RIVF 2025 THE 19TH INTERNATIONAL CONFERENCE ON COMPUTING AND COMMUNICATION TECHNOLOGIES

Van Lang University, Ho Chi Minh City, Vietnam
December 18-20, 2025

https://rivf2025.org/

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1. ABOUT US

Institute of Electrical and Electronics Engineers (IEEE)

IEEE stands for the Institute of Electrical and Electronics Engineers, a global professional organization dedicated to advancing technology for the benefit of humanity. Founded in 1963, IEEE has grown to include over 486,000 members across more than 190 countries. The organization focuses on electrical and computer sciences, engineering, and related disciplines, offering a range of services including membership, publications, standards, societies, education, and more. IEEE sponsors over 2,000 annual conferences and events worldwide, curating cutting edge content for all technical fields of interest. The organization also has 39 technical societies and ten geographic regions that host over 10,000 local meetings annually. IEEE's mission isto foster technological innovation and excellence for the benefit of humanity, making it a trusted voice in engineering, computing, and technology.

Van Lang University (VLU)

Van Lang University (VLU), founded on January 27, 1995, is known as one of the very first private higher education institutions in Southern Vietnam. Named after the first state of Vietnam, Van Lang represents traditional Vietnamese values, historical significance, and patriotism. With the firm foundation built over the past decades, VLU has established its position and stature as one of the largest and most prestigious private universities in Vietnam. In serving the country, the core of our mission is to build capabilities and unlock the full potential of learners, which enables them to embrace leadership in their areas of fulfillment and bring inspirational impact to society. Looking forward, Van Lang envisions becoming one of the most admired young universities in Asia by 2030.

Our mission is more than just providing practical knowledge that benefits a future career. Through in-depth academic activities, we aspire to positively impact society by creating generations of exceptional and inspirational individuals, all led by our core values of **#Morality, #Will, and #Creativity.**

2. PREFACE

It is our distinct honor to welcome you to the 2025 IEEE International Conference on Computing & Communication Technologies, Research, Innovation, and Vision for the Future (RIVF 2025). This year's conference is graciously hosted by Van Lang University, Ho Chi Minh City, Vietnam. Building on more than two decades of continuous development, RIVF remains one of the leading scientific venues in the region for the dissemination of pioneering research and the exchange of visionary ideas in computer science and information and communication technologies.

Since its establishment in 2003, RIVF has served as a respected forum where researchers, scholars, and industry professionals convene to present state-of-the-art findings, discuss emerging scientific directions, and foster meaningful collaborations. Over the years, the conference has played a vital role in nurturing a vibrant research community, encouraging interdisciplinary exploration, and advancing the scientific foundations that drive innovation in the digital era.

In keeping with this tradition, RIVF 2025 offers a comprehensive and intellectually stimulating program. The conference features high-quality research papers, keynote addresses delivered by distinguished experts, and technical sessions covering a wide spectrum of contemporary topics, including artificial intelligence, data analytics, cybersecurity, communications engineering, computer vision, and human–machine interaction, among others.

We extend our profound appreciation to all authors for their scholarly contributions; to the keynote and invited speakers for sharing their deep expertise; and to the reviewers for their rigorous and thoughtful evaluations, which have greatly strengthened the quality of the program. We also express our sincere gratitude to the organizing committees and supporting institutions for their dedication, professionalism, and unwavering commitment to ensuring the success of RIVF 2025. Our heartfelt thanks are likewise extended to our sponsors and partners for their invaluable support.

We trust that RIVF 2025 will provide an enriching environment for academic exchange, inspire new avenues of research, and cultivate enduring collaborations within our global community. We also hope that your time in Ho Chi Minh City will be both rewarding and enjoyable.

Welcome to RIVF 2025.

3. ABOUT RIVF

Started in 2003, The Research, Innovation and Vision for the Future (RIVF) conference has become a major scientific event for researchers, professionals, and students in the field of Computing and Communication Technologies, not only in Vietnam but also worldwide. Over the past two decades, RIVF has been held 18 times across major cities in Vietnam, marking its strong national and international presence. Specifically, the conference has been hosted in **Hanoi** (2003, 2004, 2007, 2010, 2013, 2016, 2021, 2023), **Da Nang** (2009, 2019, 2024), **Ho Chi Minh City** (2006, 2008, 2012, 2020, 2022), and **Can Tho** (2005, 2015), i.e.,

- 2003 (1st) Hanoi, Vietnam
- 2004 (2nd) Hanoi, Vietnam
- 2005 (3rd) Cantho, Vietnam
- 2006 (4th) Ho Chi Minh City, Vietnam
- 2007 (5th) Hanoi, Vietnam
- 2008 (6th) Ho Chi Minh City, Vietnam
- 2009 (7th) Danang, Vietnam
- 2010 (8th) Hanoi, Vietnam
- 2012 (9th) Ho Chi Minh City, Vietnam
- 2013 (10th) Hanoi, Vietnam
- 2015 (11th) Can Tho, Vietnam
- 2016 (12th) Hanoi, Vietnam
- 2019 (13th) Danang, Vietnam
- 2020 (14th) Ho Chi Minh City, Vietnam
- 2021 (15th) Hanoi, Vietnam
- 2022 (16th) Ho Chi Minh City, Vietnam
- 2023 (17th) Hanoi, Vietnam
- 2024 (18th) Danang, Vietnam
- 2025 (19th) Ho Chi Minh City, Vietnam (upcoming)

The RIVF conference series has established itself as a leading scientific forum for scholars, professionals, and students in Computing and Communication Technologies — both in Vietnam and internationally. This year, the 19th RIVF, also known as RIVF 2025, is hosted by Van Lang University in the vibrant city of Ho Chi Minh.

4. ORGANIZING COMMITTEE

Honorary Chairs

- **Tu Bao Ho,** Vietnam Institute for Advanced Study in Mathematics, Vietnam
- **Duong Nguyen Vu,** Nanyang Technological University, Singapore
- **Tran Thi My Dieu,** Van Lang University, Vietnam

General Chairs

- **Nguyen Thanh Thuy,** Vietnam National University, Hanoi, Vietnam
- **Vo Nguyen Quoc Bao,** Van Lang University, Vietnam
- **Vincenzo Piuri,** Università degli Studi di Milano, Italy

Technical Program Committee (TPC) Chairs

- **Nguyen Thanh Huy,** Van Lang University, Vietnam
- **Ngo Quoc Hien,** Queen's University Belfast, UK
- **Nhan Nguyen,** University of Oulu, Finland
- **Nguyen Van Dinh,** Vin University, Vietnam

Publication Chairs

- **Nguyen Truong Khang,** Van Lang University, Vietnam
- **Tran Thien Thanh,** Ho Chi Minh City University of Transport, Vietnam

Local Arrangement Chairs

- **Bui Minh Phung,** Van Lang University, Vietnam
- **Nguyen Tri Hai,** Van Lang University, Vietnam
- **Ngo Hoang Tu,** Van Lang University, Vietnam
- **Vo Xuan Thanh,** Van Lang University, Vietnam
- **Do Huu Quan,** Van Lang University, Vietnam

Publicity Chairs

- **Huynh Thi Thanh Binh,** Hanoi University of Science and Technology, Vietnam
- **Tran Ngoc Thinh,** HCMC University of Technology, Vietnam
- **Tran Manh Ha,** Vietnam National University, Ho Chi Minh City, Vietnam
- **Nguyen Tuan Duc,** Van Lang University, Vietnam
- **Tran The Son,** Korea University of Information and Communication Technology, Vietnam
- **Hoang Le Minh,** Van Lang University, Vietnam

Finance Chairs

- **Nguyen Thi Minh Huyen,** Vietnam National University, Hanoi, Vietnam
- **Vo Thi Kim Thoa,** Van Lang University, Vietnam

Organizing Secretaries

- **Tran Luu Phuong Nam,** Van Lang University, Vietnam
- **Ly Thi Huyen Chau,** Van Lang University, Vietnam
- **Nguyen Dac Quynh Mi,** Van Lang University, Vietnam
- **Tran Quang Nhat,** Van Lang University, Vietnam

Track Chairs

Track: **Language and Speech Processing**

- **Nguyen Linh Trung,** University of Engineering and Technology, VNU, Vietnam
- **Duong Thi Hien Thanh,** Hanoi University of Industry, Vietnam
- **Nguyen Thi Thu Trang,** Hanoi University of Science and Technology, Vietnam

Track: **Image, Computer Vision, Pattern Recognition**

- **Thuy Nguyen,** RMIT University, Vietnam
- **L. Minh Dang,** Sejong University, Korea

