

TENTATIVE PROGRAM

The 2nd International Conference on Intelligent Aerial Access and Applications (IAAA 2026)

Ho Chi Minh City, Vietnam

July 27-29, 2026

DAY 1		Monday, July 27, 2026	
07:30-08:30	Registration, Location: B4 Hall, Ho Chi Minh City University of Technology (HCMUT)		
08:30-09:15	Opening Ceremony		
Keynote Session. Time: 9:15 - 11:30 Room: B4 Hall			
9:15-10:15	Chair: Prof. Ngo Khanh Hieu		
	KEYNOTE 1: Meeting in Midair: Optimal Rendezvous with Uncertain Motion by Prof. Dr. Tan Bui-Thanh, The University of Texas at Austin, USA		
10:15-10:30	Tea break		
10:30-11:30	Chair: TBA		
	KEYNOTE 2: Multilevel Co-design for AI Accelerator by Prof. Dr. Cong-Kha Pham, The University of Electro-Communications, Japan		
Lunch			
13:00 - 14:40	Room: B4-301 <i>Track 3.A.1: AI and Machine Learning for Aerial Systems I</i> Chair: Vo Tuan Binh 1. Presenter: Tinh Nguyen DLG-YOLO: Density-Aware Local-Global Feature Decoupling with Scale-Aware Deformable Aggregation for UAV Small Object Detection 2. Presenter: Tinh Nguyen; BASNet: Boundary-Aware Sparse Hybrid Network for High-Resolution UAV Imagery Semantic Segmentation	Room: B4-302 <i>Track 5.B.1: Intelligent Remote Sensing and Applications I</i> Chair: Phan Tran Minh Khue 1. Presenter: Tran Truong Giang Deep Learning Approaches for Automatic LOD2 Building Reconstruction from Point Cloud Data: A Systematic Review 2. Presenter: Nhu Mai Anh Tran A Biometric-Anchored Sensing Kiosk for Secure Human Digital Twins with Blockchain Provenance in Smart Healthcare Environments 3. Presenter: Le Quang Truc Nguyen TinyRAG for Smart Homes: A Multi-Agent IoT Automation Framework 4. Presenter: Nguyen Thi Huu Phuong An Intelligent Topology-Aware Framework for Efficient LiDAR Data Storage and Query Acceleration 5. Presenter: Phan Ngoc Lan Chi; Khuong Nguyen-An An Aerial-Ground Decision Support Framework for Salinity-Aware Sluice Gate Operation Using Simulated UAV-Derived Spatial Monitoring	Room: B4-303 <i>Track 6.C.1: Security, Safety, and Trustworthy Aerial Systems I</i> Chair: Mai Duc Tho 1. Presenter: Nguyen Vo Detector Assisted UAV Tracking with Machine Learning Based Gating 2. Presenter: Phuc Tran Vinh A Distributed Intrusion Detection System Based on Suricata and Stacking Ensemble Learning for UAV Systems 3. Presenter: Thanh Dzoan A Risk-Priority Framework for UAV Incident Forensics Using Multi-Sensor Pattern Analysis and Adaptive Temporal Windowing 4. Presenter: Van Dung Nguyen Obfuscation-Resilient Graph Extraction for Secure UAV Flight Controllers 5. Presenter: Van Dung Nguyen An XDP/eBPF-Based Zero-Copy Processing Framework for Efficient Threat Mitigation in UAV Networks
	3. Presenter: Hoang-Minh Le Lightweight YOLO Framework with High-Resolution Heads and Distribution-Based Loss for Small UAV Detection 4. Presenter: Hong Anh Le; Thai Viet Nguyen; Nhat Nam Pham Le Panoramic Bird's-Eye View Image Generation from Multi-Sensor LiDAR-Camera Fusion for Road Feature Detection 5. Presenter: Kiet Nguyen Tuan Tran Worst-User Rate Maximization in ARIS-Assisted OTFS-NOMA Systems Using Deep Reinforcement Learning		
14:40-15:00	Tea break		
15:00-16:40	<i>Track 3.A.2: AI and Machine Learning for Aerial Systems II</i> Chair: Vo Tuan Binh 1. Presenter: Luong Vuong Nguyen Swarm-Based Context-Aware Recommendation for Efficient UAV Data Collection in Dynamic Environments 2. Presenter: Minh-Thanh Vo Toward Real-Time Situational Awareness: Edge-Enabled Deep Learning for Human and Weapon Detection in UAV Surveillance Systems 3. Presenter: Quyen Tran MARS: Lightweight Multi-Task Mamba for Joint Dynamic-Collision and Trajectory Prediction in Mapless Navigation 4. Presenter: Thien Duc Hua Superdirectivity for Large-Scale Intelligent Aerial Communication Systems 5. Presenter: Tung Son Do Optimal Transport-Based UAV Positioning for Aol-Aware IoT Data Acquisition with Wireless Power Transfer	<i>Track 5.B.2: Intelligent Remote Sensing and Applications II</i> Chair: Phan Tran Minh Khue 1. Presenter: Sufyan Danish; Muhammad Fayaz; Gul E Arzu; Wenqi Zhang; L. Minh Dang; Hyeonjoon Moon Toward Cognitive Fire Intelligence: A Survey of UAV-Based Multimodal Fire Analysis 2. Presenter: Cao Vu Bui Lightweight Hyperspherical Representation Learning for Robust and Data-Efficient UAV Hyperspectral Image Classification 3. Presenter: Cao Vu Bui A Multi-Dimensional Comparative Review of Convolutional and Spiking Neural Networks for Remote Sensing Image Classification and Edge Aerial Intelligence 4. Presenter: Thanh Dzoan An Inherently Interpretable Framework for Spatio-Temporal UAV Risk Mapping via Time-Persistent Pattern Mining 5. Presenter: Quang-Hung Nguyen; Nam Thoai; Kien Le; Minh Pham Hoang; Tin Nguyen Chanh Systems Analysis and Water Quality Forecasting Based on Parallel ETSFormer and GAN-LSTM: Robustness Against Sensor Missingness and Explainability with SHAP	<i>Track 6.C.2: Security, Safety, and Trustworthy Aerial Systems II</i> Chair: Mai Duc Tho 1. Presenter: Van-Phuc Hoang Improved Deep Convolutional Correlation Iterative Particle Filter for Drone Tracking Using mmWave Radar 2. Presenter: Loc Nguyen Thanh Lightweight AEAD for Edge AI in UAV Systems: Performance and Security Trade-Offs 3. Presenter: Ngoc Uy Phong-Le An FPGA-Based Efficient SHA3 Architecture for Edge-AI-Powered UAV Platforms 4. Presenter: Thuan Nguyen Kim Beyond Relay Attacks: A Cross-Layer and Robustness Evaluation of CCC Digital Key Systems Utilizing NFC, BLE, and UWB 5. Presenter: Duy Dong Robust UAV Classification Based on RF Signals: A Phase-Preserving Spectrogram and ResCBAM Architecture Approach
18:30 - 21:00	Welcome dinner (with guests who received invitation letters)		

