2024 International Conference on Advanced Technologies for Communications (ATC) Program

Thursday, October 17

Thursday, October 17 7:30 - 8:40

Registration

Thursday, October 17 8:40 - 9:00

Opening

Thursday, October 17 9:00 - 9:50

Keynote speaker #1: Artificial General Intelligence (AGI)-Native Wireless Systems with Common Sense

Prof. Walid Saad, Department of Electrical and Computer Engineering, Virginia Tech, USA

Thursday, October 17 9:50 - 10:40

Keynote speaker #2: Mega Constellations in 6G NTN - Trends, Technologies and Vision

Prof. Symeon Chatzinotas, IEEE Fellow, University of Luxembourg

Thursday, October 17 10:40 - 11:10

Coffee break

Thursday, October 17 11:10 - 12:00

Keynote speaker #3: Security and Privacy in Artificial Intelligence

Prof. Shui Yu, School of Computer Science, Faculty of Engineering and Information Technology, UTS

Thursday, October 17 12:00 - 1:30

Lunch break

Thursday, October 17 1:30 - 3:00

A1: Antennas and Propagation

A Design of Dual-Band Dual-Sense Circularly Polarized Folded Transmitarray Antenna for Ku-Band Satellite Communications

Quang Tuan Le, Ngoc Tung Phung, Phuong Linh Nguyen, Nguyen Khac Kiem and Son Xuat Ta (Hanoi University of Science and Technology, Vietnam)

Simple Techniques to Decouple 2-Port Circularly Polarized Patch Antenna

Cu Nguyen Dac (Phenikaa Uni, Vietnam); Hung Pham-Duy (PHENIKAA University, Vietnam); Duc-Nguyen Tran-Viet (Le Quy Don Technical University, Vietnam); Hung Huy Tran (Phenikaa University, Vietnam)

Resistor Array and Metamaterial on Quadruple-Slot Antipodal Vivaldi Antenna for Enhancing Bandwidth and Gain

Minh-Huy Nguyen (Ho Chi Minh City University of Technology, Vietnam); Vinh Pham-Xuan (Dassault Systèmes Deutschland GmbH, Germany); Ha Hoang (Ho Chi Minh City University of Technology, Vietnam)

A Firefly Algorithm Based Beamformer for Movable Antenna Arrays

Kha Manh Hoang and Thuc Kieu-Xuan (Hanoi University of Industry, Vietnam)

Design of a High-Gain Microstrip Patch Antenna with Low Cross-Polarization

Dat Nguyen-Tien (Phenikaa University, Vietnam); Tu Chu-Anh (PHENIKAA University, Vietnam); Duc-Nguyen Tran-Viet (Le Quy Don Technical University, Vietnam); Anh Tran-Tuan (PHENIKAA University, Vietnam)

C1: Communications

STAR-RIS-Enabled UAV Wireless Systems: A Stochastic Geometry Approach

Khac Tuan Nguyen and Thai-Hoc Vu (University of Ulsan, Korea (South)); Hai-Chau Le (Posts and Telecommunications Institute of Technology, Vietnam); Sunghwan Kim (University of Ulsan, Korea (South))

Bandwidth and Power Resilient BiLSTM Digital Predistorter with Reduced Obervation Bandwidth for 5G Applications

Asma Ali, Majid Ahmed and Oualid Hammi (American University of Sharjah, United Arab Emirates)

DRL for Trajectory Design and Resource Management in UAV-Aided RSMA Networks

Tri-Hai Nguyen, Truong Khang Nguyen, Tuan-Duc Nguyen and Vo Nguyen Quoc Bao (Van Lang University, Vietnam)

ViFin-Gen: Efficient Vietnamese Instruction Dataset Generation Pipeline for Finance Domain

Nhat-Hai Nguyen, Nguyen Thi Thu and Cao Minh Son (Hanoi University of Science and Technology, Vietnam)

An Useful Approach for Multiple Cloud Platforms Deployment

    Dac Hoang Nguyen (Tay Do College, Vietnam); Nhu-Tai Do and Huy Q Nguyen (Saigon University, Vietnam)

E1: Electronics

GTPO: A Stabilizing Task Offloading Technique Based on GTrXL and PPO in IoT Edge Computing Environments

    Phat Phan-Trung and Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

Development of a Life Monitoring System for the Elderly by Measuring the ECG Signal with Capacitive Electrodes

    Nguyen Le Hieu, Son Quang Pham and Huy-Dung Han (Hanoi University of Science and Technology, Vietnam); Hung V. Dao (Hanoi University of Science and Technology & School of Electrical and Electronic Engineering, Vietnam)

Micro-Robot Control Using External Magnetic Levitation Forces

    Van Binh Nguyen, Chi Khang Nguyen and Gia Bao Huynh (International University, Vietnam); Trung Kien Pham (International University, VNUHCM, Vietnam & IETR, France); Quoc T. Huynh (International University - VNU HCMC, Vietnam)

Apply Neural PID Controller for the Shuttles of Overhead Hoist Transportation Systems Using Railway Structures

    Thuy-Duy Truong (Ho Chi Minh City University of Technology (HCMUT), Vietnam); Quan Tuong Vo (Ho Chi Minh City, University of Technology, Ho Chi Minh City, Viet Nam, Vietnam)

Edge AI-Enabled Smart Parking Systems

    Cuong Pham-Quoc (Ho Chi Minh City University of Technology (HCMUT), Vietnam & Vietnam National University - Ho Chi Minh City, Vietnam); Loc Nguyen Thanh and Doan Minh Vung (HCMUT, Vietnam)

P1: Poster

A Microstrip Patch Antenna Array with Polarization Diversity

    Nguyen Dinh Thai (Le Quy Don Technical University, Vietnam); Tu Chu-Anh (PHENIKAA University, Vietnam); Hung Huy Tran (Phenikaa University, Vietnam); Nguyen Quoc Dinh (Le Quy Don Technical University, Vietnam)

Hardware Implementation for O-RAN Block Floating Point Compression and Decompression Methods in 5G Base Station

    Thang Minh Duong (Viettel High Technology Industries Corporation, Viettel group, Vietnam); Van Vo (Viettel High Technology Industries Corporation, Vietnam); Nguyen Van Cuong (Danang University of Technology, Vietnam); Quynh Quang Nhu Nguyen (UD-University of Science and Technology, Vietnam)

Applying Deep Learning for Forecasting Future Payload Size in Internet Traffic

    Tan Ngoc Dinh and Hoang Minh Nguyen (Swinburne University of Technology, Australia); Stanley Luong (RMIT, Australia); Mehdi Seyedmahmousian (Swinburne University of Technology, Australia);

Jaideep Chandran (Swinburne University, Australia); Alex Stojcevski (Curtin Singapore)

Multi-User Physical Network Coding Scheme with Low-Resolution ADCs at the Base Station
Hung Dang (Posts and Telecommunications Institute of Technology, Vietnam); Hieu Nguyen (University in Southeast Norway, Norway)

IoT-Based Monitoring System Design for Dragon Fruit In-Truck Cool Storage
Duy T Ngo and Lawrence Ong (The University of Newcastle, Australia); James Welsh (University of Newcastle, Australia); Quan V. Vuong (The University of Newcastle, Australia); Quoc Chi Nguyen (Ho Chi Minh City University of Technology, Vietnam & University of Newcastle, Australia); Pham Phuong Tung (Ho Chi Minh City University of Technology, Vietnam)

Performance Enhancement for the FPGA-Based IEEE 1588 Synchronization System on a 5G Radio Unit Under High Network Load
Van Vo (Viettel High Technology Industries Corporation, Vietnam); Phuong Quang Nguyen (Danang University of Science and Technology, Vietnam); Thang Minh Duong (Viettel High Technology Industries Corporation, Viettel group, Vietnam); Nguyen Van Cuong (Danang University of Technology, Vietnam); Hieu Tran (Viettel High Technology Industries Corporation, Viettel Group, Vietnam); Quyet Tat Phan (Viettel High Technology Industries Corporation - Viettel Group, Vietnam)

