TECHNICAL PROGRAM AT A GLANCE
The 2nd International Conference on Intelligence of Things (ICIT 2023)
co-located with Symposium on Computer Science and Engineering (SCSE 2023)
Ho Chi Minh City, Vietnam, October 25 - 27, 2023

DAY 1	Wednesday, October 25, 2023			
07:15-08:00	**Registration**, Location: B4 Hall			
08:00-09:00	**Opening Ceremony**, Room: B4 Hall			
Keynote Session. **Time: 9:00 - 11:30** **Room: B4 Hall**				
09:00-10:00	**Chair: A/Prof. Dr. Quan Thanh Tho** **KEYNOTE 1.** **by Prof. Dr. Ngoc-Thanh Nguyen, Wroclaw University of Science and Technology, Poland**			
10:00-10:30	**Coffee Break & Exhibition**			
10:30-11:30	**Chair: A/Prof. Dr. Tran Ngoc Thinh** **KEYNOTE 2.** **by Prof. Dr. Koichiro Ishibashi, UEC, Tokyo, Japan**			
Lunch				
13:30-14:50	Room: 601 B4 ***Track 1.1: Internet of Things Applications*** **Chair: A/Prof. Quang Tran Minh** 1. Leverage Deep Learning Methods for Vehicle Trajectory Prediction in Chaotic Traffic 2. Real-Time Air Quality Monitoring System Using Fog Computing Technology 3. Investigating Ensemble Learning Methods for Predicting Water Quality Index 4. Wireless Sensor Network to Collect and Forecast Environment Parameters Using LSTM	Room: 602 B4 ***Track 5.1: Intelligence systems*** **Chair: A/Prof. Vo Thi Ngoc Chau** 1. Shallow Convolutional Neural Network Configurations for Skin Disease Diagnosis 2. Classification of Pneumonia on Chest X-Ray Image Using Transfer Learning 3. DIKO: A Two-Stage Hybrid Network for Knee Osteoarthritis Diagnosis Using Deep Learning	Room: 604 B4 ***Track 3.1: Internet of Things Technologies*** **Chair: Prof. Koichiro Ishibashi** 1. Hardware-Based Lane Detection System Architecture for Autonomous Vehicles 2. A High-Performance Pipelined FPGA-SoC Implementation of SHA3-512 for Single and Multiple Message Blocks 3.Optimizing ECC Implementations Based on SoC-FPGA with Hardware Scheduling and Full Pipeline Multiplier for IoT Platforms 4. AIPicoSoC: A Low-Power RISC-V Based System on Chip for Edge Devices with a Deep Learning Accelerator	Room: 605 B4 ***Track 2: Computational in IoTs*** **Chair: A/Prof. Tran Van Hoai** 1. Solving Feature Selection Problem by Quantum Optimization Algorithm 2. imMeta: An Incremental Sub-Graph Merging for Feature Extraction in Metagenomic Binning 3. An Intelligent Computing Method for Scheduling Projects with Normally Distributed Activity Times 4. Neutrosophic Data Science & Addressing Research Gaps in Geographic Data and Information Systems
14:50-15:10	**Coffee Break**			
15:10-16:30	***Track 1.2: Internet of Things Applications*** **Chair: A/Prof. Phat Nguyen Huu** 1.An IoT-Based Healthcare Monitoring System for Infectious-Diseased Patients 2. Traffic Density Estimation at Intersections via Image-Based Object Reference Method 3.Research and Develop Solutions to Traffic Data Collection Based on Voice Techniques 4. Multiobjective Logistics Optimization for Automated ATM Cash Replenishment Process	***Track 5.2: Intelligence systems*** **Chair: Dr. Nguyen Duc Dung** 1.Low-Light Image Enhancement Using Quaternion CNN 2. Real-Time Singing Performance Improvement Through Pitch Correction Using Apache Kafka Stream Processing 3.An Effective Deep Learning Model for Detecting Plant Diseases Using a Natural Dataset for the Agricultural IoT System 4. DarkMDE: Excavating Synthetic Images for Nighttime Depth Estimation Using Cross-Domain Supervision	***Track 4.2: IoT IDS*** **Chair: Dr. Nguyen Duc Thai** 1. An IDS- Based DNN Utilized Linear Discriminant Analysis Method to Detect IoT Attacks in Edge Computing 2. Network Attack Detection on IoT Devices Using 2D-CNN Models 3. An IDS-Based DNN Model Deployed on the Edge Network to Detect Industrial IoT Attacks 4. Classification of Raisin Grains Based on Ensemble Learning Techniques in Machine Learning	***Track 4.1: Internet of Things Security and Privacy*** **Chair: Dr. Nguyen An Khuong** 1. Diabetic Retinopathy Diagnosis Leveraging Densely Connected Convolutional Networks and Explanation Technique 2. SDN-Based Cyber Deception Deployment for Proactive Defense Strategy Using Honey of Things and Cyber Threat Intelligence 3.Design of a Secure Firmware Over-The-Air for Internet of Things Systems 4. Enhancing Blockchain Interoperability Through Sidechain Integration and Valid-Time-Key Data Access Control