Track: **Communications, Networking, Internet of Things, Cloud Computing**

- **Kien Nguyen,** Chiba University, Japan
- **Thien Huynh-The,** Ho Chi Minh City University of Technology and Education, Vietnam
- **Nhu-Ngoc Dao,** Sejong University, Korea

Track: **Cyber-Security, Cryptography, Blockchain & Applications**

- **Tram Truong-Huu,** Singapore Institute of Technology (SIT), Singapore
- **Xuan Dau Hoang,** Posts and Telecommunications Institute of Technology (PTIT), Vietnam

Track: **AI, Data Science, Big Data Analytics, Smart Computing**

- **Hiep Xuan Huynh,** Can Tho University, Vietnam
- **Tran Cong An,** Can Tho University, Vietnam
- **O-Joun Lee,** The Catholic University of Korea, Korea
- **Luong Vuong Nguyen,** FPT University, Vietnam

Track: **Software Engineering, Information System, Computational Modelling**

- **Tri-Hai Nguyen,** Van Lang University, Vietnam
- **Hien D. Nguyen,** University of Information Technology, VNU-HCM, Vietnam
- **Van-Dung Hoang,** Ho Chi Minh City University of Technology and Education, Vietnam
- **Pham Xuan Hau,** Quang Binh University, Vietnam

Track: **Industrial Session**

- **Nguyen Van Thanh,** Van Lang University, Vietnam

Special Session: **Reconfigurable Antennas and Intelligent Surfaces for Beyond 5/6G Wireless Communication Systems and Networks**

- **Nguyen Truong Khang,** Van Lang University, Vietnam
- **Nguyen Binh Duong,** International University, VNU-HCM, Vietnam
- **Nguyen Minh Tran,** University of Engineering and Technology, VNU, Vietnam

Special Session: **New Technologies in Automotive Engineering: Driving Innovation through Integration**

- **Nguyen Phu Thuong Luu,** Van Lang University, Vietnam
- **Mohd Kameil Abdul Hamid,** Universiti Teknologi Malaysia, Malaysia

Special Session: **AI-Powered Health Ecosystems: Intelligent Systems for Adaptive, Equitable, and Preventive Care and Intelligence**

- **Rahul Katarya,** Delhi Technological University, India
- **Gwanggil Jeon,** Incheon National University, Korea
- **Sergei Sorokin,** People's Friendship University of Russia, Russia
- **Herkulaas Combrink,** University of Free State, South Africa
- **Kainat Khan,** GL Bajaj Institute of Technology and Management, India

5. KEYNOTE SPEAKERS

Prof. Biplab Sikdar (IEEE Fellow),
Provost's Chair Professor,
National University of Singapore

Security Challenges in AI-Driven 6G Networks

Abstract:

The advent of 6G networks promises unprecedented advancements in connectivity, low latency, and massive machine-type communication, setting the stage for a future where artificial intelligence (AI) will play a pivotal role in network management, automation, and optimization. However, the integration of AI into 6G networks also introduces a wide range of security challenges that need to be addressed to ensure the safe and reliable operation of these next-generation networks. This talk will explore the evolving security landscape of AI-driven 6G networks, focusing on potential threats, vulnerabilities, and mitigation strategies. Key topics include the risks of AI-powered attacks, such as adversarial machine learning, data poisoning, and model inference attacks, as well as vulnerabilities in network slicing, edge computing, and Internet of Things (IoT) devices that are expected to proliferate in 6G environments. The seminar will also discuss the importance of trust, privacy, and security in AI based decision-making processes.

Biography:

Biplab Sikdar is the Provost's Chair Professor and Head of Department in the Department of Electrical and Computer Engineering at the National University of Singapore, where he also serves as the director of the Cisco NUS Corporate Research Laboratory. He received the B. Tech. degree in electronics and communication engineering from North Eastern Regional Institute of Science and Technology, Nirjuli, India, in 1996, the M.Tech. degree in electrical engineering from the Indian Institute of Technology, Kanpur, India, in 1998, and the Ph.D. degree in electrical engineering from the Rensselaer Polytechnic Institute, Troy, NY, USA, in 2001. His research interests include IoT and cyber-physical system security, network security, and network performance evaluation. He is a recipient of the NSF CAREER award, the Tan Chin Tuan fellowship from NTU Singapore, the Japan Society for Promotion of Science fellowship, and the Leiv Eiriksson fellowship from the Research Council of Norway. He has served as an Associate Editor for the IEEE Transactions on Communications, IEEE Transactions on Mobile Computing, IEEE Internet of Things Journal, IEEE Open Journal of Vehicular Technology, and IEEE Network. He is an IEEE Fellow, IEEE Distinguished Lecturer, an ACM Distinguished Speaker, and member of Eta Kappa Nu and Tau Beta Pi.

Prof. Truyen Tran
Head of AI, Health and Science, Applied Artificial Intelligence Initiative, Deakin University

AI for Scientific Discovery: A New Frontier

Abstract:

Sydney Brenner, Nobel Laureate in Physiology, once said, *"Progress in science depends on new techniques, new discoveries, and new ideas, probably in that order."* A paradigm-shifting technology of our time is artificial intelligence (AI), which offers new ways to accelerate scientific discovery. This talk will explore how AI is transforming science by automating discovery workflows representing and leveraging scientific artefacts and knowledge, predicting properties and phenomena, optimising and generating new designs, and reasoning about competing hypotheses. We will also discuss the emerging concept of AI co-scientists: autonomous agents that emulate the scientific discovery process by combining creative exploration with systematic reasoning. These agents collectively propose hypotheses, design experiments, analyse results, and communicate findings while collaborating with human scientists. Specific examples will be drawn from molecular space exploration, drug protein interactions, chemical synthesis, crystal structure prediction, and property prediction for advanced materials such as superconductors and alloys.

Biography:

Professor Truyen Tran is a leading Australian AI researcher and Head of AI, Health and Science at Deakin University. He pioneers the creation of AI that thinks like scientists and heals like doctors, uniting intelligence, discovery, and healthcare. Professor Tran leads three major programs: AI Future, which explores the foundations of abstraction, reasoning and responsible distributed intelligence; AI4Science, which develops AI Co-scientists that generate hypotheses, design experiments, and accelerate breakthroughs in materials, biology, and energy; and AI4Health, which builds intelligent systems that assist clinicians and personalise healthcare. His work has transformed scientific discovery and medical innovation—from predicting new materials and drugs to enabling early cerebral palsy screening and mental-health support. Recognised internationally for his research excellence and leadership, Professor Tran holds a BSc from the University of Melbourne (2001) and a PhD in Computer Science from Curtin University (2008).

6. TUTORIALS

Dr. Pham Tien Dat
Senior Researcher, National Institute of Information and Communications Technology (NICT)
Tokyo, Japan

Photonics-enabled terahertz signal processing and applications in 6G and beyond

Abstract:

Radio communication in the terahertz (THz) band is promising for ultra-high data-rate and low-latency services in 6G and beyond networks. Nevertheless, communications in the high-frequency band encounter significant challenges owing to their large free-space and penetration losses. THz signal processing, such as relaying, routing, switching, and frequency converting, is crucial to facilitate the deployment of this technology. However, these functions cannot be realized using electronic technologies. In this regard, photonic technology and convergence with its radio counterpart are promising to realize new communication features and applications. In this tutorial, I will present various photonic technologies for THz signal processing, including signal generation, transmission, reception and down-conversion, transparent relay, routing, switching, multiplexing/demultiplexing, and applications. As an application example, a seamless fiber-radio network in the high-frequency band using an adaptive tracking and switching system for uninterrupted communication for rapidly moving users on high-speed trains will be introduced.

Biography:

Pham Tien Dat received the B.Eng. degree in electronics and telecommunication engineering from the Posts and Telecommunications Institute of Technology, Hanoi, Vietnam, in 2003, M.Sc. and Ph.D. degrees in science from Waseda University, Tokyo, Japan, in 2008 and 2011, respectively. In 2011, he joined the National Institute of Information and Communications Technology (NICT), Tokyo, Japan, where he is currently a Senior Researcher. His research interests include millimeter-/terahertz-wave photonics, radio-over-fiber, optical wireless systems, and seamless access networks for 6G and beyond. He served as Guest Editor for the IEEE Journal of Selected Topics in Quantum Electronics (Special Issue on Terahertz Photonics) in 2023. He received the 2023 IEICE Electronics Society Award for pioneering research on radio-over-fiber systems and their applications.