Efficient Blind and Semi-Blind Approaches on Encoded Wiretap Full-Duplex Transmissions
Quoc Bao Vuong (International University, VNUHCMC, Vietnam); Roland Gautier, Anthony Fiche and Mélanie Marazin (University of Brest, France)

Model Predictive Control Based Trajectory Tracking for Autonomous Vehicles
Vinh-Hao Nguyen, Cong-Tu Le and Nhat-Hung Nguyen (Ho Chi Minh City University of Technology, Vietnam)

Securing Image Super-Resolution Transmission with Relay Selection in Regenerative Relay Networks
Thuan Hien Duong and Ca V. Phan (Ho Chi Minh City University of Technology and Education, Vietnam); Quoc-Tuan Vien (Middlesex University, United Kingdom (Great Britain))

Thursday, October 17 3:00 - 3:30

Coffee break

Thursday, October 17 3:30 - 5:00

A2: Antennas and Propagation

Room A

Reconfigurable and Multiband Graphene THz Antenna Design Optimized Using Machine Learning
Shobhit K. Patel and Dhruvik Agravat (Marwadi University, India); Tien Dung Nguyen (Electric Power University, Vietnam); Kieu Thi Thanh Nguyen (Binh Thuan College, Vietnam); Truong Khang Nguyen (Van Lang University, Vietnam)

Optimizing a Dual-Band Antenna for IoT Systems by Machine Learning Algorithms

Thanh Tu Duong, Huu Phuc Phan and Thanh Dat Nguyen (Posts and Telecommunications Institute of Technology, Vietnam)

Metal Surface Defect Detection Using Surface Plasmon Polaritons
Thi Phuong Thao Nguyen (Hanoi University of Science and Technology, Vietnam); Thuy Minh Le (School of Electrical & Electronic Engineering, Vietnam & Hanoi University of Science and Technology, Vietnam)

A High Gain and Circularly Polarization Antenna with AMC Reflector for 2.45 GHz RFID Reader
Hien Thi Ngoc Doan and Thang Duc Tran (Hanoi University of Science and Technology, Vietnam)

Design and Implementation of a Dual Antenna for Cognitive Radio Systems
Thanh Tu Duong (Posts and Telecommunications Institute of Technology, Vietnam); Sang Nguyen (VIETTEL AEROSPACE INSTITUTE, Vietnam); Nga Nguyen Thi Thu (Posts and Telecommunications Institute of Technology, Vietnam)

C2: Communications

Room B

Performance Analysis of IM-OFDMA Under Diverse QoS Requirements
Saud Althunibat (Texas A and M University at Qatar, Qatar); Mazen Omar Hasna (Qatar University, Qatar); Khalid A. Qaraqe (Texas A&M University at Qatar, USA)

Enhancing Spectrum Sensing for 5G and LTE with Improved U-Net Architecture
Huan Nguyen-Duy (Ho Chi Minh City University of Technology and Education, Vietnam); Toan-Van Nguyen (San Diego State University, USA); Thien Huynh-The (Ho Chi Minh City University of Technology and Education, Vietnam)

Improved High-Rate STBC-SM Schemes for Wireless MIMO Systems
Minh-Tuan Le (Posts and Telecommunications Institute of Technology, Vietnam); Hieu Nguyen (PTIT University, Vietnam); Su Van Pham (Posts and Telecommunications Institute of Technology, Vietnam)

Enhancing Performance of Full-Duplex Cooperative NOMA Systems via Reconfigurable Intelligent Surface
Thien Thanh Tran (Ho Chi Minh City University of Transport, Vietnam); Minh-Sang Nguyen (Industrial University of Ho Chi Minh City, Vietnam); Vo Nguyen Quoc Bao (Van Lang University, Vietnam)

Knowledge Distillation for Improved Resilience in Network Intrusion Detection Systems
Truc-Ngan Vo Dinh and Nam-Phuong Hoai Nguyen (University of Science, VNU-HCM, Vietnam); Anh-Duy Tran (KU Leuven, Belgium); Le Kim-Hung (University of Information Technology, Vietnam)

E2: Electronics

Room C

Requirements of Realistic Simulators for CPU Scheduling Algorithms
Binh Nguyen Thanh (Hanoi University of Science and Technology, Vietnam); Hung Quang Ta (Posts and Telecommunications Institute of Technology, Vietnam & Torrens University, Australia); Thang Le Nhat (Post and Telecommunications Institute Technologies, Vietnam)

PI Fuzzy Logic Control for Current-Feedback-Based Flux-Weakening Approach of BLDC Motor Operation at High-Speed Region

Tien Nguyen-Minh (Viettel Aerospace Institute & Viettel Group, Vietnam); Hoai-Linh T. Nguyen (Viettel Aerospace Institute - Viettel Group, Vietnam); Van-Hung Bui (Posts and Telecommunications Institute of Technology & Viettel Institute - Viettel Group, Vietnam); M. H Hoang (Viettel Aerospace Institute, Vietnam)

A Tension-Velocity Control Approach for Roll-To-Roll Systems with Slippage Effect

Hien Nguyen Thi and Dieu Trinh Tran Thi (Hanoi University of Science and Technology, Vietnam); Tong Duc Nang (Hanoi University Civil Engineering, Vietnam); Bach Nhu Nguyen and Van Trong Dang (Hanoi University of Science and Technology, Vietnam); Dang Huu Bang (Posts and Telecommunications Institute of Technology, Vietnam); Danh Huy Nguyen (Hanoi University of Science and Technology, Vietnam)

TinyML-Based System for Cost-Effective ECG Rhythm Classification on Embedded Device

Duan Luong, Bien Nguyen Quang and Loi Nguyen (Posts and Telecommunications Institute of Technology (PTIT), Vietnam); Ngoc Minh Nguyen (PTIT University, Vietnam)

Implementation of Spiking Neural Network's Components on SKY130 CMOS Process

Hong-Hai Thai (University of Science, VNU-HCM, Vietnam); Thao-Ly Le (University of Science, VNU-HCM, Vietnam & DESLAB, Vietnam); Duc-Hung Le (University of Science, VNU-HCM, Vietnam)

Thursday, October 17 6:00 - 9:00

Banquet

Friday, October 18

Friday, October 18 8:30 - 10:00

C3: Communications

Room B

Power Allocation for the STAR-RIS-NOMA Short Packet Communication System Using Deep Reinforcement Learning

Nguyen Thi Yen Linh (PTITHCM, Vietnam); Ngoc Son Pham (Ho Chi Minh City University of Technology and Education, Vietnam); Vo Nguyen Quoc Bao (Van Lang University, Vietnam)

An Exercise Action Recognition System Using RFID Technology in Reducing the Impact of Alzheimer's Disease on the Elderly

Hien Thi Ngoc Doan, Tung Thanh Do and Thang Duc Le (Hanoi University of Science and Technology, Vietnam)

Selected Mapping Without Side Information for PAPR Reduction in Modified Walsh-Hadamard Code Division Multiplexing

Daihi Maruyama and Toshiharu Kojima (The University of Electro-Communications, Japan)

Improving WiFi Fingerprint Database with Irregular Distribution of Reference Points Using Interpolation Methods
> Trung Vu-Thanh (Hunan University, China & School of Interdisciplinary Sciences and Arts, Vietnam National University, Hanoi, Vietnam); Jing He (Hunan University, China); Ninh Duong-Bao (Dalat University, Vietnam); Seon-Woo Lee (Hallym University, Korea (South)); Luong Nguyen Thi and Khanh Nguyen-Huu (Dalat University, Vietnam)