DAY 2	Thursday, October 26, 2023			
08:30-08:45	**Registration**, Location: registration zone			
Keynote Session. **Time: 8:45 - 09:45** **Room: B4 Hall**				
8:45-9:45	**Chair: A/Prof. Dr. Pham Quoc Cuong** **KEYNOTE 3.** **by Prof. Dr. Emanuel Popovici, University of Cork, Ireland**			
9:45-10:00	**Coffee Break**			
10:00-12:00	Room: 601 B4 ***Track 1.3: Internet of Things Applications*** **Chair: A/Prof. Truong Quang Vinh** 1. Bayesian Approach for Static Object Detection and Localization in Unmanned Ground Vehicles 2. Virtual Sensor to Impute Missing Data Using Data Correlation and GAN-Based Model 3. Deep Reinforcement Learning-Based Sum-Rate Maximization for Uplink Multi-User SIMO-RSMA Systems 4. IoT-Enabled Wearable Smart Glass for Monitoring Intraoperative Anesthesia Patients	Room: 602 B4 ***Track 5.3: Intelligence systems*** **Chair: Dr. Tran Tuan Anh** 1. SCBM: A Hybrid Model for Vietnamese Visual Question Answering 2. Age-Invariant Face Recognition Based on Self-Supervised Learning 3. Video Classification Based on the Behaviors of Children in Pre-School Through Surveillance Cameras 4. Improving Automatic Speech Recognition via Joint Training with Speech Enhancement as Multi-Task Learning	Room: 604 B4 ***Track 6.1: Intelligence Technologies: Smart Devices and Solutions for IoTs*** **Chair: Dr. Pham Trung Kien** 1. Design an Indoor Positioning System Using ESP32 Ultra-Wide Band Module 2.OPC-UA/MQTT-Based Multi M2M Protocol Architecture for Digital Twin Systems 3. An Implementation of Human-Robot Interaction Using Machine Learning Models on Embedded Computer 4. Deep Learning Approach for Inundation Area Detection Using Sentinel Data	Room: B4 HALL **Industry Workshop** **Chair: Mr. Nguyen Cao Tri** 1. Accelerate innovation and discovery with HPE HPC/AI Solution Speaker: **Nguyễn Trần Thức - Master Solution Architect, HPE Vietnam** 2. AI Application for Digital Transformation and Efficient Business Operations Speaker: **Dương Anh Nghi - AI Engineering Manager, VNG AI Lab**
Lunch				
13:30-14:50	Room: 601 B4 ***Track 1.4: Internet of Things Applications*** **Chair: Dr. Trong-Hop Do** 1. Land Subsidence Susceptibility Mapping Using Machine Learning in the Google 2. Building an AI-Powered IoT App for Fall Detection Using Yolov8 Approach 3. Robust Traffic Sign Detection and Classification Through the Integration of YOLO and Deep Learning Networks 4. Detection of Kidney Stone Based on Super Resolution Techniques and YOLOv7 Under Limited Training Samples	Room: 602 B4 ***Track 5.4: Intelligence systems*** Chair: **Dr. Le Thanh Sach** 1. Using Machine Learning Algorithms to Diagnosis Melasma from Face Images 2. Reinforcement Learning for Solving Portfolio Selection Problems in the Vietnamese Market 3. Seam Puckering Level Classification Using AIoT Technology 4. An IoT Attack Detection Framework Leveraging Graph Neural Networks	Room: 604 B4 ***Special Session 1: on Blockchain and Distributed Ledger Technology for Internet of Things*** **Chair: Dr. Ngoc Thanh Dinh** 1. Internmed: An Efficient Interoperable Blockchain Protocol for Electronic Health Record Transferring 2. A Blockchain-Based IoT System for Secure Attendance Management 3. A Transparent Scalable E-Voting Protocol Based on Open Vote Network Protocol and Zk-STARKs 4. ZUni: The Application of Blockchain Technology in Validating and Securing Educational Credentials	Room: B4 HALL TBA
14:50-15:10	**Coffee Break**			