7. PROGRAM AT A GLANCE

TIME		J.05.01	J.05.03	J.05.05	J.05.02	J.05.Hallway	J.05.04
Thursday, December 18th	07:30-08:30	Registation					
	08:30-09:00	Opening ceremony - Location: J.05.03					
	09:00-10:00	Keynote speech #1: **AI for Scientific Discovery: A New Frontier** by Prof. Truyen Tran, Head of AI, Health and Science, Applied Artificial Intelligence Initiative, Deakin University - Location: J.05.03					
	10:00-10:30	Coffee break					
	10:30-12:00	**AI1:** AI, Data Science, Big Data Analytics, Smart Computing	**COM1:** Communications, Networking, Internet of Things, Cloud Computing	**CYB1:** Cyber-Security, Cryptography, Blockchain & Applications	**IMA1:** Image, Computer Vision, Pattern Recognition	**Poster #1**	
	12:00-13:30	Lunch break at J.01					
	13:30-15:00	**AI2:** AI, Data Science, Big Data Analytics, Smart Computing	**COM2:** Communications, Networking, Internet of Things, Cloud Computing	**CYB2:** Cyber-Security, Cryptography, Blockchain & Applications	**IMA2:** Image, Computer Vision, Pattern Recognition	**Poster #2**	**Tutorial #1:** Photonics-enabled terahertz signal processing and applications in 6G and beyond by Dr. Pham Tien Dat, Senior Researcher, National Institute of Information and Communications Technology (NICT), Tokyo, Japan
	15:00-15:30	Coffee break					
	15:30-17:00	**AI3:** AI, Data Science, Big Data Analytics, Smart Computing	**COM3:** Communications, Networking, Internet of Things, Cloud Computing	**CYB3:** Cyber-Security, Cryptography, Blockchain & Applications	**IMA3:** Image, Computer Vision, Pattern Recognition		
	18:00-21:00	Banquet at Capella ParkView, 3 Dang Van Sam, Duc Nhuan Ward, HCM City					
Friday December 19th	07:30-08:30	Registation					
	08:30-10:00	**AI4:** AI, Data Science, Big Data Analytics, Smart Computing	**COM4:** Communications, Networking, Internet of Things, Cloud Computing	**IND1:** Industrial Session	**IMA4:** Image, Computer Vision, Pattern Recognition	**Poster #3**	
	10:00-10:30	Coffee break					
	10:30-11:30	Keynote speech #2: **Security Challenges in AI-Driven 6G Networks** by Prof. Biplab Sikdar (IEEE Fellow), Provost's Chair Professor, National University of Singapore - Location: J.05.03					
	11:30-13:30	Lunch break					
	13:30-15:00	**AI5:** AI, Data Science, Big Data Analytics, Smart Computing	**COM5:** Communications, Networking, Internet of Things, Cloud Computing	**LAG1:** Language and Speech Processing	**IMA5:** Image, Computer Vision, Pattern Recognition	**Poster #4**	
	15:00-15:30	Coffee break					
	15:30-17:00	**AI6:** AI, Data Science, Big Data Analytics, Smart Computing	**COM6:** Communications, Networking, Internet of Things, Cloud Computing	**SOF1:** Software Engineering, Information System, Computational	**IMA6:** Image, Computer Vision, Pattern Recognition		
Saturday December 20th	07:30-08:30	Registation					
	08:30-10:00	**AI7:** AI, Data Science, Big Data Analytics, Smart Computing	**SS3.1:** Reconfigurable Antennas and Intelligent Surfaces for Beyond 5/6G Wireless Communication Systems and Networks	**SOF2:** Software Engineering, Information System, Computational	**IMA7:** Image, Computer Vision, Pattern Recognition	**Poster #5**	
	10:00-10:30	Coffee break					
	10:30-12:00	**AI8:** AI, Data Science, Big Data Analytics, Smart Computing	**SS3.2:** Reconfigurable Antennas and Intelligent Surfaces for Beyond 5/6G Wireless Communication Systems and Networks	**SS1:** AI-Powered Health Ecosystems: Intelligent Systems for Adaptive, Equitable, and Preventive Care	**SS2:** New Technologies in Automotive Engineering: Driving Innovation through Integration and Intelligence		
	12:00-12:30	Closing session					

Conference Venue:

Floor 5, Building J, Van Lang University – Main Campus

(69/68 Dang Thuy Tram, Binh Loi Trung Ward, Ho Chi Minh City, Vietnam)

Banquet:

Capella Park View Wedding & Convention

(3 Dang Van Sam Street, Duc Nhuan Ward, Ho Chi Minh City)

8. TECHNICAL PROGRAM

Electronic version:
https://rivf2025.org/?page_id=371

Thursday, December 18

7:30 - 8:30 (Asia/Saigon) - Registration

8:30 - 9:00 (Asia/Saigon) - Opening ceremony

9:00 - 10:00 (Asia/Saigon)

Keynote speech #1: AI for Scientific Discovery: A New Frontier by Prof. Truyen Tran, Head of AI, Health and Science, Applied Artificial Intelligence Initiative, Deakin University

Chair: Nguyen Thanh Thuy (VNU Ha Noi, Vietnam)

10:00 - 10:30 (Asia/Saigon) - Coffee break

10:30 - 12:00 (Asia/Saigon):

AI1: AI, Data Science, Big Data Analytics, Smart Computing - Room: J.05.01
Chairs: Huu Quan Do (Van Lang University, Vietnam), Truong Khang Nguyen (Van Lang University, Vietnam)

Identification of Major Psychiatric Disorders from Imbalanced Resting-State EEG Using Hybrid Fusion of CNN and Tab Transformer
Loan Thi Thanh Mai, Linh Hong Ngoc Le, Duy Tri Nguyen Ho and Tri Nguyen, Ho Duy (University of Information Technology, VNU-HCM, Vietnam)

Towards Intelligent Enterprise Assistants: Leveraging RAG to Connect LLMs with Structured Business Data
Dat Thanh Dang (University of Information Technology, Vietnam); Dung Ha Nguyen (UIT, VNU HCMC, Vietnam); Binh Thanh Nguyen (University of Information Technology & Geminisoft, Vietnam)

Rethinking Adversarial Robustness: The Role of Input Transformations
Hanh Thi-My Nguyen, Khoa Tran, Quan Minh Phan and Ngoc Hoang Luong (University of Information Technology, Vietnam)

Parameter-Space Data Distillation in Generative Models
Hoang-Minh Do (University of Science, VNU-HCM, Vietnam); Thai Son Tran (Ho Chi Minh City University of Science, Vietnam

Multi-Modal Attention Fusion Network for Marine Diesel Engine Fault Diagnosis with Limited Single-Sensor Vibration Data
Nam Pham Van (Hanoi University of Industry, Vietnam); Linh Hoai Tran (Hanoi University of Science and Technology, Vietnam)

COM1: Communications, Networking, Internet of Things, Cloud Computing - Room: J.05.03

Chairs: Ngoc-Tan Nguyen (VNU-University of Engineering and Technology, Vietnam), Tri-Hai Nguyen (Van Lang University, Vietnam)

Multihop Relaying-Assisted NOMA IoT Networks with Short-Packet URLLCs

Ngo Hoang Tu (Van Lang University, Vietnam); Huynh Van Hoa (Posts and Telecommunications Institute of Technology, Vietnam); Thien Thanh Tran (Ho Chi Minh City University of Transport, Vietnam); Vo Nguyen Quoc Bao (Van Lang University, Vietnam)

Energy-Efficient Resource Allocation in O-RAN Using Soft Actor-Critic

Tri-Hai Nguyen, Huy T. Nguyen and Vo Nguyen Quoc Bao (Van Lang University, Vietnam); Thanh-Dat Le (Dell Technologies, Canada); Luong Vuong Nguyen (FPT University, Vietnam); O-Joun Lee (The Catholic University of Korea, Bucheon, South Korea, Korea (South))

Effective Deterministic WiFi Handover Mechanism with Fuzzy-Inspired Stability Checks

Lam Binh Nguyen Phan (University of Science - VNUHCM, Vietnam); Anh Thai Nguyen and Ngo Hoang Tu (Van Lang University, Vietnam)

High-Fidelity Beam Selection in the Upper Mid-Band Using Digital Twin Ray-Tracing and Deep Learning

Hyunseok Noh, Taeje Park and Wonjin Sung (Sogang University, Korea (South))

Development of Water Quality Monitoring Systems Based on Internet of Things and Deep Learning

Son Do-Phi (University of Information Technology - VNUHCM, Vietnam); Tram Bui-Thi-Ngoc (UIT - VNUHCM, Vietnam); Cong Pham-Dinh and Bao Nguyen-Van (University of Information Technology - VNUHCM, Vietnam); Thuat Nguyen-Khanh (UIT - VNUHCM, Vietnam); Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

