comes to maintaining personal health, they may not be the right place to be as health monitoring requires constant assessment and guidelines that may differ by person. With the advancement of health information technology, such personalized and constant guidance that can ensure health information privacy, security, and sharing may be feasible. In this talk, we propose a novel approach in personal health monitoring framework using digital twin and on-device AI. Digital twin is used to monitor, assess, and predict user's personal health by using user's most up-to-date and longitudinal health condition through clinical sensors and observed symptoms. On-device AI is used to provide secure personalized health coaching capabilities as it does not consult external AI such as ChatGPT.

Bio

Dr. Yeong-Tae Song is currently a full professor in the Department of Computer and Information Sciences at Towson University. He earned his master's and Ph.D. degrees in computer science from the University of Texas at Dallas in 1993 and 1999, respectively. Prior to joining academia, he worked as a software engineer and ATM software test engineer in the industry for more than eight years in Seoul, Korea, and Dallas, USA. He was involved in embedded software projects for various network equipment, including high-speed Ethernet and ATM switches. After joining the University of Arkansas at Little Rock (UALR), he collaborated on a telemedicine project with NASA and the UALR medical school as primary investigator. During his tenure at Towson University, he has served as the principal investigator (PI) for various projects funded by the state of Maryland and local industries. His research includes work on electronic health records (EHRs) and personal health records (PHRs), clinical sensors, smart elearning, Voice over IP, and more. He has also collaborated with an African university on electronic health record systems (EHRS). Dr. Song is a frequent speaker at conferences and seminars. He has served as a program chair and conference chair for various conferences, including those organized by IEEE. Additionally, he is an editor for several journals. He has published approximately 100 papers in conferences and journals.

Program in Detail

Monday, June 30, 2025

9:00-12:00 – Registration

3rd Floor Hallway

10:00-10:15 – Opening Ceremony

Special conference room

10:15-10:30 – Coffee Break

10:30-12:00– Keynote from ACIS

Special conference room

12:00-13:00 – Lunch on your own

12:30-17:00 – Registration

2nd Floor Hallway

13:00-15:00 – Regular Session 1

1st meeting room

Chair: under arrangement

Defining Software Quality in Use Metrics for Learning Management System.

Chakin Pattanasombatsakul and Nakornthip Prompoon (Chulalongkorn University)

Empowering Education with Blockchain, AI, and XAI: A New Paradigm for Transparent Records and Smart Learning

Thư Lê Võ Minh, Mỹ Nguyễn Hữu, Tài Tống Ngọc Anh, Hải Phạm Nguyễn Đăng and Hiếu Nguyễn Văn (FPT University)

AIM-CF: Fast and Precise Counterfactual Explanations via Approximate Inverse Models

Takafumi Nakanishi (Tokyo University of Technology), Ponlawat Chophuk (Burapha University) and Krisana Chinnasarn (Burapha University)

Exploratory Analysis of Software Engineering Skill in Thailand's Software Industry Using NLP Techniques

Nuttaporn Phakdee (Burapha University), Saisunee Pradubnak (Chandrasakem Rajabhat University) and Aritath Siraphatwongkorn (Burapha University)

13:00-15:00 – Special Session 1A

2nd meeting room

Session Title: Organization of Innovative Computer System for Large-scale and Flexible Computing

Chair: *Atsushi Nunome (Kyoto Institute of Technology)*

Linked-List Construction Support by a Thread-Level Speculation Library

Hironori Shiotsuka, Atsushi Nunome and Hiroaki Hirata (Kyoto Institute of Technology)

Performance Evaluation of Directive-Based Parallelized Code at LLVM-IR Level

Kanemitsu Ootsu (Utsunomiya University), Takumi Yanagida (OBN inc.), Takashi Yokota (Utsunomiya University) and Takuma Kitamoto (Utsunomiya University)

Compact Function-Based Modeling of Storage Throughput for an Autonomous Distributed Storage System

Atsushi Nunome and Hiroaki Hirata (Kyoto Institute of Technology)

Case studies on the real-time sonification of scientific data related to continuous flow phenomena

Seiha Uenishi, Shinji Fukuma and Shin-ichiro Mori (University of Fukui)

13:00-15:00 – Special Session 3A

3rd meeting room

Session Title: Analysis, Evaluation, and Usage of Information, Systems, and Humans