15:10-16:30	**Track 3.2: Internet of Things Technologies** **Chair: Asst/Prof. Hoang Trong Thuc** 1. A High-Speed Barret-Based Modular Multiplication with Bit-Correction for the CRYSTAL-KYBER Cryptosystem 2. An Edge AI-Based Vehicle Tracking Solution for Smart Parking Systems 3.A Methodology of Extraction DC Model for a 65nm Floating-Gate Transistor 4. An Improved Hardware Architecture of Ethereum Blockchain Hashing System	***Track 5.5: Intelligence systems*** **Chair: Dr. Nguyen Tien Thinh** 1. Bio-Inspired Clustering: An Ensemble Method for User-Based Collaborative Filtering 2. A Systematic CL-MLP Approach for Online Forecasting of Multiple Key Performance Indicators 3. Adaptive Conflict-Averse Multi-Gradient Descent for Multi-Objective Learning 4. Inhibitory Control During Visual Perspective Taking Revealed by Multivariate Analysis of Event-Related Potentials	***SCSE1: Applied Artificial Intelligence*** **Chair: Dr.Pham Hoang Anh** 1. Low-Rank Adaptation Approach for Vietnamese-Bahnaric Lexical Mapping from Non-Parallel Corpora 2. Voice Conversion for Natural-Sounding Speech Generation on Low-Resource Languages: A Case Study of Bahnaric 3. GPS Trajectory Imputation: A Hybrid Approach Combined Clustering and GAIN-based Algorithm 4. MSDF: Memory Statistics Data Format used in system monitoring	TBA
18:00 - 21:00	**Gala Dinner**			

DAY 3	**Friday, October 27, 2023**			
08:00-08:30	**Registration**, Location: registration zone			
Keynote Session. **Time: 8:30 - 09:30** **Room: B4 Hall**				
8:30-9:30	**Chair: Dr. Tran Hoang Linh** **KEYNOTE 4.** **by Prof. Dr. Pham Cong Kha & Asst.Prof.Dr. Trong-Thuc Hoang, UEC, Tokyo, Japan**			
9:30-09:50	**Coffee Break**			
9:50-11:10	Room: 601 B4 ***Track 5.6: Intelligence systems*** **Chair: A/Prof. Quan Thanh Tho** 1. Multicriteria Portfolio Selection with Intuitionistic Fuzzy Goals as a Pseudoconvex Vector Optimization 2. A Novel Custom Deep Learning Network Combining 1D-Convolution and LSTM for Rapid Wine Quality Detection in Small and Average-Scale Applications 3. A Review in Deep Learning-Based Thyroid Cancer Detection Techniques Using Ultrasound Images 4. Towards a Smart Parking System with the Jetson Xavier Edge Computing Platform	Room: 602 B4 ***Special Session 2 on Blockchain and Distributed Ledger Technology for Internet of Things*** **Chair: Dr. Nguyen An Khuong** 1. CSS-EM: A Comprehensive, Secured and Sharable Education Management System for Schools 2. Securing Digital Futures: Exploring Decentralised Systems and Blockchain for Enhanced Identity Protection 3. EVB - Electronic Voting System Based on Blockchain Technology 4. Applying the Distributed Ledger Technology for the Product Origin Traceability	Room: 604 B4 ***SCSE2: Network and Service Management*** **Chair: Dr.Truong Tuan Anh** 1. The Application of Multivariable Membership Functions to the Fuzzy Neural Model 2. Convolutional Neural Networks for Image Object Recognition and Classification with Large-Scale and Complex Data 3. Clustering Fuzzy Data by Hedge Algebra and Regression Approach 4. Developing a Data Security Solution for the Command and Control Management System at the Headquarters	Room: B4 HALL TBA

Post-conference tour (11:30 Friday - 17:00 Saturday)