CYB1: Cyber-Security, Cryptography, Blockchain & Applications - Room: J.05.05

Chairs: Minh Tuan Tran (The University of Queensland, Australia)

Balancing Defence and Operational Stability: Resilience-Oriented Reinforcement Learning for Autonomous Critical Infrastructure Cyber Defence

Minh Tuan Tran and Ryan Ko (The University of Queensland, Australia

The Simplest Side-channel Protection of AES-dedicated Circuit for Last-round Attack by CPA

Tomoaki Ukezono (Kindai University & Humanity-Oriented Science and Engineering, Japan); Saishi Taira (Kindai University, Japan)

Hybrid Federated Learning with TabTransformer and FedMADE-GSA for IoT Intrusion Detection

Trong-Thua Huynh, Hy Thanh Phan and Nguyen Thi Bich Nguyen (Posts and Telecommunications Institute of Technology, Vietnam); Gioi Le Ho (Posts and Telecommunications Institute of Technology, Vietnam & No, Vietnam); Trí Quốc Nguyễn Đình (Posts and Telecommuications Institute of Technology, Vietnam)

Proof-of-Merit: A Reputation-Weighted VRF-PoA Consensus and Governance for Educational Blockchains

Tuan-Dung Tran, Huynh Phan Gia Bao, Tra Minh Trong, Tong Thuan Nguyen and Ngan Nguyen B.K (University of Information Technology, VNU-HCM, Vietnam); Van-Hau Pham (University of Information Technology, Vietnam)

A SHAP-Based Explainable AI Approach for Intrusion Detection Models

Xuan-Bach Luong (Vietnam National University, Hanoi, Vietnam); Thi-Ngan Pham (The Vietnamese People's Police Academy, Vietnam); Khanh-Tung Nguyen (Vietnam National University, Hanoi, Vietnam); Phuong-Diep An (Banking Academy of Vietnam, Vietnam); Ha Quang Thuy (VNU-University of Engineering and Technology, Vietnam).

IMA1: Image, Computer Vision, Pattern Recognition - Room: J.05.02

Chair: Thi-Ngoc-Hanh Le (International University - VNU-HCM, Vietnam)

A Knowledge Distillation Approach for Diffusion-based Generative Skin Lesion Segmentation

Viet-Hoang Doan (University of Information Technology, Vietnam); Danh Thanh Nguyen (University of Information Technology, Vietnam & Vietnam National University of Ho Chi Minh City, Vietnam); Tuan- Kiet Ngo and Vinh-Tiep Nguyen (University of Information Technology, Vietnam)

SSCMFDNet: An Efficient Network Incorporating Self-Correlation and Spatial Attention for Copy-Move Forgery Detection

Toan Tan Nguyen (University of Information Technology, Vietnam)

Material-aware Style Transfer for Lacquer paintings

Thi-Ngoc-Hanh Le (International University - VNU-HCM, Vietnam); Khang Gia Pham (International University, VNU-HCM, Vietnam); Van Sinh Nguyen (International University of Ho Chi Minh City, Vietnam)

From Discriminative Regions to Complete Masks: CAM-SAM Fusion for Weakly Supervised Semantic Segmentation

Nhi Yen Huynh (University of Information Technology, Vietnam & Vietnam National University, Ho Chi Minh City, Vietnam); An Tran Khuong Nguyen (University of Information Technology & Vietnam National University, Ho Chi Minh City, Vietnam); Tien-Dung Mai (University of Information Technology & Vietnam National University of Ho Chi Minh City (VNUHCM), Vietnam)and Vinh-Tiep Nguyen (University of Information Technology, Vietnam)

O2O: Fine-Tuning Diffusion Models with Reinforcement Learning Using a Hybrid of Generated and Real Images

Hoa Nguyen, Vinh-Tiep Nguyen, Ngoc Hoang Luong and Son Nguyen Thanh (University of Information Technology, Vietnam)

Poster #1 - Room: J.05.Hallway

Chairs: Tri Nhut Do (University of IT (UIT) - VNUHCM, Vietnam), Chau Thi Huyen Ly (Van Lang University, Vietnam)

5G-Enabled Smart Farming Communication Systems for Rural Malaysia

Wai Yie Leong (INTI International University, Malaysia)

GPTViet: An Open-Source Vietnamese Foundation Model from Pretraining to Domain Specialization

Truong-Thang Nguyen (Institute of Information Technology & Vietnam Academy of Science and Technology, Vietnam); Nhiem Tran (Foxconn, Taiwan); Ngoc Truong-Thi-Minh (Vietnam Academy of Science and Technology, Information Technology, Vietnam); Thanh Le-Hoang (Vietnam Acedemy of Science and Technology, Vietnam); Kien Bui-De (Institute of Information Technology, Vietnam); Manh Dong Tran (Institute of Information Technology of Vietnam Academy of Science and Technology, Vietnam)

A Hybrid Estimation of Steering Vector - Based MVDR Beamformer in Annoying Environment

Quan Trong The (Posts and Telecommunications Institute of Technology, Vietnam); Nguyen Thi Huyen Chau (Thang Long University, Vietnam)

Designing of Real-Time Control Hardware System for Quadcopters Using PX4 Firmware

Phat Huu Nguyen, Phong Nguyen Nam, Duong Nguyen Canh, Dung Nguyen Viet and Dung Hoang Tuan (Hanoi University of Science and Technology, Vietnam); Bach Hoang Xuan (HUS High School, Vietnam); Dung Lai Tri and Quang Hoang Van (Hanoi University of Science and Technology, Vietnam)

Computer Vision in Agriculture: Cacao Bean Sorting Using Deep Learning

Marife A. Rosales and Angelita M Pagcaliwagan (Polytechnic University of the Philippines, Philippines)

Swin-PResU: Hybrid SwinViT and Pruned Residual CNN for Precise Brain Tumor MRI Segmentation
Nguyen Phuc Nguyen, Hang Thi Thu Dang, Vu Viet Truong, Ngo Hoang Tu and Anh Thai Nguyen (Van Lang University, Vietnam)

A Case Study with Concurrency and Data-Tensor Parallelism Scenarios in vLLM
Duc Tuan Chu, Tien Son Pham, Sang Pham and Quan Hong Tran (Efficient Computing Research Group, Vietnam); Tuan Anh Mai (FPT Software AI Center, Vietnam); Xuan Truong Nguyen (Seoul National University, Korea (South)); Tuan Thanh Dao (Moreh Vietnam, Vietnam)

Leveraging In-Context Adversarial Augmentation for Improved Natural Language Inference Performance
Quang-Dung Dang (Posts and Telecommunications Institute of Technology, Vietnam); Ly-Huynh Phan (Posts and Telecommunications Institute of Technology (PTIT), Vietnam); Van-Tung Bui and Dat Dinh Nguyen (Posts and Telecommunications Institute of Technology, Vietnam); Chi Minh Hieu Nguyen (Posts and Telecommunications Institute of Technology (PTIT), Vietnam); Truong-Giang Nguyen and Van-Thuong Vu (Posts and Telecommunications Institute of Technology, Vietnam)

Location Recommendation System for Opening a New Coffee Shop
Huu-Khang Nguyen (International University, Vietnam); Trang T.D. Nguyen (Nha Trang University, Vietnam); Phu Pham (Ho Chi Minh City University of Technology - HUTECH, Vietnam); Loan Nguyen (International University, VNU-HCM, Vietnam)

Cross-Task Parameter Efficiency: Analyzing Pruning Effects on Discriminative and Generative Performance
Son Do Anh Thai, Huy Quoc Pham and Thai Son Tran (Ho Chi Minh City University of Science, Vietnam)

IsaacLab vs. gym-pybullet-drones: A Comparative Study of UAV Simulators for Reinforcement Learning
Phuc Nguyen-Duong-Hoang, Phan Van Tai and Son Ngoc Pham (UIT, Vietnam); Chuong Dang-Le-Bao (University of Information and Technology, Vietnam); Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

A Segment-Based CRM System with high personalization using AI Agents and RPA to enhance Customer Lifetime Value in E-commerce
Tuyet Quan Quan, Trinh and Thi Minh Phuong Luong (University of Economics and Law, VNU-HCM, Vietnam); Nhan Tri Bang (AI Lab Vietnam JSC, Vietnam); Hoanh-Su Le (University of Economics and Law, VNU-HCM, Vietnam)