Chair: Yuya Yokoyama (*Advanced Institute of Industrial Technology*)

Enhancing Positive Moods with Images, Sounds, and Scents

Shunya Nakamura, Teruhisa Hochin (*Kyoto Institute of Technology*)

Combination Approach for Distributed Blind Estimation over Sensor Network

Sulin Chi, Tetsuya Shimamura (*Otemon Gakuin University*)

Emotion Estimation from Face Images by Integrating Action Unit and SFormer Features

Ryoya Okuno, Hiroki Nomiya, Koh Shimokawa, Shushi Namba, Masaki Osumi (*Kyoto Institute of Technology*)

Observing the Relationships of Factors Between Before Enrollment and After Graduation from a Questionnaire Aimed at General Adult Learners

Yuya Yokoyama, Takaaki Hosoda, Morihiko Ikemizu, Tokuro Matsuo (*Advanced Institute of Industrial Technology*)

15:00-15:30 – Coffee Break

15:30-17:00– Regular Session 2

1st meeting room

Chair: Sinan Chen (*Kobe University*)

A Hybrid Quantum-Classical Deep Learning Algorithm for Efficient Arrhythmia Classification

Melvin Ramkhelawan, Santoso Wibowo and Srimannarayana Grandhi (*Central Queensland University*)

Towards eID Authentication: Readiness Assessment System for ThaID Integration

Athita Onuean (*Burapha University*), Pusit Kulkasem (*Burapha University*), Nilrat Kanyunthong (*Burapha University*), Jitti Kunphruk (*Electronic Transactions Development Agency*), Korakod Thananchai (*Electronic Transactions Development Agency*) and Krisana Chinnasarn (*Burapha University*)

Methods for Linking Product Photographs and Work Instruction Documents for Printed Circuit Board Assembly

Yuta Kawakatsu, Tsuyoshi Tanaka, Masaki Endo, Tadayoshi Horita and Masakazu Akiba (*The Polytechnic University of Japan, Tokyo*)

15:30-17:00 – Special Session 1B

2nd meeting room

Session Title: Organization of Innovative Computer System for Large-scale and Flexible Computing

Chair: Atsushi Nunome (*Kyoto Institute of Technology*)

Extendible Skip Graph Based on Order Preserving Linear Hashing

Ken Higuchi and Ryoji Kawamura (*University of Fukui*)

A Fully Distributed WAN Virtualization Architecture with Self-Healing Function for Underlay Network Failures

Tatsuya Tohyama and Hideo Masuda (*Kyoto Institute of Technology*)

A Proposal of Protection System for Home IoT network based on awareness strategy

Ronald Kazungu and Hideo Masuda (*Kyoto Institute of Technology*)

15:30-17:00 – Special Session 3B

3rd meeting room

Session Title: Analysis, Evaluation, and Usage of Information, Systems, and Humans

Chair: Yuya Yokoyama (*Advanced Institute of Industrial Technology*)

A study of an automatic delivery robot with a representation of animal ears for sharing the sidewalk with pedestrians

Yoshihiko Hayashi and Keiko Yamamoto (*Tokyo Denki University*)

Custom Robot Arm-Based Trowel Direction Determination on Wall Corners using Deep Predictive Learning

Nguyen Huu Huy Thinh, Ikumi Noborio, Weiwei Du,

Mai Xuan Bach, Makoto Muramoto, Eunjong Choi (Kyoto Institute of Technology)

NAT-Unet Model for Optic Disc and Optic Cup Segmentation from Fundus Images
Xiaozhong Xue, Kano Mizuno, Weiwei Du (Kyoto Institute of Technology)

Tuesday, July 1, 2025

9:00-17:00 – Registration

2nd Floor Hallway

9:30-11:30 – Regular Session 3

1st meeting room

Chair: *Takuya Nakata (Kobe University)*

Automated Optical Marker Exam Recognition using Cross-Linear Area Detection from Smartphone Camera
Watcharaphong Yookwan, Athita Onuean, Sirapat Tansavetwong and Krisana Chinnasarn (Burapha University)

TOI National Grader: A Support System for the Selection and Preparation of Thailand Informatics Olympiad Participants
Jirayus Arbking, Watcharaphong Yookwan, Nilrat Kanyunthong, Kriengsak Panphotong, Sithipong Chimthai and Krisana Chinnasarn (Burapha University)