DAY 2	Tuesday, July 28, 2026
08:00-08:45	Registration, Location: B4 Hall, Ho Chi Minh City University of Technology (HCMUT)

Keynote Session. Time: 08:45 - 09:45 Room: B4 Hall			
	Chair: TBA		
8:45-9:45	KEYNOTE 3: Why LLM Inference Is a Networking Problem. by Prof. Dr. Nguyen H. Tran, The University of Sydney, Australia		
09:45-10:00	Tea break		
	Chair: Prof. Pawan Lingras		
10:00-12:00	Industry Workshop		
Lunch			
13:30 - 15:10	Room: B4-301 <i>Track 2.A.1: Autonomous Drones and Intelligent Control I</i> Chair: Pham Hoang Anh 1. Presenter: Tri-Hai Nguyen; Luong Vuong Nguyen; Laihyuk Park Coverage-Oriented Trajectory Optimization for UAV-Assisted Networks via Multi-Agent PPO 2. Presenter: Nguyen Duc Tai Trajectory Optimization of the Pioneer 3-DX Mobile Robot Using Genetic Algorithm with Dynamic Constraints 3. Presenter: Phuoc-Vinh Nguyen Adaptive Sliding Mode Fault Observer for Multi-Channel Loss-of-Effectiveness Estimation in Quadrotor UAVs 4. Presenter: Chuong Dang-Le-Bao DT-MARL-UAV: Safe Multi-UAV Trajectory Coordination via Digital Twin-Assisted Multi-Agent Reinforcement Learning 5. Presenter: Chuong Dang-Le-Bao Diffusion Policy Optimization for Autonomous UAV Navigation in GNSS-Denied Cluttered Environments	Room: B4-302 <i>Track 1.B.1: Aerial Platforms and Embedded Systems I</i> Chair: 1. Presenter: Quoc Thinh Le Loc A Full-Stack Bare-Metal RISC-V SoC with Gemini Accelerator and MicroTVM for Intelligent Aerial Edge Inference 2. Presenter: Anh Kiet Pham; Yasuhiko Nakashima A Compact Karatsuba Accelerator for HQC on FPGA-Based IoT Devices 3. Presenter: Cao Vu Bui From Model-Centric to System-Level Optimization: A Profiling-Driven Framework for Minimizing End-to-End Latency in UAV Edge AI 4. Presenter: Nguyen Thien Phuc An FP32-Safe FPGA-Based UKF Fusion IP Core for Real-Time Multi-Sensor Tracking on IoT Edge Platforms 5. Presenter: Dang Tran Optimized FPGA Acceleration of YOLOv8 Detection Head for Resource-Constrained UAVs	Room: B4-303 <i>Track 3.A.3: AI and Machine Learning for Aerial Systems III</i> Chair: 1. Presenter: Van Dung Nguyen An Efficient Deep Q-Learning Framework for QueueAware Routing in Aerial Sensor Networks 2. Presenter: Luong Vuong Nguyen Explainable UAV Swarm Decision Recommendation via Graph-Based Reasoning 3. Presenter: Duc-Tho Mai SSA-ResNet: A Multi-Resolution RF Signal Representation Framework for UAV Detection 4. Presenter: Ba-Phuc Bui Feature Replay for Privacy-Preserving Continual Object Detection Under Domain Shift 5. Presenter: Hoa Ho Thai An Adaptive Aggregation Scheme for Decentralized Federated Learning in Smart Financial Systems with Non-IID Data
	15:10-15:30	Tea break	