Minimum Security for Network Coding Based on Discrete Logarithm Problem
> Phetphachan Thammasith (Posts and Telecommunications Institute of Technology, Vietnam); Hieu Nguyen (PTIT University, Vietnam)

E3: Electronics

Room C

An Adaptive Sliding Mode Speed Controller for Interior Permanent Magnet Synchronous Motor
> Tuan-Anh Nguyen, Thiem V. Pham and Nguyen Thi Thanh Quynh (Phenikaa University, Vietnam)

Application of Machine Learning in Forecasting Short-Term Electricity Load
> Minh Tuan Le and Huy Tran (VNU-International University, Vietnam); Long TonThat (International University HCMC, Vietnam); Duc-Tan Tran (Phenikaa University, Vietnam); Vu Truong Son Dao (International University, Vietnam); Trung-Anh Do (Posts and Telecommunications Institute of Technology, Vietnam)

Augmenting the Sensitivity of an SPR Biosensor for Detecting Urine Glucose by Utilizing BaTiO3 and BlueP/WSe2
> Abror Jawad (Bangladesh University of Business & Technology (BUBT), Bangladesh); Momen Sahriar Shoshi (Rajshahi University of Engineering & Technology (RUET), Bangladesh); Md. Anwar Hossain (Bangladesh University of Business and Technology, Bangladesh); Nguyen Hoang Hai (Hanoi University of Science and Technology, Vietnam)

Enhanced AODV Routing Protocol Using Probabilistic Load-Balanced Multipath in Mobile Ad-Hoc Networks
> Huu-Dung Ngo and Xuan Tan Nguyen (Industrial University of Ho Chi Minh City, Vietnam)

Omnidirectional - Wheel Conveyor Path Planning and Sorting System Using Vision Algorithms
> Xuan Luc Le (VNU University of Engineering and Technology, Vietnam); Minh Dinh Bao (University of Engineering and Technology, Vietnam); nguyen Xuan Duong and Viet Dang Anh (Vietnam National University, Vietnam); Xiem Hoang (VNU-UET, Vietnam)

M1: Microwave Engineering

Room A

Design and Analysis of a Wideband Four-Way Waveguide Power Combiner for High-Power Applications in C-Band
> Phong Nguyen Duy (Viettel High Technology Industries Corporation, Vietnam); Hai Quan HO and Long Tan Le Hoang (Viettel High Technology Industries Corporation & Viettel Group, Vietnam); Binh Nguyen (Viettel Research & Development Institute, Vietnam)

High Efficiency Power Amplifier Using Harmonic Suppression Based on Substrate Integrated Waveguide
> Huong Thi Thu Tran and Luong Duy Manh (Le Quy Don Technical University, Vietnam)

A High-Efficiency Class-AB MMIC Power Amplifier Using GaAs HBT Technology
> Phan Van Khai, Do Tuan Hao and Cuong Huynh (Ho Chi Minh City University of Technology, Vietnam)

Adaptive Hybrid Beamforming in Millimeter Wave MIMO System
> Son Vu (University of North Texas, Vietnam); Do Toan (Viettel High Technology Industries Corporation, Vietnam); Quoc Cuong Nguyen and Nguyen Xuan Quyen (Hanoi University of Science and Technology, Vietnam); Thuy Minh Le (School of Electrical & Electronic Engineering, Vietnam & Hanoi University of Science and Technology, Vietnam)

Joint CFO and STO Estimation for Modified Walsh-Hadamard Code Division Multiplexing
> Masaki Kitagawa and Toshiharu Kojima (The University of Electro-Communications, Japan)

P2: Poster

Room D

Privacy Enhanced PYNQ-Z2 Based IoT Edge: NTT Performance Analysis
> Sathiya B Naraayanan (IIITB, India); Haribabu Pasupuleti (Centre for Development of Advanced Computing, India); Sasirekha Gvk (Electronics City & IIIT Bangalore, India); Jyotsna Bapat (International Institute of Information Technology, India); Debabrata Das (International Institute of Information Technology - Bangalore, India)

A Practical Approach for Air-Conditioner Management System Toward Power Saving for Universities
> Ho Hung (Thu Dau Mot University, Vietnam); Tru Trung Huynh (Post and Telecommunication Institute of Technology, Vietnam); Bao The Nguyen (Thu Dau Mot University, Vietnam)

A Scalable Real-Time Attendance Tracking System Based on Face Recognition
> Duc Truong (University of Information Technology, Vietnam); Duc-Nhan Nguyen (University of Information Technology VNU-HCM, Vietnam); Quoc Duc Truong (University of Information and Technology, Vietnam); Trong-Hop Do (University of Information Technology, Ho Chi Minh City & Vietnam National University, Ho Chi Minh City, Vietnam)

Evaluating Machine Learning Algorithms for Time Series Classification Using Complex Network Features
> Quan Tran Duc, Hinh Nguyen Van and Trung-Anh Do (Posts and Telecommunications Institute of Technology, Vietnam)

Deep Learning Model for Detecting Emotions Through Pipeline
> Afshan Fatima (CMR IT, Hyderabad, India & VJIT, Hyderabad, India); Masrath Parveen (VJIT, India); Vijender Kumar Solanki (CMR Institute of Technology Hyderabad & IEEE Senior Member, India); Linh Ngoc Nguyen (VNU International School, Vietnam)

Optimizing Acoustic Echo Cancellation with Variable Step Size in Adaptive Filtering
> Yen-Yi Chen (Po Cheng National Central University, Taiwan); Po-Cheng Chan (National Central University, Taiwan & Chunghwa Telecom Laboratories, Taiwan); Jia-Ching Wang (National Central

University, Taiwan); Jian-Hong Wang (Shandong University of Technology, China); Kai-Wen Liang (National Central University, Taiwan); Ze-Yu Wang (Shandong University of Technology, China)

The Rise of AI in 6G Networks: A Comprehensive Review of Opportunities, Challenges, and Applications
　　Anh Thi Kim Vo (Ho Chi Minh City University of Economics and Finance, Vietnam)

A Proposed Method Determination of the Total Signal to Noise Ratio for Free-Space Optical Communication Using UAV Relaying
　　Tien Nhat Nguyen (Saigon University, Vietnam); Ho Van Cuu (SGU, Vietnam)

Numerical Design of a Waveguide Crossing Based on SOI Platform for Wideband Photonic Integrated Circuits and Networks
　　Cao Dung Truong (Posts and Telecommunications Institute of Technology, Vietnam); Bac Hoai Dang (PTIT, Vietnam); Thuy Tran Thi Thanh and Hien Nguyen Trung (Posts and Telecommunications Institute of Technology, Vietnam)

Friday, October 18 10:00 - 10:30

Coffee break

Friday, October 18 10:00 - 12:00

C4: Communications

Room B

Windows Malware Detection: Exploring from Machine Learning to Text-Based Deep Learning Approaches
　　Phuc Dang Thi and Ly Ngoc Vu (Industrial University of Ho Chi Minh City, Vietnam)

A Novel MAC Protocol of Uplink OFDMA-IDMA Random Access
　　Ta Viet Tai (VNUHCM-University of Science, Vietnam); Nguyen Viet Ha and Tran Thi Thao Nguyen (University of Science, VNU-HCM, Vietnam)

Induced Attack Design on Trajectory over Clustered Network of First-Order Systems
　　Thiem V. Pham, Nguyen Thi Thanh Quynh and Tuan-Anh Nguyen (Phenikaa University, Vietnam)