Optimization of AC Charging Parameters for Lithium-Ion Batteries
Yi-Feng Luo (National Taiwan University of Science and Technology), Chih-Han Ho (National Taiwan University of Science and Technology), Tzu-Chieh Lin (National Taiwan University of Science and Technology), Guan-Jhu Chen (National Changhua University of Education) and Chun-Liang Liu (National Taiwan University of Science and Technology)

Thermal Risk Assessment and Safety Prediction for Lithium-Ion Batteries under Abuse Conditions
Guan-Jhu Chen (National Changhua University of Education), Chu-En Lin (National Chin-Yi University of Technology), Jhan-Fong Lin (National Chin-Yi University of Technology), Yi-Feng Luo (National Taiwan University of Science and Technology), Chih-Han Ho (National Taiwan University of Science and Technology) and Chun-Liang Liu (National Yunlin University of Science and Technology)

9:30-11:30 – Regular Session 4

2nd meeting room

Chair: under arrangement

Early warning system prototype development to mitigate coastal aquaculture activities from the climate variability using internet of things (IoT) and artificial intelligence (AI) technologies in Thailand
Pholphisin Suvanachai, Akkarach Kawbunjun, Jutarat Kittiwannich, Nittaya Wutticharoenmongkol, Nanthiya Poolsawat, Napat Somwadee, Wilasinee Pophan, Parawee Jamyang, Kanokorn Hornak, Chatnalin Yoakarakun, Adulvit Chucherd, Attachai Intarasab and Marut Panchapornudomlap (Ministry of Agriculture and Cooperatives)

Telemedicine for Aquaculture Animal Health Using Artificial Intelligence (AI) in Thailand
Pholphisin Suvanachai, Akkarach Kawbunjun, Saransiri Nuanmanee, Amornchai Somjetlertcharoen and Aongart Aun-A-Nan (Ministry of Agriculture and Cooperatives)

Model-Driven Development of Web Application Backend Using Node.js Framework
Werayoot Kunphai and Twittie Senivongse (Chulalongkorn University)

An iPad Application to Support Reading Comprehension of Research Papers Using GPT-4o
Rikuto Sakai (Okayama University), Teruhito Kanazawa (National Institute of Informatics), Fumito Uwano (Okayama University) and Manabu Ohta (Okayama University)

9:30-12:00 – Special Session 4

3rd meeting room

Session Title: Application of Computer and Information Science for Business Management

Chair: *Yukihiro Shintani (Chiba Institute of Technology)*

Integrating Gamification into Decentralized Autonomous Organizations Management
Yuma Kawachi, Ion Yamauchi, Yukihiro Shintani and Toru Takagi (Chiba Institute of Technology)

A Study on Individualized Learning Support for High School Mathematics by an Interactive AI Tutor

Shota Kitabayashi, Toru Takagi and Yukihiro Shintani (Chiba Institute of Technology)

In Data Utilization of Enterprise Information Systems Construction of a Problem Generation Process Mode

Takako Shirai (University of Tsukuba), Kiyomi Miyoshi (Advanced Institute of Industrial Technology) and Yasunobu Kino (ZEN University)

Internet access and mobile service choice behavior analysis considering service change intention

Ken Nishimatsu (Chiba Institute of Technology) and Akiya Inoue (Shoin University)

Method of extracting regional characteristics from travel satisfaction

Hiroaki Tsukamoto and Motoi Iwashita (Chiba Institute of Technology)

12:00-13:00 – Lunch on your own

13:00-15:00 – Regular Session 5

1st meeting room

Chair: *Tomoya Kawakami (University of Fukui)*

Human-Centric Software Co-Designed Framework for Competency Evaluations

Kittisak Onuean (Burapha University), Krisana Chinnasarn (Burapha University), Watcharaporn Somphongphueng (Mathayomtaksin Rayong School), Prayong Nooyen (Worksway Company Limited), Athita Onuean (Burapha University) and Wirote Chompoo (Burapha University)

Machine Learning-Based API Framework for Adaptive Programming Learning Using Educational Programming Features

Peerasak Pianprasit, Ungsumalee Suttapakti, Nuttaporn Phakdee, Jirayus Arbking and Krisana Chinnasarn (Burapha University)

