



## **UBI-MEDIA 2025/ I-SPAN 2025/ IC 2025**

The 13th International Conference on Ubi-Media Computing and Workshops  
The 17th International Symposium on Pervasive Systems, Algorithms, and Networks  
The 8th International Conference on Innovative Computing

**MIOT MLMA SS\_IAS**

## **Conference Agenda**

**January 19-23, 2025**

**@Bangkok, Thailand**





# Schedule

<b>Day 1 - January 19, 2025 (Sunday)</b>
<b>Executive Committee Meeting</b>

<b>Day 2 - January 20, 2025 (Monday)</b>			
	<b>Room #1</b>	<b>Room #2</b>	<b>Room #3</b>
<b>Morning Session</b>			
08:30~09:00	Registration		
09:00~09:30	Opening Conference (Room: Kamolthip)		
09:30~10:20	Keynote Speaker I (Room: Kamolthip)		
10:20~10:30	-- Coffee break --		
10:30~12:00	Session1-1	Session1-4	Session1-7
12:00~13:00	Lunch		
<b>Afternoon Session</b>			
13:00~13:50	Keynote Speaker II (Room: Kamolthip)		
13:50~15:20	Session1-2	Session1-5	Session1-8
15:20~15:30	-- Coffee break --		
15:30~17:00	Session1-3	Session1-6	Session1-9
17:00~18:00	Meeting Time		
18:00~	Banquet		

<b>Day 3 - January 21, 2025 (Tuesday)</b>			
	<b>Room #1</b>	<b>Room #2</b>	<b>Room #3</b>
<b>Morning Session</b>			
09:00~10:30	Session2-1	Session2-5	X
10:20~10:30	-- Coffee break --		
10:30~12:00	Session2-2	Session2-6	X
12:00~13:00	Lunch		
<b>Afternoon Session</b>			
13:00~14:30	Session2-3	Session2-7	X
14:30~14:40	-- Coffee break --		
14:40~16:20	Session2-4	Session2-8	X
16:20~17:00	Closing Conference and Best Paper Award (Room #2)		

<b>Day 4 - January 22, 2025 (Wednesday)</b>	
	<b>Kasetsart University</b>
<b>Morning Session</b>	
09:00~10:30	Student Workshop #1
10:30~12:00	Technology Talk #1
<b>Afternoon Session</b>	
13:00~14:30	Student Workshop #2
14:30~16:00	Technology Talk #2
16:00~17:00	Meeting Time

<b>Day 5 - January 23, 2025 (Thursday)</b>	
	<b>Kasetsart University</b>
<b>Morning Session</b>	
09:00~10:30	Student Workshop #3
10:30~12:00	Technology Talk #3
<b>Afternoon Session</b>	
16:20~17:20	<b>Executive Committee Meeting</b>

**Ubi-media/I-SPAN/IC 2025 Program**  
**January 19-23, 2025**

<b>K-I</b>	<b>Room: Kamolthip</b>
	<b>January 20th, 9:30 - 10:20</b> <b>Session Chair: Prof. Chuan-Yu Chang</b>
	<b>Conference and Ubi-media Keynote Speaker: Prof. Chia-Hui Chang</b>

<b>K-II</b>	<b>Room: Kamolthip</b>
	<b>January 20th, 13:00~13:50</b> <b>Session Chair: Prof. Ching-Hsien Hsu</b>
	<b>Conference and I-SPAN Keynote Speaker: Prof. Timothy K. Shih</b>

**@Room 1**

Session	January 20th, 2025 @Room 1
Session1-1	10:30 - 12:00 Session Chair: Prof. Min-Te Sun, Taiwan
U-1	A Graph-based System for PM2.5 Prediction LKotcharat Kitchat, Isariya Sirivejabandhu, Yen-Chang Liang, Min-Te Sun, Kazuya Sakai, Wei-Shinn Ku, Fang-Yi Cheng, Scott Chih-Hao Huang, Tsi-Uí Ík and Thattapon Surasak
U-3	Cost-Sensitive SMS Spam Detection Using Enhanced Three-Step Data Preprocessing and Support Vector Machine Classification Narongsak Chayangkoon and Chatchai Kasemtaweechok
U-4	Optimizing End Device Data Rate Assignment in LoRaWAN Networks with Collision Probability Considerations Ching-Lung Chang
U-5	Forklift Collision Avoidance System Based on AI and Edge Computing Ya-Yung Huang and Hsien-Huang Wu
U-6	Optimal YOLO-based Model for Fabric Anomaly Detection Nonpawit Silabumrungrad, Supakrit Somridjinda, Chien-Chang Chen, Jirawan Charoensuk and Chalothon Chootong

