2025 IEEE 14th International Workshop on Computational Intelligence and Applications (IWCIA)

December 6-7, 2025
Hiroshima Institute of Technology (Itsukaichi Campus),
Hiroshima, Japan

Technical Program

IEEE IWCIA2025 Technical Program at a Glance

Day1 (December 6th)

	Room 603
10:30	Registration
11:00 12:10	Opening & Special Session (1)
12:10 13:20	Lunch (on your own or a pre-ordered lunch box)
13:20 14:20	Session 1　Large Language Model
	Coffee Break
14:40 16:10	Keynote Talk
	Coffee Break
16:30 17:10	Session 2　Engineering Applications
19:00 21:00	Convivial Party

Day2 (December 7th)

	Room 603
10:30	Registration
11:00 12:00	Special Session (2)
12:00 13:20	Lunch (on your own or a pre-ordered lunch box)
13:20 14:20	Session 3　Machine and Deep Learning
	Coffee Break
14:40 15:20	Session 4　Optimization
15:20 15:40	Closing

Each paper presentations lasts for 15 minutes, followed by 5 minutes discussion (a total of 20 minutes)

Technical Program on Dec. 6, 2025

Opening & Special Session (1) (Room 603, 11:00~12:10)
Session Chair: *Prof. Daisuke Hirotani and Prof. Keiichi Tamura*

1. Analysis of the relationship between visual cognitive impairment and neural network damage
   Chihiro Kubo, Masaki Fukunaga and Fuminori Kimura
2. FLAM: Federated Learning based on Asynchronous model Distillation
   Yuya Tsuruta and Keiichi Tamura
3. Improving Patent Document Retrieval with Customized Large Language Model
   Junhong Wang and Masayuki Okabe

Session 1 *Large Language Model* (Room 603, 13:20~14:20)
Session Chair: *Prof. Akira Hara*

1. Comparative Performance Evaluation of Large Language Models for Domain-Specific Web Content Extraction
   Hendrik Hendrik, Silmi Fauziati and Adhistya Erna Permanasari
2. Integrating Large Language Models and Vector Databases for Podcast Semantic Search
   I-Ting Lin, Chia-Hao Chiu, Bo-Tang Liao and Bo-Jyun Chen
3. Improving Multi-Label Classification Accuracy for High School Mathematics Problems Using LLM Re-ranking
   Shun Tanaka and Keiichi Tamura

Keynote Talk (IEEE SMC Hiroshima Chapter Invited Special Talk) (Room 603, 14:40~16:10)
Chair: *Prof. Daisuke Hirotani*

Challenges of Weather-Driven Supply Chain GX Support System by AI and Mathematical Collaboration for Renewable Energy and Remanufacturing: Look-Ahead Trump Tariff, Work-Life Balance and Carbon Neutrality

Prof. Tetsuo Yamada (*The University of Electro-Communications, Japan*)

Session 2 *Engineering Applications* (Room 603, 16:30~17:10)
Session Chair: *Prof. Yutaka Sasaki*

1. Optimization of Tactical Microgrid via Integrated LSTM-Q-Learning Models
   Chanmok Park, Gyeong Hwan Ji, Hobin Lim and Yong-June Shin
2. Preventive maintenance policies for Linear connected-(1,2)-or-(2,1)-out-of-(n1,n2):F systems
   Lei Zhou and Taishin Nakamura

Technical Program on Dec. 7, 2025

Special Session (2) (Room 603, 11:00~12:00)
Session Chair: *Prof. Daisuke Hirotani and Prof. Keiichi Tamura*

1. Detecting Audio Adversarial Examples using Filtering Method based on Spectral Subtraction
   Kyonosuke Takahashi and Keiichi Tamura
2. Generating Adversarial Examples of Time Series Data for Time Series Classification using Differential Evolution
   Kensei Yamada and Keiichi Tamura
3. Multi-stage Machine Learning Model for Classification and Prediction Learners
   Toshiki Tsuji, Tomohiro Hayashida, Kento Tsutsumi, Takuya Kinoshita, Shinya Sekizaki and Shin Wakitani

Session 3 *Machine and Deep Learning* (Room 603, 13:20~14:20)
Session Chair: *Prof. Tomohiro Hayashida*

1. Residual-Attention CNN for Dysgraphia Detection Using Synthesized Offline Handwriting from Online Traces
   Manabu Okawa
2. Featurization and visualization for City Tourism Analysis utilizing Posted Photographs on SNS
   Chelin Liu and Fuminori Kimura
3. Interactive Evolutionary Computation with User Preference Estimation Based on Gaze Information
   Akira Hara, Masato Tsuneda and Tomoko Kajiyama

Session 4 *Optimization* (Room 603, 14:40~15:20)
Session Chair: *Prof. Shinya Sekizaki*

1. A Semi-Markov Decision Process Approach to American Option Pricing with Sojourn Time Dependence
   Yosuke Sakurai, Lu Jin and Ying Ni
2. Inventory Control Using a Drifted Poisson Process: Applicability to Actual Intermittent Demand Data
   Ryoya Koide, Yurika Ono and Aya Ishigaki

Closing (Room 603, 15:20~15:40)