15:30-16:50	<i>Track 2.A.2: Autonomous Drones and Intelligent Control II</i> Chair: 1. Presenter: Chuong Dang-Le-Bao Physics-Informed Neural Network-Augmented Digital Twin for Wind-Aware Multi-UAV Trajectory Planning in Urban Airspace 2. Presenter: Nguyễn Nhựt Tấn A Hybrid Predictive Architecture Based on Deep Learning and Machine Learning for Network Intrusion Detection 3. Presenter: Van Dung Nguyen Prospect-Theoretic Trade-Offs in Task Offloading for UAV-Assisted MEC	<i>Track 1.B.2: Aerial Platforms and Embedded Systems II</i> Chair: 1. Presenter: Dang Tran Volumetric Multi-View Triangulation for Accurate UAV-Based 3D Object Geolocation 2. Presenter: Minh-Thanh Vo Development of a Self-Balancing Quadcopter with Sensor Fusion and MQTT-Based Control Interface 3. Presenter: Chanh Minh Vo C-LSTM Model Compression Using Quantization-Aware Training for ESP32-S3 Microcontrollers	<i>SS 7.C: UAVs in Low Altitude Economy</i> Chair: Ngo Khanh Hieu 1. Presenter: Loc Thanh Pham Evaluation of Low-Cost GNSS Module and Optimal GCP Distribution with Acceptable-Precision in UAV Photogrammetry 2. Presenter: Luong Minh Quan A Hybrid DenseNet-CBAM-ASPP Architecture for Soybean Disease Classification Using UAV-Acquired Images 3. Presenter: Thi Tuyet Nhung Le Application of Reinforcement Learning and Multi-Fidelity Neural Networks in Aerodynamic Design of Tandem-Wing UAVs 4. Presenter: Thang Van Nguyen Deep Learning-Based Monitoring of Solar Farm Dynamics in Ba Ria-Vung Tau Using Multi-Temporal Sentinel-2 Imagery
	18:30 - 21:00	Gala dinner	
DAY 3	Wednesday, July 29, 2026		
Technical Sessions (Online) Time: 8:30 - 9:50			
8:30 - 9:50	Virtual Room 1 <i>Track 3.A.4: AI and Machine Learning for Aerial Systems IV</i> Chair: 1. Presenter: Tin Duc Duong; Tuan Quoc Nguyen; Trang Hong Le SMC2L: Self-Supervised Mixup Contrastive Continual Learning 2. Presenter: Ha Tien Phuong; Trung-Dung Le Design and Implementation of a Real-Time Fruit Classification System Using TinyML on the ESP32-CAM 3. Presenter: Do Minh Tien; Bao Bui; Phat Tran; Phuc Do; Phuoc Nguyen T. H An Embedded Multimodal WiFi-Vision Framework for Human Identification 4. Presenter: Do Minh Tien; Phuc Do; Phuoc Nguyen T. H. WiVi32-Recon: Lightweight CSI-to-Image Reconstruction for Wireless Vision	Virtual Room 2 <i>Track 4.B: Aerial Communication and Edge Intelligence</i> Chair: 1. Presenter: Le Trong Hien; Tran Thi Minh Khoa; Huu-Dung Ngo Self-Adaptive Q-Learning for Multipath Routing in Dynamic UAV Ad Hoc Networks 2. Presenter: Anh Bao Lam From Centimeter-Scale Imagery to Urban Flood Intelligence: A Structured Integrative Review of UAV-Based Remote Sensing and GIS 3. Presenter: Huan Minh Vo; Toai Kim Tran; Khang Vo Hoang; Phuong Nguye npham mai; Truyen Nguyen Thanh; Khoa Minh Dao Enhanced-YOLOvDP: A Lightweight Real-Time Detection Model for UAV-Based Plant Disease Monitoring on Edge Platforms	