Session	January 20th, 2025 @Room 1
Session1-2	13:50~15:20 Session Chair: Prof. K Priyantha Hewagamage
U-8	Generative-AI powered TA BOT for Enhanced Personalized Support in Software Engineering Education Sudam Rohanadeera and K Priyantha Hewagamage
U-11	A Pilot Study of Quantum-inspired Optimization for Test-sheet Generation Wen-Chih Chang, Chia-Ho Ou and Cheng-An Yang
U-14	Stock Price Prediction Using Univariate and Multivariate Historical Data with Post-Interpretation via Large Language Models Harith Phalangpatanakij, Chanathip Deemee, Sheng-Chih Chen and Tipajin Thaipisutikul
U-15	Using Deep Learning Models to Solve Single Machine Scheduling Questions Jian-Feng Chen and Yi-Chung Chen
U-19	Deep-Learning-based Early Stage Gastric Cancer Detection in Narrow-Band-Imaging Gastroscopy Images Using Pyramid Spatial Pooling U-net Cian-Ting Huang, Tsung-Chun Lee, Takashi Kanesaka, Noria Uedo, Hsiu-Po Wang and Hsuan-Ting Chang

Session	January 20th, 2025 @Room 1
Session1-3	15:30~17:00 Session Chair: Prof. Jiun-Long Huang
U-12	A Lightweight Peak Value Prediction Model for Time Series Data Ching-Ya Huang, Hsu-Chao Lai, Jiun-Long Huang, Tsung-Che Tsai, Ching-Po Cho and Chu-Chuan Lee
U-22	Quantitative Study of Key Technologies and Involvement Enhancement for Metaverse Piano Concerts Jiung-Yao Huang, Chung-Hsien Tsai, Pei-Chi Hong and I-Yi Pan
U-9	A Novel Time-Awareness Recommendation System Yi-Cheng Chen, Lin Hui, Sheng-Chih Chen, Jou-Han Liu, Po-Fu Yeh, Chia-Hsin Lu and Ching-Hsien Hsu
U-25	Hybrid AI Solutions for Enhanced User Identification Using PPG Biometrics Danyal Shahmirzadi, Wen-Fong Wang and Mahsa Majd
U-23	E-DDPG: An Enhanced DDPG-Based Approach for UAV Task Offloading Optimization Ziqi Zhou, Qing-An Zeng and Zhenjiang Zhang

**@Room 2**

Session	January 20th, 2025 @Room 2
Session1-4	10:30~12:00 Session Chair: <b>Prof. Chung-Ming Huang</b>
I-1626	The Routing Exploration of Multiple k-hop-limited C-V2V Paths for Small Cell Data Offloading using the Maximum Flow Concept <b>Chung-Ming Huang and Liang-Wei Chen</b>
I-2792	Exploring Bio-inspired Optimization for Hyperparameter Tuning in Deep Learning Image Classification <b>Po-Yen Hsu, Mu-Yen Chen and Yi-Syuan Wang</b>
I-3227	On Pancyclicity and Cycle Embeddings in a Torus-Connected Cycles Network <b>Antoine Bossard and Keiichi Kaneko</b>
I-6775	A lightweight neural network search method suitable for heterogeneous computing environments <b>Chi-Ting Shih and Chao-Chin Wu</b>
IC-12	IoV Cyberattack Detection via TabTransformer on CAN Bus Communications <b>Jahanggir Hossain Setu, Armun Alam, Nabarun Halder, Asif Mahmood, Ashraful Islam and M. Ashraful Amin</b>
IC-13	Cross-Dataset Framework for Diabetes Prediction with KAN and MLP <b>Armun Alam, Jahanggir Hossain Setu, Syed Tangim Pasha, Nabarun Halder, Ashraful Islam and M. Ashraful Amin</b>