Improving RAN Protocol Software Performance in 5G gNodeB Distributed Unit (DU) by Optimizing Packet Storage, Release, Segmentation, and Concatenation Handling
　　Hieu Trung Hoang (Viettel Group & Viettel High Tech Company, Vietnam); Dung Kim Anh Pham and Hung Viet Bui (Viettel High Tech, Vietnam)

Friday, October 18 10:03 - 12:00

E4: Electronics

Room C

Network Intrusion Detection System Using Graph Attention Network and Particle Swarm Optimization

Minh Tuan Nguyen (Posts and Telecommunications Institute of Technology (PTIT), Vietnam); Ngoc Anh Thi Phung and Trung Anh Trong Nguyen, Dr. (Posts and Telecommunications Institute of Technology, Vietnam)

Real-Time Detection of Printed Dot-Matrix Characters on the Roll-To-Roll Manufactured Packages with Embedded Computer

Thanh Huy Phung (Ho Chi Minh City University of Technology (HCMUT) & Vietnam National University Ho Chi Minh City, Vietnam); Quoc Vinh Ngo and Long Duy Khuu (Ho Chi Minh City University of Technology (HCMUT), Vietnam); Pham Phuong Tung (Ho Chi Minh City University of Technology, Vietnam); Quoc Chi Nguyen (Ho Chi Minh City University of Technology, Vietnam & University of Newcastle, Australia); Van-Xuan Tran (EDF R&D, United Kingdom (Great Britain))

Automated Data Acquisition for Water Metering System Using Narrowband Internet of Things and Optical Character Recognition Engine

Phuc Ho Trong, Phuc Vinh Tran, Phat Nguyen Hong and Trong Nhan Le (Ho Chi Minh City University of Technology, Vietnam)

An Autonomous Scheme Leveraging Deep Learning Techniques to Adjust the Gimbal Camera Angle in Real-Time for Victim Positioning by Drone

Tuan Do Trong (Hanoi University of Science and Technology, Vietnam); Nguyen Van Duc (HUST, Vietnam); Anh Ho Viet (HaNoi University of Science and Technology, Vietnam); Huyen Thanh Hoang Thi (Đại học Bách Khoa Hà Nội, Vietnam)

Design and Implementation of an Off-Site Monitoring and Control System for Smart Tilapia Fishponds

Gerino P Mappatao (De La Salle University, Philippines)

Friday, October 18 10:30 - 12:00

N1: Networking

Room A

A Robust and Trustworthy Intrusion Detection System Using Adversarial Machine Learning and XAI

Tai Ngoc Nguyen and Tan Duc Nguyen (University of Information Technology, Vietnam); Nghia Trong To (University of Information Technology - VNUHCM, Vietnam); Phan The Duy (University of Information Technology, VNU-HCM, Vietnam); Van-Hau Pham (University of Information Technology, Vietnam)

MPEG-DASH Multi-View Video and Audio Transmission QoE over HTTP/2 Stream

Yamato Wakayama and Toshiro Nunome (Nagoya Institute of Technology, Japan)

Empowering Anomaly Detection for Industrial Internet of Things with Intelligent Edge Computing and Decentralized Machine Learning

Anh Pham-Nguyen-Hai, Luan Van-Thien, Thuat Nguyen-Khanh and Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

Performance-Aware Greedy Forwarding for Heterogeneous Mobile Ad Hoc Networks

Taku Noguchi, Reona Inoue and Masami Yoshida (Ritsumeikan University, Japan)

FI-IDS: A Federated Incremental Learning Approach for Intrusion Detection System

Quyen Huu Nguyen (University of Information Technology - VNUHCM, Vietnam); Hoang Nguyen Viet (University of Information Technology, Vietnam); Phan The Duy (University of Information Technology, VNU-HCM, Vietnam); Van-Hau Pham (University of Information Technology, Vietnam)

Friday, October 18 12:00 - 1:30
Lunch break

Friday, October 18 1:30 - 3:00
C5: Communications

Room B

Spatial Pilot Reassignment in Channel Training Phase of Multi-ARS Cell-Free System

Bui Anh Duc (Le Quy Don Technical University, Vietnam); Hoang Tran Manh (Telecommunications University, Vietnam); Hai-Nam Le, Xuan Nam Tran, Pham Thanh Hiep and Thu Phuong Nguyen (Le Quy Don Technical University, Vietnam)

New Activation Pattern Designs for RIS-SM Systems

Fumin Wang, Hao Huang and Guan Gui (Nanjing University of Posts and Telecommunications, China); Hikmet Sari (NJUPT & Sequans, France)

Efficient Parameter-Shift Rule Implementation for Computing Gradient on Quantum Simulators

Hai Vu Tuan and Le Vu Trung Duong (Nara Institute of Science and Technology, Japan); Hoai Luan Pham (NARA Institute of Science and Technology, Japan); Yasuhiko Nakashima (Nara Institute of Science and Technology, Japan)

A Study on Modified Walsh-Hadamard Code Division Multiplexing with Enhanced Anti-Periodic-Blockage Capability

Toshiharu Kojima and Shinya Sotome (The University of Electro-Communications, Japan)

Analyze the Influence of Features Extracted from Audios on the Results of IELTS Speaking Test

Ha-My Nguyen (University of Information Technology, Vietnam); Thanh-Truc Nguyen (University of Information Technology, Ho Chi Minh City, Vietnam); Tran Thi Thu Ha and Hong-Duyen Pham Nguyen (University of Information Technology, Vietnam); Phuong Thao Thi Nguyen (Telus International, Vietnam); Trong-Hop Do (University of Information Technology, Ho Chi Minh City & Vietnam National University, Ho Chi Minh City, Vietnam)

IC1: Integrated Circuits

Room C

A Skin Cancer Detector Using an Spiking Neural Network Based on All-Digital Resonate-And-Fire Neurons

Trung-Khanh Le, Do-Cuong Nguyen, Thanh Nguyen, Trong-Tu Bui and Duc-Hung Le (University of Science, VNU-HCM, Vietnam)

Hardware/Software Co-Design of a Multi-Mode CRYSTALS-Kyber Accelerator for Quantum-Secure Internet-Of-Things Systems

Dinh Nhat Nguyen (University of Information Technology - VNUHCM, Vietnam); Toan Tan Nguyen (University of Information Technology, Vietnam); Tuan Hai Vu (University of Information Technology - VNUHCM, Vietnam); Luan Hoai Pham (University of Information Technology, Vietnam); Le Vu Trung Duong (Nara Institute of Science and Technology, Japan)

A Study on the Non-Linear Characteristics of Ohmic Contact Test Structures

Thanh Pham (RMIT University Vietnam, Vietnam); Duy Nguyen (RMIT University, Vietnam); Anthony S Holland (RMIT University Vietnam, Vietnam)

Design and Analysis of Low Noise Figure High Gain CMOS Low Noise Amplifier for 5G Applications

Sathya R (National Institute of Technology Puducherry, India); Sunanda Ambulker (National Institute of Technology, Puducherry, India)

Design On-Chip GaAs Waveguide Towards Supercontinuum Generation

Ben Chu Van (Posts and Telecommunications Institute of Technology, Vietnam); Lanh Chu Van (Vinh University, Vietnam); Hieu Nguyen (PTIT University, Vietnam); Lan Thi Phan (Korean Institute of Science and Technology, Vietnam & KIST, 가전대학교, KETI, Vietnam); Nam Nguyen Trong (Vinh University, Vietnam)

P3: Poster

Room D

Improving Classifier Training Efficiency with Genetic Algorithm Feature Selection

Auapong Yaicharoen (KMUTT, Thailand); Nghia Thi Mai (Posts and Telecommunications Institute of Technology & Gunma University, Vietnam); Kotaro Hashikura, Md Abudus samal Kamal, Iwanori Murakami and Kou Yamada (Gunma University, Japan)