Conversational Smart Assistant on a Microcontroller with Cloud-Based LLM Function Offloading
Dang Quoc-Minh Do, Nguyen Hoang Nguyen, Quang Nho-Dang Nguyen and Tuan Anh Hoang (University of Science - VNUHCM, Vietnam); Khoa Quoc Nguyen (University of Science - VNUHCM Vietnam, Vietnam); HuuThuan Huynh (Ho Chi Minh City - University of Science, Vietnam)

Deep Learning-Based Emotion Recognition Using Electroencephalogram Signals
Duy Nguyen (Gunma University, Japan); Trung Anh Trong Nguyen (Posts and Telecommunications Institute of Technology, Vietnam); Minh Tuan Nguyen (Posts and Telecommunications Institute of Technology (PTIT), Vietnam); Kou Yamada (Gunma University, Japan)

A Hybrid Framework for Semi-Automated Traffic Annotation: Integrating YOLOv11 Object Detection with CLIP Semantic Verification
Hai Chi Nguyen, Hai Huu Son Le, Phuc Minh Nguyen, Ngo Hoang Tu and Anh Thai Nguyen (Van Lang University, Vietnam)Vietnam); Kou Yamada (Gunma University, Japan)

12:30 - 13:30 (Asia/Saigon): Lunch break at J.01

13:30 - 15:00 (Asia/Saigon):

Tutorial #1: Photonics-enabled terahertz signal processing and applications in 6G and beyond by Dr. Pham Tien Dat, Senior Researcher, National Institute of Information and Communications Technology (NICT), Tokyo, Japan - **Room: J.05.04**

Chairs: Huy T. Nguyen (Van Lang University, Vietnam)

AI2: AI, Data Science, Big Data Analytics, Smart Computing - Room: J.05.01

Chairs: Minh-Phung Bui (Van Lang University, Ho Chi Minh City, Vietnam), Truong Khang Nguyen (Van Lang University, Vietnam)

An effective credit scoring model via advanced outlier detection and balanced sampling integration

Chinh Pham (Banking Academy of Viet Nam, Vietnam); Huynh Trinh and Long Quoc Tran (VNU University of Engineering and Technology, Vietnam)

Debate-to-Decide: A Deliberative Multi-Agent Framework for Fair and Explainable Student Credit Scoring

Trinh Tran Tran and Ngoc Bich Pham Thi (University of Information Technology); Ngo Nguyen Duc Thang and Luu Quynh Anh (University of Economics and Law, Vietnam); Nguyen Minh Bao and Nguyen Phuong Quyen (University of Information Technology, Vietnam); Tuan-Dung Tran (University of Information Technology, VNUHCM, Vietnam)

An On-Chip Spiking Neural Network Using Auto-Plasticity Synapses for Unsupervised Learning in Edge AI Applications

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

A Dialogue-based Multimodal Retrieval Framework for Vietnamese E-commerce RAG System

Thuan Dinh Nguyen, Vy Ngoc Tuong Ho, Ho, Thuan Phat Ngo, Huynh Minh Huy Nguyen and Minh Nhut Nguyen (University of Information Technology, Vietnam)

Deep Learning-Based Recognition of Selected Filipino Sign Language Phrases

Robert Gallena De Luna (Polytechnic University of the Philippines, Philippines & University of Sto. Tomas, Philippines); Kriztel Anne R Girang, Jan Earl Laurenz D. Lucido, Leigh Francis E Marasigan, Cindy Nicole D. Santos and Marie Louise C. Sebidos (Polytechnic University of the Philippines, Philippines)

COM2: Communications, Networking, Internet of Things, Cloud Computing - Room: J.05.03

Chairs: Thai-Mai Dinh (VNU University of Engineering and Technology, Vietnam), Wai Yie Leong (INTI International University, Malaysia)

Optimizing Mixed-Resolution ADC Allocation Under Bit-Budget Constraints in LDPC-Coded Massive MIMO

Hung Dang, Phong Dao and Tuan Hoang (Posts and Telecommunications Institute of Technology, Vietnam)

Waveform Design for Multi-Target Detection in the Integrated Sensing and Communication System

Truong Quang Can (VNU University of Engineering and Technology, Vietnam); Trung Ninh Bui (University of Engineering and Technology, VNU-Hanoi, Vietnam); Thai-Mai Dinh (VNU University of Engineering and Technology, Vietnam)

Edge Computing Framework for Remote Healthcare Communication in Orang Asli Villages

Wai Yie Leong (INTI International University, Malaysia)

Deep learning-based cyber attack detection: A Comparative Study of Transformer and Convolutional Neural Network Architectures

Nguyen Trung Hieu and Nguyen Hong Son (Posts and Telecommunications Institute of Technology, Vietnam)

Linear Detection in One-Bit Mixed-ADC Massive MIMO: Insights into Performance and Energy Efficiency

Hung Dang, Anh T.L. Dang and Phuong M Duong (Posts and Telecommunications Institute of Technology, Vietnam)

CYB2: Cyber-Security, Cryptography, Blockchain & Applications - Room: J.05.05

Chairs: Tri-Hai Nguyen (Van Lang University, Vietnam)

A Novel Model for Detecting Website Defacements Based on BERT and BiLSTM
Dau Xuan Hoang, Nhat Xuan Mai and Mai Phuong Nguyen (Posts and Telecommunications Institute of Technology, Vietnam)

Mitigating HTLC Griefing Attacks with Commitment Bonds: A Game-Theoretic and Empirical Analysis
Tuan-Dung Tran (University of Information Technology, VNU-HCM, Vietnam); Quoc-Khoi Le and Uyen Do (The UIT University - VNUHCM, Vietnam); Van-Hau Pham (University of Information Technology, Vietnam)

Imbalance-Robust Class-Aligned Vector Encoders for Android Malware Detection
Chi Duc Luu, Truong Son Pham and Ngoc Anh Dung Pham (Le Quy Don Technical University, Vietnam)

Joint Representation Learning and Clustering for IoT Network Anomaly Detection
Noi Huu Nguyen (Le Quy Don Technical University, Vietnam); Ngoc Tran (Network Security, Vietnam); Pavel Obukhov (Don State Technical University, Russia)

Phishing Website Detection via Multimodal Learning and Retrieval-Augmented Reasoning
Duc Manh Doan and Khang Thien Do (University of Information Technology, Vietnam); Hien Do Thi Thu (University of Information Technology, VNU-HCM, Vietnam); Ngo Duc Hoang Son (University of Information Technology, Vietnam); Phan The Duy (University of Information Technology, VNU-HCM, Vietnam)

IMA2: Image, Computer Vision, Pattern Recognition - Room: J.05.02

Chairs: Thi-Ngoc-Hanh Le (International University - VNU-HCM, Vietnam), Thanh Vo Xuan (Van Lang University, Vietnam)

KGER: A Knowledge-Grounded Endoscopic Retrieval Framework with a Fused Bi-Encoder and Gemini Reranking Pipeline
Hoang Duc-Huy Pham (University of Information Technology, Vietnam); Nguyen Pham Hoang Le (University of Information Technology, Vietnam & Vietnam National University Ho Chi Minh City, Vietnam); Hien Dinh Nhat Thai and Hoang Thach Minh (University of Information Technology, Vietnam)

A comparative performance analysis of deep learning-based motorcycle tracking models at urban intersections: a Vietnamese case study
Vinh Nguyen Dang The (The Saigon International University, Vietnam); De-Thu Huynh (The Saigon International University, Ho Chi Minh City, Vietnam); Huy Truong Dinh (Vietnamese-German University, Vietnam)

SilkLDP: A Pixel-Level Annotated Dataset and Deep Learning Approach for Silkworm Disease Detection
Ho Anh Khoi (University of Information Technology, Vietnam); Trong-Hop Do (University of Information Technology & Vietnam National University, Ho Chi Minh City, Vietnam)

Urban Perception Analysis via Transformer-based Image Segmentation: A Deep Dive into City Understanding
Nam-Hai Hoang Le (University of Economics Ho Chi Minh City, Vietnam); Danh Thanh Nguyen (University of Information Technology, Vietnam & Vietnam National University of Ho Chi Minh City, Vietnam)

Detecting "Nine-Dash Line" Images in Digital Content via Faster R-CNN and DINOv2-Based Knowledge Distillation
Tu Do Tran, Hieu Mai Danh and Long Dang Hoang (Posts and Telecommunications Institute of Technology, Vietnam

Poster #2 - Room: J.05.Hallway

Chairs: Van Binh Nguyen (International University, Vietnam), Phong Thanh Tran (Physics and Engineering Physics, Vietnam & University of Science, Vietnam)

A Comparative Study of Optimization Methods for Building Energy Optimization
Chi Minh Hieu Nguyen (Posts and Telecommunications Institute of Technology (PTIT), Vietnam); Anh Tuan Dang (PTIT, Vietnam)