Software User Feedback Analysis Maturity for Software Maintenance

Pattarapong Virojpakorn and Twittie Senivongse (Chulalongkorn University)

Test Case Generation and Execution Techniques for Web Applications Based on MVC Model and Extended Screen Transition Diagram

Ryoichi Ishigami, Takeru Amo, Gakuto Higuchi, Ryoshiro Onishi and Tomohiko Takagi (Kagawa University)

13:00-15:00 – Special Session 2A

2nd meeting room

Session Title: Systems and Services with/for Data-Intensive Approach

Chair: *Masahide Nakamura (Kobe University)*

Fostering Organizational Collective Intelligence from Human-Generative AI Interaction

Shoma Hino, Takuya Nakata, Sachio Saiki, Sinan Chen and Masahide Nakamura (Kobe University)

Evaluating Effects of Private EMS Through Urgency-Aware Emergency Simulation

Shota Fukuda, Sinan Chen, Sachio Saiki, Takuya Nakata and Masahide Nakamura (Kobe University)

Estimating Health Condition Using Facial Emotion Recognition

Atsunori Nishiyama, Takuya Nakata, Sinan Chen, Sachio Saiki and Masahide Nakamura (Kobe University)

Analyzing the Combined Effects of Association Rules for Software Defect Prediction

Catherine Francis Mangare, Hiroki Inayoshi and Akito Monden (Okayama University)

15:00-15:30 – Coffee Break

15:30-17:00 – Regular Session 6

1st meeting room

Chair: under arrangement

Understanding User Experience Dimensions from Mobile Application User Reviews through Machine Learning

Jiraporn Ramjul and Twittie Senivongse (Chulalongkorn University)

Predicting Numeric Financial KPIs from Unstructured Text: A Comparative Study of LLM-Based Embeddings and Traditional NLP Techniques

Lord Coffie (Georgia Southern University), Melvin Ajuluchukwu (Georgia Southern University) and Michael Nsor (Western Illinois University)

Data Augmentation in Invalid User Detection Based on a Typing Speed of Individual Words

Takumi Ito and Tomoya Kawakami (University of Fukui)

15:30-17:30 – Special Session 2B

2nd meeting room

Session Title: Systems and Services with/for Data-Intensive Approach

Chair: *Masahide Nakamura (Kobe University)*

Analyzing Real-World Data from Dialogues with a Virtual Agent: A Mixed-Methods Approach to Older Men Living Alone

Nahyun Kim, Akinori Matsukawa, Masahide Nakamura, and Keiko Katagiri (Kobe University)

Recognizing and Recording Grasped Objects for Assisting Elderly at Home to Find Missing Items

Toshinori Shindo, Takuya Nakata, Sinan Chen, Sachio Saiki, Kiyoshi Yasuda, Masahide Nakamura Graduate School of Engineering (Kobe University)

Assessing Elderly Physical Health Using Motor Function Variability and Bayesian Regression

Zhaozhen Tong, Sinan Chen, Yuko Yamaguchi, Masahide Nakamura, Hsin-Yen Yen, Shu-Chun Lee (Kobe University)

Evaluating the Source Code Review Performance of LLM-based AI Chatbots

Toya Kakimoto, Hiroki Inayoshi, Akito Monden (Okayama University)

18:00-20:00 – Dinner Banquet & Award Ceremony

Special conference room

Wednesday, July 2, 2025

9:00-10:00 – Registration

2nd Floor Hallway

9:30-11:00 – Regular Session 7

1st meeting room

Chair: *Shin-ichiro Mori (University of Fukui)*

Leveraging GPT-4 for Thai Land and Building Tax Computation in the Bangkok Area

Sadanan Arsaibun (Chulalongkorn University), Pittipol Kantavat (Chulalongkorn University), Boonserm Kijisirikul (Chulalongkorn University), Surapant Meknavin (Digital Smiles Co., Ltd) and Nattapat Tantapong (Chulalongkorn University)

Enhancing Spatial Reasoning in Multimodal Vision-Language Models via Depth-Aware Feature Integration

Hiroo Tsuji (Otemon Gakuin University)

An Image Based Evaluation of Coating of Eyeglass Frames by the i-MSE Method

Shinji Fukuma, Takuya Takazawa and Yoshiro Iwai (University of Fukui)

11:00-11:10 – Closing Remark