Improving Automatic Modulation Classification Accuracy Using Combination of Short-Time Fourier Transform and Radon Transform

Ha-Khanh Le (Le Quy Don Technical University, Vietnam); Sang Van Doan (Vietnam Naval Academy, Vietnam); Ngoc Phong Dao (Posts and Telecommunications Institute of Technology, Vietnam); Van-Phuc Hoang (Le Quy Don Technical University, Vietnam)

SRAM-Based Physically Unclonable Function Using Lightweight Hamming-Code Fuzzy Extractor for Energy Harvesting Beat Sensors

Duy-Hieu Bui (Vietnam National University, Hanoi, Vietnam); Xuan-Tu Tran (VIetnam National University, Hanoi, Vietnam); Hoang-Long Pham (VNU Information Technology Institute, Vietnam); Orazio Aiello (University of Genova, Italy)

MILP Model for Energy-Efficient Scheduling in Cloud Data Center

Tuan Phuong Tran (HCMC University of Foreign Languages and Information Technology, Vietnam); Huy Q Nguyen (Saigon University, Vietnam); Khanh Ly Doan Duy (University of Information Technology - VNUHCM, Vietnam); Nhu-Tai Do (Saigon University, Vietnam)

Developing a Deep Learning Model Using a Combination of CNN and RCNN for Cardiovascular Disease Classification

Khanh Duy Tran, Loc Tang and Uyen Nguyen (International University, Vietnam); Quoc T. Huynh (International University - VNU HCMC, Vietnam)

A Hybrid Learning of Lexical and Language Processing for Domain Credibility Classification

Minh H. N. Nguyen, Bao D. Nguyen, Ron T. Ton, Dung Q. T. Truong, Dung D. Truong, Sang A. Phung, Nam V. Pham and Son The Tran (Vietnam - Korea University of Information and Communication Technology, Vietnam)

Proposing Big Data Architecture for Addressing Dropout Problem in MOOC Platforms

Anh-Khoa Nguyen (University of Information Technology, Ho Chi Minh City, Vietnam & UIT (HCMC VNU), Vietnam); Dinh-Khoa Nguyen (University of Information Technology, Ho Chi Minh City, Vietnam); Thu Nguyen and Khoa Tan VO (University of Information Technology, VNU-HCM, Vietnam); Tu-Anh Nguyen-Hoang (University of Information Technology - VNU-HCM, Vietnam); Tri Nguyen (Aalto University, Finland); Ngoc-Thanh Dinh (The Industrial University of Ho Chi Minh City, Vietnam)

Developing a Face Recognition System Using Vision Transformer and Federated Learning

Kiet Truong-Tuan, Luan Van-Thien, Thuat Nguyen-Khanh, Dung Tran-Thi and Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

Developing Inter-Cluster Interfaces for Software-Defined Networking Architecture

Long Tran-Hoang, Thuat Nguyen-Khanh and Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

S1: Signal processing

Room A

Enhancing Quality for VVC Compressed Videos with Omniscient Quality Enhancement Model

Xiem Hoang (VNU-UET, Vietnam); Sang Nguyen Quang (National Yang Ming Chiao Tung University, Taiwan); Hieu Bui Minh (University of Engineering and Technology, Vietnam); Wen-Hsiao Peng (National Yang Ming Chiao Tung University, Taiwan)

MEX: Memory-Efficient Approach to Referring Multi-Object Tracking

Huu-Thien Tran and Phuoc-Sang Pham (University of Science, Vietnam); Thai Son Tran (Ho Chi Minh City University of Science, Vietnam); Khoa Luu (University of Arkansas, USA)

Applying iTransformer for Saigon River Water Level Forecasting

Tuan Anh Nguyen Dai and Vo Thi Thu Tien (University of Information Technology, Vietnam); Binh Thanh Nguyen (University of Information Technology & Geminisoft, Vietnam)

Evaluation of Deep Learning Approaches for Segmentation of COVID-19 Lung CT Scans

Le Minh Duong, Hieu Minh Tran, Ha Thi Thu Ngo, Luong Bui Phung Le and Viet Dung Nguyen (Hanoi University of Science and Technology, Vietnam)

Detecting Abnormal State of Driver Using Eye and Head Based on HOG and Landmarks

Manh Hoang Tran (Hanoi University of Science and Technology, Vietnam); Thang Bui Duc (FPT University, Vietnam); Dang Tran Hai (Vinh Phuc High School for the Gifted, Vietnam); Tan Nghia Duong and Phat Huu Nguyen (Hanoi University of Science and Technology, Vietnam)

Friday, October 18 3:00 - 3:30

Coffee break

Friday, October 18 3:30 - 5:00

C6: Communications

Room B

GAT-SFFS: A Novel Feature Selection Method Using Graph Attention Networks and Sequential Forward Approach for Machine Learning-Based IoT Intrusion Detection System

Van Thinh Pham (Posts and Telecommunications Institute of Technology, Vietnam); Khac Tuan Nguyen (University of Ulsan, Korea (South)); Nguyen Trinh (Posts and Telecommunications Institute of Technology & Telecom. Faculty, Vietnam); Hai-Chau Le (Posts and Telecommunications Institute of Technology, Vietnam)

Enhancing Urban Accessibility: Comparative Analysis of Intelligent Traffic Signal Systems in Major Global Cities

Min-kai Hsiao (Quanzhou University of Information Engineering, Taiwan & Fundan University, China); Chien-Min Chen (Fundan University, Taiwan)

Enhancing Indoor Localization with Machine Learning and WiFi Signals from Mobile Devices

Hoang Huu Dinh (Posts and Telecommunications Institute of Technology, Vietnam); Hung Viet Nguyen (Post and Telecommunications Institute of Technology & IETR, Université de Rennes 1, Vietnam); Trung-Anh Do (Posts and Telecommunications Institute of Technology, Vietnam)

Large Language Model in Higher Education: Leveraging Llama 2 for Effective Academic Advising

Angel Aguila (International University, Vietnam); Ngoc Nhan Tran (International University - VNU-HCM, Vietnam); Nam Anh Dang Nguyen (International University, Vietnam); Kha Tu Huynh (International University - VNU-HCM, Vietnam); An Mai (School of CSE, International University, VNU, Vietnam & John von Neumann Institute, Vietnam); Tan Duy Le (International University - VNUHCM, Vietnam & Vietnam National University, Ho Chi Minh City, Vietnam); Tan Viet Tuyen Nguyen (University of Southampton, United Kingdom (Great Britain))

Channel Estimation by Using Very Deep Super-Resolution Techniques for OFDM-Based Underwater Acoustic Communication Systems

Quoc Khuong Nguyen (HUST, Vietnam); Du Ngoc Han (Hanoi University of Science and Technology, Vietnam); Nguyen Van Duc (HUST, Vietnam)

IC2: Integrated Circuits

Room C

RVCP: High-Efficiency RISC-V Co-Processor for Security Applications in IoT and Server Systems

Le Vu Trung Duong (Nara Institute of Science and Technology, Japan); Yen T. H. Tran (University of Information Technology, Vietnam); Duc Hong An Le (University of Information Technology-VNUHCM, Vietnam); Tuan Hai Vu (University of Information Technology - VNUHCM, Vietnam); Luan Hoai Pham (University of Information Technology, Vietnam)

Ant Colony Optimization for Analog Integrated Circuit Design: Enhancing Performance on 65nm CMOS Technology

Hoang Trang (Ho Chi Minh City University of Technology, Vietnam); Hoang Trong Nguyen and Khiem Ngoc Bui (Ho Chi Minh City University of Technology (HCMUT), Vietnam)

Revisiting Pioneering Charge-Transport Theories in Analysing Modern Metal-Semiconductor Contacts

Thanh Pham and Anthony S Holland (RMIT University Vietnam, Vietnam)