Session	January 20th, 2025 @Room 2
Session1-5	13:50~15:20 Session Chair: <b>Prof. Tomohiro Morikawa</b>
I-3496	Novel Malware Similarity Analysis: Regional Longest Common Substring Algorithm with Elastic Suffix Tree <b>Wei-Ren Zhuang, Tao Ban, Shin-Ming Cheng, Tomohiro Morikawa and Takeshi Takahashi</b>
I-3673	Design and Implementation of Cloud-Native Telco Application Service Based on Cloud-Fog Computing <b>Wu-Chun Chung, Cheng-Sung Tsai and I-Chih Chou</b>
I-5861	Optimizing the Utilization of Cargo Containers by Hybrid Artificial Intelligence Approaches <b>Yen-Chen Li, Chuin-Mu Wang and Chen-Kun Tsung</b>
I-6354	Melodic Skeleton Generation using Simulated Annealing <b>Yu-Cheng Lin, Cheng-Han Wu, Pimpa Cheewaparakobkit, Yu-Wen Lei and Timothy K. Shih</b>
I-6547	Enhancing Adversarial Attacks with Vector Quantization <b>Isack Farady, Yi-En Chen and Chih-Yang Lin</b>



Session	January 20th, 2025 @Room 2
Session1-6	15:30~17:00 Session Chair: Prof. Ching-Hsien Hsu
I-3305	Serverless Computing at the Edge: Evaluating Execution Models and Latency Performance Chandramohan Reddy Poreddy, Ching-Hsien Hsu and Ayesha Sadiqqa
I-7572	An Accurate and Robust Deep Learning-Based Stacked Generalization Method for Android Malware Detection Ayumu Masudome, Tao Ban, Takeshi Takahashi, Tsung-Nan Lin and Tomohiro Morikawa
I-8420	A Study on Feature Selection Optimization for Cheating Detection in Cybersecurity Practical Exercises Yu-Chih Wei, Wei-Yao Chen and Chien Hung Chen
I-9852	A Stochastic Edge-fault-tolerant Routing Algorithm in Torus Networks Jun Zhang and Keiichi Kaneko
I-1668	Design of the FSORT-based highway passing lane continuous driving enforcement system Namyoul Baik, Gi Tae Kim and Jong Wook Jang
I-6869	Local Diagnosis for Unidirectional Star Graph under Comparison Model Xiawei Zhang, Yali Lv and Chenkuan Lin

**@Room 3**

Session	January 20th, 2025 @Room 3
Session1-7	10:30~12:00 Session Chair: Prof. Aurawan Imsombat
MLMA-1	Using Convolutional LSTM and Transformer for Rainfall Classification based on Himawari-8 Data Pei-Chi Liao, Ying-Nong Chen and Tipajin Thaipisutikul
MLMA-2	Evaluating design strategies for AI virtual teaching assistants and immersive learning scaffolding in programmed teaching games Jian-Hua Gu, Sheng-Chih Chen, Lin Hui, Tipajin Thaipisutikul, Hui-Shiuan Hung, Heng Du and Chih-Chi Yeh
MLMA-3	Enhanced Glass Defect Classification Using Deep Learning Techniques Shih-Yu Chen, Yen-Hsiang Chen, Yih-Lon Lin and Fong-Ji Tsai
MLMA-4	Application of Deep Learning for Anomaly Detection on Solar Panels Chuan-Yu Chang, Chun-Ying Huang and Po-Yu Su
MLMA-6	Extract senior high school transcripts by integrating OCR and Yolo8 Suphanat Sroyphet, Lerdphipat Kanjanarungroj, Pinpawat Limsuwat, Somchoke Ruengittinun and Soontharee Koombairojn

Session	January 20th, 2025 @Room 3
Session1-8	13:50~15:20 Session Chair: Prof. Sheng-Zhi Huang
MIOT-1	The Performance study of Using EnCoCo-RED on Observing Resource with Block-Wise Transfer Tanapat Anusas-Amornkul, Thavrak Chan and Chatchai Khunboa
MIOT-2	An Intelligent System for Zipper Defect Detection Chun-Hung Yang, Jiun-Yu Tu, Hao-Jen Kuan, Sheng-Yun Chen and Zong-Yan Huang
MIOT-3	Application of Lidar Detection Module in Bicycle Hazard Detection and Treatment Yung-Hui Chen, Jiun-Yu Tu, Chun-Hsiung Tseng, Peng-Wen Chen, Huang-Wen Huang and Zong-Hung Hsieh
MIOT-4	Learning-Based Relay Selection for Efficient Data Communications in Vehicular Networks Bo-Ting Sung, Sheng-Zhi Huang, Kun-Yu Lin, Mohd Yaseen Mir, Wu-Min Sung and Chih-Lin Hu
MIOT-7	A Sustainable and Intelligent Parking Guidance System for Smart Cities Yung-Hui Chen, Jiun-Yu Tu and Wen-Yi Chen