Latency and Energy Aware Service Migration in UAV-enabled MEC Wireless Sensor Networks
Quang Nhat Tran (Van Lang University, Vietnam); Xuan-An Bui (Viet Nam, Vietnam); Nguyen Van Chien (Ho Chi Minh City University of Transport, Vietnam); Dac-Binh Ha (Duy Tan University, Vietnam)

Natural Evolution Strategy for Camouflaged Adversarial Patches
Viet Duc Bui and Chi Duc Luu (Le Quy Don Technical University, Vietnam)

Enhancing Surgical Instrument Localization Using Image Processing
Van Binh Nguyen (International University, Vietnam); Duc Tan Ha (Can Tho Central General Hospital, Vietnam)

A Computer Vision-Based Mobile System for Efficient Event Attendance Management Using Quick Response Codes and Facial Recognition
Tri Nhut Do (University of IT (UIT) - VNUHCM, Vietnam)

TaK-Fuzz: Transaction-aware Knowledge Smart Contract Fuzzing with Retrieval-Augmented Generation and Language Models
Nguyen Ho Nhat Khoa (University of Information Technology, Vietnam & None, Vietnam); Nguyen Thanh Kiet and Vo Truong Trung Hieu (University of Information Technology, Vietnam); Hao Truong Thi Hoang (University of Information Technology, Vietnam & UIT, Vietnam); Phan The Duy (University of Information Technology, VNUHCM, Vietnam)

Mind the Gap: On the Practical Utility of SHAP for Deep Learning-Based Intrusion Detection
Phuc Hao Do (Danang Architecture University, Vietnam); Tran Duc Le (University of Wisconsin-Stout, USA); Truong Duy Dinh (Posts and Telecommunications Institute of Technology, Vietnam); Van Dai Pham (FPT University, Vietnam)

A Quad-core 32-bit RISC-V CPU Implementation with Design Verification on 130nm CMOS Process
Nhon Le Thanh Nguyen (University of Science - VNUHCM, Taiwan & Faraday Technology, Vietnam); Minh Khai Ma, Bao Thuong T Cao and Duc-Hung Le (University of Science, VNU-HCM, Vietnam)

Genetic Algorithm Optimized Controllers for Wind Power Fluctuation Mitigation in Power Grids
Phong Thanh Tran (Physics and Engineering Physics, Vietnam & University of Science, Vietnam); Yen Thi Hoang Hua (University of Science-VNU HCM, Vietnam); Thuan Nguyet Phan (University of Science Ho Chi Minh City & Vietnam National University, Ho Chi Minh City, Vietnam); Chau Thi Huyen Ly (Van Lang University, Vietnam)

CFD-Based Analysis of Car Aerodynamic Performances under Restricted Operating Conditions
An Duy Le, Anh Le Dang and Minh Hoang Do (Delta Global School, Vietnam); Ngo Van He (Hanoi University of Science and Technology, Vietnam)

Wideband Circularly Polarized Reconfigurable Antenna for Internet of Medical Things Applications
Nguyen Tran (Phenikaa University, Vietnam); Hung Pham-Duy, Thai Dinh Nguyen and Tu Le-Tuan (PHENIKAA University, Vietnam)

AI Conferences Made Easy by AI - A Case Study at MIWAI 2025
Tai Quoc To, Long Song Thien Nguyen, Canh Hung Nguyen, Nguyen Le Bao, Minh Tam Nguyen and Thanh Tung Nguyen (Ho Chi Minh City University of Technology (HCMUT), Vietnam); Chattrakul Sombattheera (Maha Sarakham University, Thailand); Quan Thanh Tho (Ho Chi Minh City University of Technology, Vietnam)

Relation-based Quintuple Extraction for Opinion Mining
Phuc Quang Tran (People's Police University, Vietnam & HCM City, Vietnam); LE Thi My Hanh (University of Science and Technology & The University of Da Nang, Vietnam); Hiep Xuan Huynh (Can Tho University, Vietnam)

Adaptive Weighted Energy Distance Model for Context-Aware Collaborative Filtering
Linh Thi Thuy Nguyen (Viet Nam & Can Tho University, Vietnam); Lan Phan and Hiep Xuan Huynh (Can Tho University, Vietnam)

Temporal Micro-Doppler Spectrogram-based ViT Multiclass Target Classification
Nghia Thinh Nguyen and Tri Nhu Do (Polytechnique Montréal, Canada)

15:00 - 15:30 (Asia/Saigon) - Coffee break

15:30 - 17:00 (Asia/Saigon)

AI3: AI, Data Science, Big Data Analytics, Smart Computing - Room: J.05.01
Chairs: Huu Quan Do (Van Lang University, Vietnam), Truong Khang Nguyen (Van Lang University, Vietnam)

A Streaming Big Data Pipeline for Real-Time Vehicle Re-Identification in Chaotic Urban Traffic
Vinh-Ha X. Pham (Vietnam National University Ho Chi Minh City, Vietnam); Trong-Hop Do (University of Information Technology & Vietnam National University, Ho Chi Minh City, Vietnam)

EEG-Based Parkinson's Disease Classification Using XGBoost and Explainable AI
Thi-Nhu-Quynh Nguyen (University of Science, Vietnam); Hoang-Thuy-Tien Vo (University of Science, VNU-HCM, Vietnam); Tuan Van Huynh (VNUHCM - University of Science, Vietnam)

Sampling-Based Imbalance Handling for Ensemble Models in Electricity Payment Fraud Detection
Phung Do (University of Infomation Technology, Vietnam); Dinh Phat Nguyen and Van Hien Nguyen (UIT, Vietnam); Thang Cap (University of Information Technology, Vietnam); Tuong Le (HUTECH University, Vietnam)

Q-Forge: An Efficient Two-Stage Framework for Noise-Aware Quantum Model Training
Ngoc-Truong Nguyen and Huy-Tan Thai (University of Information Technology, Vietnam)

NeuFACO: Neural Focused Ant Colony Optimization for Traveling Salesman Problem
Dat Thanh Tran and Khai Quang Tran (VinUniversity, Vietnam); Khôi Anh Phạm (Ha Noi University of Science and Technology, Vietnam); Van Khu Vu (VinUniversity, Vietnam); Đông Đỗ Đức (Vietnam National University-Hanoi, Vietnam)

COM3: Communications, Networking, Internet of Things, Cloud Computing - Room: J.05.03
Chairs: Tuan-Duc Nguyen (Van Lang University, Vietnam), Ngo Hoang Tu (Van Lang University, Vietnam)

A Lightweight Plug-and-Play Model for Sensor Integration in Resource-Constrained IoT Devices
Nghia Nguyen Dai (Cantho University Software Center, Vietnam); Viet Truong Xuan (Can Tho University, Vietnam & Can Tho City, Vietnam); Vinh Loc Cu, Hoang Thao Le and Hoang Viet Nguyen (Can Tho University, Vietnam); Thai Minh Truong (Cantho University, Vietnam)

Bit Error Rate of RIS-enabled MISO Systems with Discrete Phase Shift
Khac Tuan Nguyen (University of Ulsan, Korea (South)); Vu Thai Hoc (Thu Dau Mot University, Binh Duong, Vietnam); Sunghwan Kim (Kyonggi University, Korea (South))

RWIDS: An Innovative Feature Selection Approach for Network Intrusion Detection System Leveraging Graphbased Random Walk
Van Thinh Pham (Posts and Telecommunications Institute of Technology & Viettel Networks, Vietnam); Hung Xuan Ho (Viettel & Viettel Networs Rearch, Vietnam); Tung Duong Luong and Duy Anh Nguyen (Viettel Networks, Vietnam); Hai-Chau Le (Posts and Telecommunications Institute of Technology, Vietnam)

Token Adaptive Allocation: An Enhanced Deep Learning Approach for Semantic Communication Systems
Huu Viet Cuong Nguyen (VNU - University of Engineering and Technology, Vietnam); Ngoc-Tan Nguyen (VNUUniversity of Engineering and Technology, Vietnam); Thi-Thu Hoang (Posts and Telecommunications Institute of Technology, Vietnam); Minh - Thu Dao (VNU - University of Engineering and Technology, Vietnam)

Codebook Design and Hybrid Reference Signaling for AI/ML-based Beam Management
Taeje Park, Hyunseok Noh and Wonjin Sung (Sogang University, Korea (South))

CYB3: Cyber-Security, Cryptography, Blockchain & Applications - Room: J.05.05
Chairs: Huy T. Nguyen (Van Lang University, Vietnam)