10T SRAM Cell Based on Tri State Buffer with Enhancing Read Stability

Sunanda Ambulker (National Institute of Technology, Puducherry, India); Jitendra Kumar Mishra (NXP Semiconductor, India)

Hardware Implementation and Optimization of the Sigmoid Activation Function in CNNs Using Taylor Series Approximation

Hoang Trang (Ho Chi Minh City University of Technology, Vietnam); Nhan Hoang Trong La (Ho Chi Minh City University of Technology (HCMUT), Vietnam)

S2: Signal Processing

Room A

Federated Few-Shot Medical Image Classification

Nursultan Makhanov and Nguyen Anh Tu (Nazarbayev University, Kazakhstan)

Spatial-Temporal Transformer with Contrastive Learning for Skeleton-Based Human Action Recognition

Tomiris Zhaksylyk, Kenzhebek Taniyev and Nguyen Anh Tu (Nazarbayev University, Kazakhstan)

A Big Data-Empowered System for Real-Time Detection of Regional Discriminatory Comments on Vietnamese Social Media

Nghiệp An Huỳnh and Thanh-Dat Do (University of Information Technology, Vietnam); Trong-Hop Do (University of Information Technology, Ho Chi Minh City & Vietnam National University, Ho Chi Minh City, Vietnam)

DF-AOT: Dual Filter and Adaptive Otsu Thresholding for Retina Vessel Segmentation

Huyen Anh Ngo, Linh Nguyen Phuong, Thao Minh Hoang and Viet Dung Nguyen (Hanoi University of Science and Technology, Vietnam)

Real-Time Pig Counting Embedded System via Video Object Detection and Tracking

Duc-Manh Nguyen, Duc-Hai Do, Thanh-Hai Tran and Quang-Trung Luu (Hanoi University of Science and Technology, Vietnam)

Saturday, October 19 8:30 - 10:00

S3: Signal Processing

Room A

The Using of MVDR Beamformer for Extracting Target Speaker
Quan Trong The, Sr (Posts & Telecommunications Institute of Technology, Vietnam)

VMAF Oriented End-To-End Quality Prediction Model for Perceptual Versatile Video Coding
Minh Ngoc Do (Vietnam National University, Vietnam); Dinh Trieu Duong (Vietnam National University in Hanoi, Vietnam); Huu-Tien Vu (Post and Telecommunications Institute of Technology, Vietnam); Byeungwoo Jeon (Sungkyunkwan University, Korea (South)); Xiem Hoang (VNU-UET, Vietnam)

Optimized Deep Networks for Indoor Position and Localization Based on IEEE P802.11az
Tung Nhat Nguyen, Thien Huynh-The and Quynh-Nhu Thi Tran (Ho Chi Minh City University of Technology and Education, Vietnam)

Frequency Shifting for Acoustic Feedback Control in Hearing Aids
Linh T. T. Tran (Posts and Telecommunications Institute of Technology, Vietnam)

Fault Diagnosis of Rotating Machine Based on Machine Learning with Feature Selection
Nhi Hoang Tu Nguyen (International University Vietnam, Vietnam); Minh Tuan Le and Huy Tran (VNU-International University, Vietnam); Duc-Tan Tran (Phenikaa University, Vietnam); Trung-Anh Do (Posts and Telecommunications Institute of Technology, Vietnam); Vu Truong Son Dao (International University, Vietnam)

SS1.1: Special Session

Room B

The Non-Flatness Property of the Liquid Sloshing System and an Approximate Approach
Viet Khanh Nguyen (Hanoi University of Science and Technology, Vietnam); Hue Luu Thi (235 Hoang Quoc Viet & Electric Power University, Vietnam); Duc Thanh Cao (Vietnam Maritime University, Vietnam); Dang Huu Bang (Posts and Telecommunications Institute of Technology, Vietnam); Tung Lam Nguyen (Hanoi University of Science and Technology, Vietnam)

Multi-Head Training Boosting: A Training Method to Increase the Accuracy of Low-Parameter Models in Multiple Object Tracking
Son Ho Truong Nguyen (University of Science - VNUHCM, Vietnam)

Data Quality Management for Real-World Graduation Prediction
Hong-Duyen Pham Nguyen (University of Information Technology, Vietnam); Khoa Tan VO and Thu Nguyen (University of Information Technology, VNU-HCM, Vietnam); Tu-Anh Nguyen-Hoang (University of Information Technology - VNU-HCM, Vietnam); Tri Nguyen (Aalto University, Finland); Ngoc-Thanh Dinh (The Industrial University of Ho Chi Minh City, Vietnam)

Multi-Document Question Answering with Lightweight Embeddings-Based Document Reranker
Nurmukhammed Aitymbetov, Min-Ho Lee and Nguyen Anh Tu (Nazarbayev University, Kazakhstan)

Evaluation on Deep Learning Algorithms for Real-Time Road Damage Detection
Duy Tran Khuong Le and Kou Yamada (Gunma University, Japan); Nghia Thi Mai (Posts and Telecommunications Institute of Technology & Gunma University, Vietnam)

SS2.1: Special Session

Room B

Security Improvement for Deep Learning-Based Semantic Communication Systems
Hung Ngo Luu Tan (International University - HCMIU, Vietnam); Dinh Nguyen (VinUniversity, Vietnam); Thien Huynh-The (Ho Chi Minh City University of Technology and Education, Vietnam); Toan-Van Nguyen (San Diego State University, USA); Phuong L. Vo (International University - VNUHCM, Vietnam)

On the Performance of the Coverage Probability of LoRa Networks with Non-Linear Energy Harvesting
Tran Trung Duy, Nguyen Luong Nhat and Tan Hanh (Posts and Telecommunications Institute of Technology, Vietnam); Thien Nguyen Phuc (Ton Duc Thang University, Vietnam); Alexis Aravanis (CentraleSupelec, France); Lam Thanh Tu (Ton Duc Thang University, Vietnam)

Faster Response of PDU Session Establishment in the Cloud-Native Core Network of 5G and Beyond: A Redesign of Procedure and Implementation Evaluation
Kieu-Ha Phung and Dung Vu Luong (Hanoi University of Science and Technology, Vietnam); Quang Tung Thai and Namseok Ko (ETRI, Korea (South))

Backscatter Communication in UAV-Enabled Mobile Edge Computing IoT Networks with and Without Eavesdropper
Huy Anh Quoc Nguyen and Dac-Binh Ha (Duy Tan University, Vietnam); Hieu Trung Luu (Kien Giang Vocational College, Vietnam); Hung Duy Ha (Ton Duc Thang University, HCMC., Vietnam)

Adaptive Encoding Rate and Clustering Assisted Probabilistic Edge Caching Optimization for Video Transmission in Dense D2D Networks
Viet V. Lam (Ho Chi Minh City University of Technology, VNU-HCM, Vietnam); Hoang Trang (Ho Chi Minh City University of Technology, Vietnam); Tan Do-Duy (Ho Chi Minh City University of Technology and Education, Vietnam); Thanh-Minh Phan (Vietnam Aviation Academy, Vietnam); Dac-Binh Ha and Nguyen-Son Vo (Duy Tan University, Vietnam)

Saturday, October 19 10:00 - 10:30

Coffee break

Saturday, October 19 10:30 - 12:00

S4: Signal Processing

Room A

Deep Learning Based Cardiac Arrhythmia Detection Using Wavelet Transform
Duc Van Khuat (University of PTIT & Posts and Telecommunications Institute of Technology, Vietnam); Anh Tuan Tran (Posts and Telecommunications Institute of Technology, Vietnam); Nguyen Thi Thu-Hang (Posts and Telecommunications Institute of Technology & Middlesex University, Vietnam); Minh Tuan Nguyen (Posts and Telecommunications Institute of Technology (PTIT), Vietnam)