<b>Session</b>	<b>January 20th, 2025 @Room 3</b>
<b>Session1-9</b>	<b>15:30~17:00 Session Chair: Prof. Chalothon Chootong</b>
<b>MLMA-5</b>	<b>Design and Implementation of a GenAI-based Music Creation System</b> Chuan-Wang Chang, Yi-Jing Chen, Yu-Chin Chang, Jun-Wei Hsieh and Deng-Yuan Huang
<b>MLMA-8</b>	<b>An Improved Data Smooth Method with its Application on Aerial Calligraphy</b> Chien-Chang Chen, Ji-Ren Wan, Petchgamon Sangnual, Thanwarat Sirichotevanich, Somchoke Ruengittinun and Chalothon Chootong
<b>SS_IAS_1</b>	<b>YNote: A Novel Music Notation for Fine-Tuning LLMs in Music Generation</b> Shao-Chien Lu, Chen-Chen Yeh, Hui-Lin Cho, Chun-Chieh Hsu, Tsai-Ling Hsu, Cheng-Han Wu, Timothy K. Shih and Yu-Cheng Lin
<b>IC-23</b>	<b>How Heavy is a Lightweight Crypto-Protocol?</b> Denis Trcek
<b>IC-25</b>	<b>Collusion Detection in Private Procurement Auctions</b> Ssu-Han Chen

**@Room 1**

Session	January 21st, 2025 @Room 1
Session2-1	09:00~10:30 Session Chair: <b>Marut Buranarach</b>
U-16	Enhancing WiFi CSI Activity Recognition Using a Diffusion Approach with the TCN-T Model <a href="#">Chih-Yang Lin, Yu-Tso Liu, Wei-Ting Liu and Timothy K. Shih</a>
U-20	Ubiquitous Artificial Pancreas: Blockchain-Secured AI-Driven Digital Twin for IoT-Enabled Insulin Pumps in Type 1 Diabetes Management <a href="#">Balakrishnan P, Anny Leema A and Arun Kumar Sangaiah</a>
U-21	VAE-based Compression of Token Embeddings for Domain-Specific Adaptation of Pre-trained Language Models <a href="#">Anny Leema A, Balakrishnan P and Arun Kumar Sangaiah</a>
U-28	Enhancing Contrastive Learning in Sequence Classification via Data Augmentation <a href="#">Hanjuan Huang, Jue-Yao Tang and Hsing-Kuo Pao</a>
U-29	Hybrid Imputation Techniques for Long-term Missing Data in Time Series: A Case Study on PM2.5 <a href="#">Han-Chi Chen, Po-Yuan Chu, Yi-Chung Chen and Hone-Jay Chu</a>

Session	January 21st, 2025 @Room 1
Session2-2	10:30~12:00 Session Chair: <b>Prof. Tae-Young Byun</b>
U-26	Advanced Golf Swing Analysis Using MediaPipe and Machine Learning <a href="#">Thattapon Surasak, Pachara Temjai, Patcharawit Wilaikaew, Kotcharat Kitchat and Min-Te Sun</a>
U-27	AI-Driven Classification of Chest Diseases Using X-Ray Images <a href="#">Thattapon Surasak, Kanyalak Songsee, Achiraya Binahmud, Kotcharat Kitchat and Min-Te Sun</a>
U-30	OpenAI Based Text-Framework for Research Paper Classification using Graph Convolutional Network <a href="#">Dipto Biswas, Tae-Young Byun and Joon-Min Gil</a>
U-31	Collection and Integration of Accommodation Data for the Development of a Jeju-Specific Personalized Travel Recommendation Service <a href="#">Yu Jeong Lim, Hong Lae Kim, Soo Kyun Kim and Yeo Chan Yoon</a>
U-32	LiDAR Pedestrian Detection and Trajectory Tracking Based on Morphological Extended-Jump-Distance Clustering Segmentation <a href="#">Chian C. Ho and Jia-Wei Li</a>