Investigating Deep Learning-based Binary Code Similarity Detection Using Graph Representation For Cross-dataset Analysis Context
Vu Hoang Thach Thiet and Thinh Nguyen Hung (University of Information Technology, Vietnam); Khanh-Khoa Ngo and Hien Do Thi Thu (University of Information Technology, VNU-HCM, Vietnam); Hung Van Thai (University of Information Technology, Vietnam)

Robust Digital Watermarking for Securing Product Images in E-Commerce Platforms
Khanh Nu Ngoc Ton (RMIT University Viet Nam, Vietnam); Son Vu Truong Dao, Dang Tran Tri, Huo-Chong Ling and Kiet Hoang Tuan Truong (RMIT University Vietnam, Vietnam); Anh Vu Quang Tran (RMIT University Viet Nam, Vietnam)

ASA-IDS: Attribution-Stealth Adversarial Attacks for Network Intrusion Detection Systems
Ha Thanh Dung (Saigon University, Vietnam); Nguyen Hong Son (Posts and Telecommunications Institute of Technology, Vietnam)

Innovative AI Agent with LLM: A Breakthrough Personalized News Aggregation System for the Vietnam Crypto Financial Market
Hao Phu Phan (HUTECH University, Vietnam); Khiem Vinh Tran (University of Information Technology, VNUHCM, Vietnam)

EvoSIEM: Detecting and Generating SIEM Rule Evasion Behaviors in Network Systems
Vy Tran Thi Thuy and Tuyen Le Thi Bich (University of Information Technology & UIT, Vietnam); Hao Truong Thi Hoang (University of Information Technology, Vietnam & UIT, Vietnam); Hung Van Thai (University of Information Technology, Vietnam); Hien Do Hoang and Phan The Duy (University of Information Technology, VNU-HCM, Vietnam)

IMA3: Image, Computer Vision, Pattern Recognition - Room: J.05.02
Chairs: Thanh Vo Xuan (Van Lang University, Vietnam)

ViMER-Tri: A Trimodal Vietnamese Emotion Recognition System with Adaptive Missing-Modality Fusion
Ngoc Tram Huynh Thi (International University, Vietnam & Vietnam National University, Ho Chi Minh City, Vietnam); Duc Dat Pham and Nhan Le Thanh Pham (International University, Ho Chi Minh City, Vietnam & Vietnam National University, Ho Chi Minh City, Vietnam); Hoang Anh Thu Nguyen (University of Science, Vietnam & Vietnam National University, Ho Chi Minh City, Vietnam); Tan Duy Le (International University - VNUHCM, Vietnam & Vietnam National University, Ho Chi Minh City, Vietnam); Kha Tu Huynhn (International University - VNU-HCM, Vietnam)

An Asymmetric Dual Swin Transformer for High-Resolution Aerial Segmentation
Ham-Thuat Vo and Thien Huynh-The (Ho Chi Minh City University of Technology and Education, Vietnam)

Convolutional Kolmogorov-Arnold Networks for Image Classification: Overview and Improvement
Viet-Hang Duong (University of Information Technology, Ho Chi Minh City, Vietnam); Nhat Tang and Canh Nhat Le (University of Information Technology, Vietnam); Bui Duc Nhan and Jia-Ching Wang (National Central University, Taiwan); Ngoc Hoang Luong (University of Information Technology, Vietnam)

Improving the Performance of the Lightweight Detector through Effective Collaboration with Visibility Enhancement Techniqe
Quoc-Viet Hoang (Hung Yen University of Technology and Education, Vietnam)

HySUP-V: Quality-Aware 3D Vietnamese Sign Language Reconstruction with Anchor-Guided Kinematic Fusion
Quang Viet Nguyen and Diep Hoang Nguyen (VNU - University of Engineering and Technology, Hanoi, Vietnam); Bui Vu Hai Anh (Vietnam National University Hanoi, Vietnam); Thuong Cong Le (VNU - University of Engineering and Technology, Hanoi, Vietnam); Le Thanh Ha (VNU Ha Noi, Vietnam)

18:00 - 21:00 (Asia/Saigon) - Banquet at Capella ParkView
Google Maps: https://maps.app.goo.gl/xcgFBhZaRPkcaJv57

Friday, December 19

7:30 - 8:30 (Asia/Saigon) – Registration

8:30 - 10:00 (Asia/Saigon):

AI4: AI, Data Science, Big Data Analytics, Smart Computing - Room: J.05.01
Chairs: Ngan Nguyen Le (Van Lang University, Vietnam)

A Two-Tiered Vietnamese Benchmark Dataset for TikTok Engagement Prediction in the Cosmetics Sector
Ung Hoang Long (University of Information Technology & Vietnam National University, Ho Chi Minh City, Vietnam); Trong-Hop Do (University of Information Technology & Vietnam National University, Ho Chi Minh City, Vietnam)

A Data Construction and Fine-Tuning Framework for LLM-Based Vietnamese Mental Health Assessment
Kim Trang Thi Vo (University of Information Technology, Vietnam & Vietnam National University, Ho Chi Minh City, Vietnam); Xuan Hieu Tran (FPT Software, Vietnam)

Prompt Manipulation for Targeted Adversarial Object Generation in Stable Diffusion
Hoang Van Le (University of Information Technology, Vietnam); Van Bich Nguyen (University of Information Technology, VNU-HCM, Vietnam); Tien-Dung Mai (University of Information Technology & Vietnam National University of Ho Chi Minh City (VNUHCM), Vietnam); Ngoc Hoang Luong (University of Information Technology, Vietnam)

Dynamic Heuristic in Ant Colony Optimization for the Set-Union Knapsack Problem
Hai-An Nguyen (VNU University of Engineering and Technology, Vietnam); Tu T Nguyen (VNU University of Engineering and Technology (VNU-UET), Vietnam); Dong Do Duc (Vietnam National University-Hanoi, Vietnam)

Hybrid TCDF with Knowledge Graph Verification for Temporal Causal Graphs in Industrial Systems
Mui Nguyen (Gia Dinh University, Vietnam); Anh Le (University of Information Technology, Vietnam); ThoChau Huu Le (University of Science - VNUHCM, Vietnam)

COM4: Communications, Networking, Internet of Things, Cloud Computing - Room: J.05.03
Chairs: Thai-Mai Dinh (VNU University of Engineering and Technology, Vietnam)

An Increased Superdirective Beamformer's Performance Based on Likelihood Estimation
Quan Trong The (Posts and Telecommunications Institute of Technology, Vietnam); Nguyen Thi Huyen Chau (Thang Long University, Vietnam)

Fuzzy-Based Dynamic Weight Optimization for Handover in SDN-VANET
Huy Binh Gia Do (University of Engineering and Technology, VNU Hanoi, Vietnam); Chu Dung (Vietnam National University, Hanoi, Vietnam); Thai-Mai Dinh (VNU University of Engineering and Technology, Vietnam)

Group-Aware DDQN with Markovian Reward Adjustment for Vehicular Spectrum Access Under Intermittent Jamming
Danh Le (Ho Chi Minh City University of Technology, Vietnam); Thanh-Dat Le (Dell Technologies, Canada); TriHai Nguyen (Van Lang University, Vietnam)

A Development Approach to Real-Time IoT-Based Road Surface Quality Monitoring and Alert System
Viet-Hoan Bui and To-Hieu Dao (Phenikaa University, Vietnam); Thanh-Nghia Nguyen (Ho Chi Minh City University of Technology and Education, Vietnam); Quang-Trung Hoang (Phenikaa University, Vietnam); Thang Nguyen Van (VNU - University of Engineering and Technology, Vietnam); Ngọc Anh Dinh, Kien Vu Pham and DucTan Tran (Phenikaa University, Vietnam)

Development of a Humanoid Robot Prototype for Multimodal Human-Robot Interaction
Thang Tran Viet (VNU University of Engineering and Technology, Vietnam); Nguyen Canh Thanh (VNU University of Engineering and Technology, Vietnam & Japan Advanced Institute of Science and Technology, Japan); Huy Uong Gia, Phuc Dinh Van and Son Tran Duc (VNU University of Engineering and Technology, Vietnam); Minh Ngoc Do (Vietnam National University, Vietnam); Hoàng Văn Xiêm (VNU University of Engineering and Technology, Vietnam)

IND1: Industrial Session - Room: J.05.05
Chairs: Quoc Huy Vu (Van Lang University, Vietnam)

Dynamic optimization of production processes in the automotive industry for low-volume components of premium vehicles
Domen Kulovec (Slovenia); Tomaž Požrl and Primož Podržaj (University of Ljubljana, Slovenia); Lidija Rihar (University of Novo Mesto, Slovenia)