From a General-Purpose Object-Detector to an Efficient Multi-Human Parsing Network
Sach Thanh Le, Minh-Nhan Pham and Vinh-Toan Nguyen-Phu (Ho Chi Minh City University of Technology (HCMUT) - VNU-HCM, Vietnam)

Enhanced Human Action Recognition Using PCA and Polynomial Neural Network Fusion
Truc Thi Kim Nguyen and Van Nang Hung Nguyen (Da Nang University of Science and Technology, Vietnam); Nam Van Hoang and Thang The Cao (Dong A University, Vietnam)

Lossy Compression of Multi-Channel EEG and PPG Signals Based on Golomb-Rice Coding with Parameter Estimation
Senura Hansaja Wanasekara (VinUniversity, Vietnam); Huy-Dung Han (Hanoi University of Science and Technology, Vietnam); Ngoc Hung Nguyen and Dinh Nguyen (VinUniversity, Vietnam)

Graph Attention Networks Based Cardiac Arrest Diagnosis
Hoang Tuan Vu (Thuy Loi University, Vietnam); Trung Anh Trong Nguyen, Dr. (Posts and Telecommunications Institute of Technology, Vietnam); Minh Tuan Nguyen (Posts and Telecommunications Institute of Technology (PTIT), Vietnam)

SS1.2: Special Session

Room B

A Keystroke Audio-Based Password Prediction Attack Using Deep Learning
Tho Duc Mai and Cong Nguyen (Academy of Cryptography Techniques, Vietnam); Thanh-Nam Pham (Thai Nguyen University of Information and Communication Technology, Vietnam)

NRL4AQF: Enhancing Long-Sequence Air Quality Forecasting with Noise-Resistant Learning and Cross-Time Embedding
Tham Vo (Nguyen Tat Thanh University, Vietnam); Vu Nguyen (Thu Dau Mot University, Vietnam)

Deep Learning Based Emotion Detection Using Discrete Wavelet Transform
Duy Nguyen (Gunma University, Japan); Minh Tuan Nguyen (Posts and Telecommunications Institute of Technology (PTIT), Vietnam); Kou Yamada (Gunma University, Japan)

GVEC: Generative Vietnamese Economy Chatbots Using Vietnamese Numeric Economy Information Question/Answer Dataset (VNEIQAD) Benchmark
Anh-Khoi Ngo-Ho (Nam Can Tho University, Vietnam); Anh-Khoa Ngo-Ho (Quantmetry, France); Khuong-Duy Vo (Adhightech Ltd., Vietnam)

Adaptive Mechanism Hierarchical Sliding Mode Control for Ballbot Systems
Duc Minh Pham and Cuong Duc Vu (Hanoi University of Science and Technology, Vietnam); Nguyen Thi Thuy Hang (Thuy Loi University, Vietnam); Thi-Van-Anh Nguyen (Hanoi University of Science and

Technology, Vietnam); Dang Huu Bang (Posts and Telecommunications Institute of Technology, Vietnam); Tung Lam Nguyen (Hanoi University of Science and Technology, Vietnam)

SS2.2: Special session

Room C

The Impact of Time Delay on Power System: Optimized Integral Sliding-Mode Control Algorithm with Disturbances

Phong Thanh Tran (Modeling Evolutionary Algorithms Simulation and Artificial Intelligence & Ton Duc Thang University, Vietnam); Huynh Cuong Huy (Academy of Military Science and Technology, Vietnam); Binh Thanh Doan (Electric Power University, Vietnam)

Joint Cognitive Radar and Communication Systems

Huynh Cuong Huy (Academy of Military Science and Technology, Vietnam); Phan Van Tri (Academy of Cryptography Techniques, Ha Noi, Vietnam); Hung Manh Nguyen (Military Academy of Science and Technology, Vietnam); Vuong Dong Anh and Hien Ta (International University, Vietnam)

Maximizing the Promptness of Metaverse Systems Using Edge Computing by Deep Reinforcement Learning

Tam Ninh (National Academy of Education Management, Vietnam); Trinh Van Chien (Hanoi University of Science and Technology, Vietnam); Hung Tran (Phenikaa University, Vietnam); HoaiSon Nguyen (VNU-University of Engineering and Technology, Vietnam); Vo Van (Duy Tan University, Vietnam)

Proposal of Cell-Free Model with Power Control Algorithm for Enhancing Throughput of Uplink WBANs

Do Hung, Pham Tien Huy and Nguyen Thi To Uyen (Hanoi Open University, Vietnam); Anh Bui Tien, Do Thanh Quan and Pham Thanh Hiep (Le Quy Don Technical University, Vietnam)

Joint Radar and Communications System with Channel Uncertainty

Thuan Kinh Quang Nguyen (International University, Vietnam); Nam Quoc Le (International University - VNU-HCM, Vietnam); Lap Luat Nguyen (International University, Vietnam)

Saturday, October 19 12:00 - 1:30

Lunch break

Saturday, October 19 1:30 - 3:00

S5: Signal processing

Room A

Enhancing Table Recognition Model by Synthetic Image Generation

Cuong Vo-Le (Hanoi University of Science and Technology & School of Electronics and Telecommunications, Vietnam); Hung S Vo (Hanoi University of Science & Technology, Vietnam); Anh Viet Bui and Huy Quang Truong (Hanoi University of Science and Technology, Vietnam)

Decision Tree-Based Ensemble Method for Bitter Taste Prediction

Anh Huynh Quoc Bui (University of Information Technology, Vietnam)

Advanced Ensemble Machine Learning for ECG Arrhythmia Classification

Duc Van Khuat (University of PTIT & Posts and Telecommunications Institute of Technology, Vietnam);
Minh Tuan Nguyen (Posts and Telecommunications Institute of Technology (PTIT), Vietnam)

Holo-Hilbert Spectral Analysis Reveals Novel Envelope Features in Heart Sounds

Tran Quang Thuan and Kien Trong Nguyen (Posts and Telecommunications Institute of Technology, Vietnam)

Flexible Conductive Dry Electrodes: A Customizable and Cost-Effective Approach for Biosignal Measurement

Thao Minh Hoang, Huyen Anh Ngo, Linh Nguyen Phuong and Duc Nguyen Minh (Hanoi University of Science and Technology, Vietnam)

SS1.3: Signal Processing

Room B

Exploring Color-Based Emotional Communication in Robots: A Vietnamese Study on Primary Dyads

Huyen Thanh Dao (Posts and Telecommunications Institute of Technology, Vietnam & Gunma University, Vietnam); Nghia Thi Mai (Posts and Telecommunications Institute of Technology & Gunma University, Vietnam); Suzuka Tanaka, Kotaro Hashikura, Md Abudus samal Kamal, Iwanori Murakami and Kou Yamada (Gunma University, Japan)

A Bottom-Up Approach to Enhance Occupants' Actions Regarding Satisfaction in Buildings

Ly-Huynh Phan (Posts and Telecommunications Institute of Technology (PTIT), Vietnam); Quoc-Dung Ngo (PTIT, Vietnam)

AI-Based Geo-Spatial Data Modeling of Agriculture for Crop Yield Estimation

Aditya Singla (Jawaharlal Nehru University, India); Ankit Chaudhary (University of Missouri St Louis, USA); Krishnan Rajkumar (Jawaharlal Nehru University, India)

Stewart Platform Motion Control: A Multi-Agent Consensus Approach

Cuong Duc Vu and Danh Huy Nguyen (Hanoi University of Science and Technology, Vietnam); Bac Hoai Dang (PTIT, Vietnam); Tung Lam Nguyen (Hanoi University of Science and Technology, Vietnam)

ADV-Sword: A Framework of Explainable AI-Guided Adversarial Samples Generation for Benchmarking ML-Based Intrusion Detection Systems