Session	January 21st, 2025 @Room 1
Session2-3	13:00~14:30 Session Chair: Prof. Worasait Suwannik
U-38	WRSU-Net: Enhanced Underwater Image Restoration Using W-Net and ReSU-Block for Multi-Scale Feature Fusion Hong-Kai Chen, Jun-Wei Hsieh, Han-Ting Huang and Meng-Yu Kao
U-39	Zero Knowledge Proof for Multiple Sequence Alignment Worasait Suwannik
U-40	A Hybrid Framework for the Development of Government Data Catalog: A Case Study of the Government Data Catalog of Thailand Marut Buranarach, Patipat Tumsangthong and Theerawat Wutthitasarn
U-41	Intelligent Safety-Redundant IoT-Edge System for Indoor Gas Leakage Detection Thitinan Tantidham, Chih-Lin Hu, Voramon Kachanun, Kitiphum Mueangthongkham, Penpitchapa Pantaraksakul, Jidapa Moolkaew, Peter M.D. Scully and Nattachart Tamkittikhun
U-24	Development of a Smartphone-Integrated Microalgae Photobioreactor for CO <sub>2</sub> Capture and Oxygen Generation in Indoor Air Purification Systems Byungrak Son, Changhak Cho, Sujin Son, Jinhyun Seul, Yongjun Jon, Tae-Young Byun and Bonghwan Kim

Session	January 21st, 2025 @Room 1
Session2-4	14:40~16:20 Session Chair: Prof. Lin Hui
U-18	Location Estimation for Indoor Environment based on Double Self-Organization Map Yi-Zeng Hsieh, Lin Hui, Yu-Chen Chang and Ching-Hsien Hsu
SS_IAS_2	A NeuroFuzzy-Controlled Pneumatic Robotic Arm Rehabilitation System Driven by EEG Signals Po-Lei Lee
SS_IAS_3	Utilizing the Transformer architecture combined with EEGNet to achieve real-time manipulation of EEG in the metaverse Po-Lei Lee
SS_IAS_4	Reinforcement Learning for Robotic Arm Ultrasound Scanning of the Abdomen Lu Po Wei and Po-Lei Lee
SS_IAS_5	Real-Time Character Control in Virtual Environments Using Deep Learning to Detect Pre-Movement EEG Signals Hungchih Lai and Po-Lei Lee

**@Room 2**

Session	January 21st, 2025 <b>@Room 2</b>
Session2-5	09:00~10:30 Session Chair: <b>Prof. Arun Kumar Sangaiah</b>
U-33	<b>A Real-Time Vision-Based Pitcher Release Point Detection</b> <b>Shih-Fang Chen, Tsai-Ling Tu and Huang-Chia Shih</b>
I-7568	<b>Word Embedding Bias in Large Language Models</b> <b>Poomrapee Chuthamsatid, Shera Potka and Alex Thomo</b>
I-2473	<b>Enhancing ITS with Agile Optimization for Dynamic Ride-Sharing Mobility</b> <b>Anmol Jaiswal, Sudhakar Kumar, Sunil K. Singh, Ayushi Manhas, Brij B. Gupta, Ching-Hsien Hsu and Kwok Tai Chui</b>
I-6657	<b>Big Data-Driven Phishing Detection in Smart Devices Using Chi-Square and Optimized Gradient Boosting</b> <b>Akshat Gaurav, Brij B. Gupta, Ching-Hsien Hsu and Kwok Tai Chui</b>
I-9703	<b>Optimizing Reasoning Engines using TF-IDF Vectorization Approach for Enhanced Toxicity Classification</b> <b>Manya Girdhar, Sudhakar Kumar, Sunil K. Singh, Rashmi Pal, Varsha Arya, Razaz Waheeb Attar, Brij B. Gupta and Kwok Tai Chui</b>
IC-21	<b>Resource-Efficient Super-Resolution: A Multi-Layer Approach with Selective Processing</b> <b>Mingyang Liu and Hironori Nakajo</b>