Hoang Nguyen Viet and Trung Nguyen Duc (University of Information Technology, Vietnam); Trung Minh Doan and Phan The Duy (University of Information Technology, VNU-HCM, Vietnam); Van-Hau Pham (University of Information Technology, Vietnam)

SS2.3: Special Session

Room C

Modeling Maximum Power Control for Wind Turbines Using Particle Swarm Optimization Algorithm

Phan Nhu Quan, PNQ and Pham Toan (Lac Hong University, Vietnam)

Suspicious Object Monitoring System Based on Multiview Model from Smart-Camera
>Phat Huu Nguyen (Hanoi University of Science and Technology, Vietnam); Khanh Nguyen Hoang Nam (British International School, Vietnam); Dinh Dang Dang, Trang Nguyen Thi and Manh Hoang Tran (Hanoi University of Science and Technology, Vietnam); Quang Tran Minh (Hochiminh City University of Technology, Vietnam)

A Novel Deep Reinforcement Learning Method for Computation Offloading in Multi-User Mobile Edge Computing with Decentralization
>Long Nguyen Chi, Trinh Van Chien and Ta Hai Tung (Hanoi University of Science and Technology, Vietnam); Van Son Nguyen (Hanoi Open University, Vietnam); Trong-Minh Hoang (Posts and Telecommunications Institute of Technology, Vietnam); Hai Dang Nguyen Ngoc (University of Debrecen, Hungary)

A Compact MIMO CPW Monopole Antenna with High Isolation for 4G/5G Applications
>Thao Hoang Thi Phuong (Hanoi University of Science and Technology & Electric Power University, Vietnam); Sach Xuan Nguyen and Kien Tran Vu (Electric Power University, Vietnam); Dinh Van Linh (Academy of Cryptography Techniques, Vietnam); Thanh Tu Duong (Posts and Telecommunications Institute of Technology, Vietnam); Van Yem Vu (Hanoi University Of Science and Technology & School of Electronics and Telecommunications, Vietnam)

Performance Analysis of MIMO TAS/SC System in Short Packet Communication
>Dang The Hung (Le Quy Don Technical University, Vietnam); Do Van Hung (Posts and Telecommunications Institute of Technology, Hanoi, Vietnam); Le Trong Trung (Le Quy Don Technical University, Vietnam)

Saturday, October 19 3:00 - 3:30

Coffee break

Saturday, October 19 3:30 - 5:00

S6: Signal Processing

Room A

ECG Spectrogram and Modified InceptionNet for Cardiovascular Disease Classification
>Viet Dung Nguyen and Le Thu Thao Dao (Hanoi University of Science and Technology, Vietnam)

Multilingual Receipt Image Preprocessing Optimization for OCR
>Hong Quan Nguyen, Chi Trung Nguyen and Do Tu Vy Nguyen (International University, VNUHCM, Vietnam); Thinh Vo-Xuan (Saigon Technology University, Vietnam); Thuong Ngo (International University, VNUHCM, Vietnam); Kha Tu Huynh (International University - VNU-HCM, Vietnam)

An Intent-Filtered Retrieval-Augmented Generation Chatbot for University Admissions in Vietnam
>Huy-Trung Nguyen (People's Security Academy, Vietnam); Quoc-Dung Ngo (PTIT, Vietnam); Quang-Dung Dang (Posts and Telecommunications Institute of Technology, Vietnam)

Semi-Automated Knowledge Graph Construction for Vietnamese E-Commerce: A BERT-Based Approach

Minh Dinh Bao and Anh Tuan Cong Nguyen (University of Engineering and Technology, Vietnam); Truong-Son Nguyen (Sejong University, Korea (South)); The-Loc Nguyen (Hanoi University of Mining and Geology, Vietnam)

Machine Learning for COPD Diagnosis Through Breathing Patterns Using Complex Network
Thanh Han-Trong (Hanoi University of Science and Technology, Vietnam); Le Trung Kien and Nguyen Anh Phuong (Ha Noi University of Science and Technology, Vietnam); Hinh Nguyen Van (Posts and Telecommunications Institute of Technology, Vietnam)

SS1.4: Special Session

Room B

A Trustworthy and Robust Model for Mutated Malware Detection via Explainable AI and GANs
Hao Truong Thi Hoang (University of Information Technology, Vietnam & UIT, Vietnam); Duong Nguyen Thai (University of Information Technology, Vietnam); Nghi Hoang Khoa (University of Information Technology, VNU-HCM, Vietnam); Van-Hau Pham (University of Information Technology, Vietnam); Phan The Duy (University of Information Technology, VNU-HCM, Vietnam)

A State Observer-Based Robust Control Approach for Surface Vessel Using Fractional-Order Calculus and Neural Network
Cao Van Binh (Vietnam Maritime University, Vietnam); Dang Viet Thang, Mac Duy Lam, Dieu Trinh Tran Thi and Van Trong Dang (Hanoi University of Science and Technology, Vietnam); Pham Van Trieu (Vietnam Maritime University, Vietnam)

Mobile Device Based Intelligent Classification of Skin Severity Grades: Pigmentation, Wrinkles and Pores
Cuong Vo-Le (Hanoi University of Science and Technology & School of Electronics and Telecommunications, Vietnam); Tran Minh Hiep, Tran Van Bang and Bui Ngoc Tam (Hanoi University of Science and Technology, Vietnam)

Deep Learning Models for UAV-Assisted Bridge Inspection A YOLO Benchmark Analysis
Le Kim-Hung, Huy-Tan Thai, Trong-Nhan Phan, Hoang-Hai Nguyen and Thi-Thu-Hien Ha (University of Information Technology, Vietnam)

A Practical Approach Applying Deep Learning and Ontology to Identify Aspects in Opinions
Ho Hung and Bao The Nguyen (Thu Dau Mot University, Vietnam); Tru Trung Huynh (Post and Telecommunication Institute of Technology, Vietnam)

SS3: Special session

Room C

Tradeoff Between BER and Secrecy Capacity for CDMA-Based Underwater OWC Systems
Tien-Sy Dang (Academy of Military Science and Technology, Vietnam); Thang Nguyen and Hien Pham (Posts and Telecommunications Institute of Technology, Vietnam)

A 1-Bit Ultra-Wideband Reconfigurable Intelligent Surface with Multilayer Structure for Beyond 5G
Nguyen Minh Tran (VNU - University of Engineering and Technology, Vietnam); Giang Truong (Vietnam National University, Hanoi, Vietnam); Tran Thi Thuy Quynh (VNU University of Engineering and

Technology, Vietnam); Toan Thi Nguyen (University of Hai Duong, Vietnam)

AI-Enhanced VLC/RF Hybrid for Smart IoT: A Revolution

Kien Trung Ngo (Posts and Telecommunications Institute of Technology, Italy); Stefano Mangione. (Università degli Studi di Palermo, Italy); Ilenia Tinnirello (University of Palermo, Italy)

MAC Protocols for UAV-Aided Relaying Optical Ground-To-HAP Networks

Tien H. DO and Huy Q. Nguyen (Posts and Telecommunications Institute of Technology, Vietnam); Hoang Le (University of Aizu, Japan); Hien Pham, Thang Nguyen and Ngoc Dang (Posts and Telecommunications Institute of Technology, Vietnam)

Joint Trajectory and Power Allocation Design for UAV-Assisted Secure Wireless Communications and Energy Harvesting Networks

Vu Phong Pham (Ho Chi Minh City University of Technology (HCMUT), Vietnam); Hanh Dang-Ngoc (VNU-HCMC University of Technology, Vietnam & University of Technology Sydney, Australia); Kiet T. Vo (Ho Chi Minh City University of Technology, Vietnam)