Session	January 21st, 2025 @Room 2
Session2-6	10:30~12:00 Session Chair: Prof. Hao-Shang Ma
IC-02	Enhancing Skin Disease Diagnosis Through Advanced Imaging Classification Techniques Ming-Ju Chen, Pei-Yun Wang, Han-Jie Shih, Wen-Yen Chang, Ci-An Lai and Jia-Lang Xu
IC-03	Transforming VAT Systems through Open Innovation and Technology – a Conceptual Model Zornitsa Yordanova
IC-05	Evaluating Open Innovation Models for AI Development in Industry 4.0 and 5.0 Contexts Zornitsa Yordanova
IC-06	The Effectiveness of Integrating Attack-Defense Simulation Platforms and Peer Competition Learning Strategies into the Development of Internet Systems Courses Iao-Seng Cheang, Jason C. Hung, Yu-Ling Tu, and Wen-Yen Lin
IC-07	Lightweight Keyed Hash Function Based on Parabola Chaotic Map Nattagit Jiteurtragool, Thattapon Surasak, Jirayu Samkunta and Chatchai Wannaboon
IC-20	Innovative 220° FoV 3D Mapping Using Fisheye Camera for Autonomous Agent Navigation: 3D AMCL Approach Heru Syah Putra, Muhammad Azhar Ismail, Basith Abdurrohman Asy'ari, Muhammad Zakiyullah Romdlony and Angga Rusdinar

Session	January 21st, 2025 @Room 2
Session2-7	13:00~14:30 Session Chair: Prof. Jia-Wei Chang
IC-01	Haptic Guidance for Robot Trajectory Teaching Mahfud Jiono, Hsien-I Lin and Sung-Chi Wu
IC-08	Dual Visual Feature-Driven Cross-modal Radiology Report Generation Weili Zhang and Fujiao Ju
IC-09	Using Station Passenger Flow to Predict Store Types: A Case Study of the Yamanote Line in Tokyo Chih-Hung Lin, Wei-Chen Wu, Yu-Hao Ting, Li-Chun Chen and Ting-Wei Tsai
IC-10	User Experience Evaluation in Game Content Generation of Super Mario Bros Yu-Cheng Cheng, Yanan Wang and Yan Pei
IC-15	Query Similarity Evaluation and Management Towards Localizing Query Response Ruben A. Parazo
IC-22	On Black-box Optimization Problems Based on Bayesian System Modeling with Gaussian Processes Kenichi Tamura
IC-11 (Video)	The Research on Transformer Dual-Channel Attention Architecture for Depression Recognition Po-Yen Lin, Chih-Hung Chang, Yu-Wei Chan and Jason C. Hung



<b>Session</b>	<b>January 21st, 2025 @Room 2</b>
<b>Session2-8</b>	<b>14:40~17:00 Session Chair: Prof. Neil Y. Yen</b>
<b>IC-16</b>	<p><b>Development of a Classification Model for Pediatric Cardiac Abnormality Detection Through the Integration of Child Physiological Data and Phonocardiogram Features</b></p> <p><a href="#">Yu-yu Yen, Chun Chang, Jui-Hung Kao and Woei-Chyn Chu</a></p>
<b>IC-17</b>	<p><b>Application of VR Technology and Big Data in a Personalized Performance Assessment System</b></p> <p><a href="#">Chao-Ting Chu, Jia-Wei Chang and Chih-Tan Cheng</a></p>
<b>IC-24</b>	<p><b>Determining the Width and Depth of Deep Neural Networks by Leveraging Kolmogorov-Arnold Networks</b></p> <p><a href="#">Tze-Houng Lee and Xue-Ming Yuan</a></p>
<b>IC-19</b>	<p><b>A Novel CNN-Fourier-Vision Transformers Framework for Enhanced Pattern Recognition in Visual Data</b></p> <p><a href="#">Nagaraju K, Gokaramaiah Thota, Sathya Babu Korra, Arjun Perapatruni and Kartheek Janapati</a></p>
<b>IC-18 (video)</b>	<p><b>Unraveling Psycholaboral Risk Factors: Ordinal Prediction of Teacher Well-Being in University Institutions in Ecuador</b></p> <p><a href="#">Carlos Alberto, Espinosa-Pinos, Paúl Bladimir Acosta-Pérez and Camila Alessandra Valarezo-Calero</a></p>