Robust Deep Learning System for High-Throughput Industrial Socket Packaging Defect Detection
Tuyen Duong Dao Nguyen (International University, Vietnam); Hieu Minh Tran (RMIT University, Australia & International University, VNU-HCMC, Vietnam); Hung Viet Pham (RMIT Vietnam, Vietnam); Tan Ngoc Dinh (Swinburne University of Technology, Australia); Jaideep Chandran (Swinburne University, Australia); Alex Stojcevski (Curtin University, Singapore); Stanley Luong (RMIT, Australia); Son Vu Truong Dao (RMIT University Vietnam, Vietnam)

Temporal Kolmogorov-Arnold Networks for River Water Salinity Forecasting
Gia Bao Nguyen, Nguyen Anh Pham and Viet-Hang Duong (UIT, VietNam National University HCMC, Vietnam)

An Improved Energy-Efficient Solution for a Compressed Air Network
Vo Nhi Anh Duong (Ho Chi Minh University of Technology, Vietnam); Chu Nguyen-Phu, Pham Phuong Tung and Quoc Chi Nguyen (Ho Chi Minh City University of Technology, Vietnam)

Development of an Enhanced Control Approach for Compressed Air Supply System
Valentin Vister (Slovenia); Tomaž Požrl and Primož Podržaj (University of Ljubljana, Slovenia)

IMA4: Image, Computer Vision, Pattern Recognition - Room: J.05.02
Chairs: Thanh Vo Xuan (Van Lang University, Vietnam)

Combining ELA and Frequency Analysis for Robust Classification of Authentic, Spliced and Diffusion Image
Phuong Nghi Tram (International University, VNU-HCM, Vietnam); Chi Tinh Nguyen (Ho Chi Minh Open University, Vietnam); Canh Toan Le (International University, VNU-HCM, Vietnam); Kha Tu Huynh (International University - VNU-HCM, Vietnam)

DEGA: Dynamic Entropy Guided Adaptation
Loi Duong (University of Science, VNU-HCM, Vietnam); Thai Son Tran (Ho Chi Minh City University of Science, Vietnam); Duc Minh Huynh (University of Science, Vietnam)

PyramidTabNet++: Table Detection with Pyramid Vision Transformer and Boundary Refinement
Hien Thi Ha (Le Quy Don Technical University, Vietnam & Masaryk University, Czech Republic); Trung Thanh Cao and Hai-Hong Phan (Le Quy Don Technical University, Vietnam)

Enhancing Chest Radiograph Classification via a Dual-Model Ensemble
Duc Minh Le (Ho Chi Minh University of Science & Homecredit Vietnam, Vietnam); Ngoc-Thao Nguyen (VNUHCM-University of Science, Vietnam)

Design of All Digital Spiking Neuron Network Based on Izhikevich Model for Handwritten Digit Recognition on 180nm CMOS Process
The-Hung Pham, Van-Nam Cao, Duc-Hung Le and Minh-Anh Nguyen (University of Science, VNU-HCM, Vietnam)

Poster #3 - Room: J.05.Hallway

Chairs: Tra Huong Thi Le (FPT University, Vietnam)

Semantic-Augmented Collaborative Filtering for Movie Recommendation Using Large Language Models

Tan Nghia Duong (Hanoi University of Science and Technology, Vietnam); Thi Thu Trang Pham (Hanoi Open University, Vietnam); Hieu Minh Tran (Hanoi University of Science and Technology, Vietnam); Kim Phuong Dinh Thi (Hanoi University of Industry, Vietnam)

Anomaly Detection in Digital Payment Transactions

Tuyen Q K Nguyen (University of Science & Vietnam National University, Ho Chi Minh City, Vietnam); Huyen T Le and Tien Dinh (University of Science, Vietnam)

Machine Learning-based News Classification in Big Data Environments

Thi-Hien-Hoa Le (FPT University, Vietnam); Thanh-Dao Duong, Thi-Ha Le, Viet-Anh Le and Van-Quyet Nguyen (Hung Yen University of Technology and Education, Vietnam)

DoraReviewer: Vietnamese Virtual Reviewer With GraphRAG And LLM

Tin Trong Trinh, Anh Hoang Lan Ngo, Trinh Hoang Tu Nguyen and Khanh Doan Duy Ly (University of Information Technology, Vietnam)

Design Of An AIoT System For Non-Invasive Estimation Of Mean Arterial Pressure And Assessment Of Blood Pressure-Related Risks

Manh Van Pham (VNU - University of Engineering and Technology, Vietnam); Hung K. Nguyen (VNU University of Engineering and Technology, Vietnam)

Deep Learning-Based Recognition and Classification of Technical Errors in Squat Movements

Dang Le Mau Hai, Dang Do Hai, Hieu Luu Trong, Anh Nguyen Duc and Long Dang Hoang (Posts and Telecommunications Institute of Technology, Vietnam)

AttNetVLAD and AttNetVLAD++: Capturing Frame Feature Correlations with Self-Attention for Event Spotting in Football Videos

Anh Hong Pham (University of Science, Vietnam & Vietnam National University, Vietnam); Hoang Pham (University of Science & Ho Chi Minh City, Vietnam); Khoan Duc Le (University of Science, Vietnam & Vietnam National University, Vietnam)

YOLOv5-Powered Smart Parking System with IoT-Based Real-Time Slot Monitoring

Lam Nguyen Phuong (Ton Duc Thang University, Vietnam); Duc Tai Phan, Thanh Trung Nguyen and Nhut Minh Nguyen (FPT University, Vietnam); Duc Ngoc Minh Dang (FPT University, Ho Chi Minh, Vietnam)

Fruit Ripeness Detection: A Comparative Analysis of State-of-the-Art YOLO Models

Minh Quang Pham, Tan Nhat Lang, Ngo Hoang Tu and Anh Thai Nguyen (Van Lang University, Vietnam)

Visual Inspection of CNC Milling Tool Defects: A Study with Few-shot Learning

Thanh Huy Phung (Ho Chi Minh City University of Technology (HCMUT), Vietnam & Vietnam National University Ho Chi Minh City, Vietnam); Quang-Huy Nguyen and Due-Trung Ho (Ho Chi Minh City Universtiy of Technology, Vietnam); Thinh Nguyen Duc (Vietnamese-German University, Vietnam); Xuan Tran (Thu Dau Mot University, Vietnam); Quoc Chi Nguyen (Ho Chi Minh City University of Technology, Vietnam)

Optimizing AES Encryption Algorithm on Resource-Constrained Devices in IoT Systems

Nguyen Thi Khanh Tram (Phenikaa University, Vietnam)

Post-Quantum Cryptography: Can Classical Algorithms Resist Quantum Attacks

Phuong Doan Xuan Dinh (Le Quy Don Tachnical University, Vietnam); Truong Son Pham (Le Quy Don Technical University, Vietnam)

Robust Routing in Highly Dynamic FANETs via Predictive Multi-Metric Design
Phuoc Van Dang (Vietnamese German University, Vietnam & CT UAV/CT Group, Vietnam); Chan Dai Truyen Thai, Nhu Tran Quang and Hien Bich Vo (Vietnamese-German University, Vietnam); Khoi Quang Tran (CT UAV/CT Group, Vietnam)

Resource Allocation for Semantic-Aware Satellite Network
Tra Huong Thi Le (FPT University, Vietnam)

Earthquake Energy Prediction Using Liquid Neural Networks
Kavitha B and Srinivas Mettu (NIT Warangal, India)

10:00 - 10:30 (Asia/Saigon): Coffee break

10:30 - 11:30 (Asia/Saigon)

Keynote speaker #2: Security Challenges in AI-Driven 6G Networks by Prof. Biplab Sikdar (IEEE Fellow), Provost's Chair Professor, National University of Singapore

Chairs: HansJuergen Zepernick (Blekinge Institute of Technology, Sweden)

11:30 - 13:30 (Asia/Saigon) - Lunch break

13:30 - 15:00 (Asia/Saigon)

AI5: AI, Data Science, Big Data Analytics, Smart Computing - Room: J.05.01

Chairs: Huu Quan Do (Van Lang University, Vietnam), Ngan Nguyen Le (Van Lang University, Vietnam)

A Nonlinear Transformation-Based Defense Against Data Leakage in Federated Learning
Hai Trung Ha and Thanh Chi Nguyen (Institute of Military Science and Technology, Hanoi, Vietnam); Hang Thi Thu Truong (AMST, Vietnam); Quang-Kien Trinh (Le Quy Don Technical University, Vietnam); Nga Thi Dao (Le Quy Don Technical University, Hanoi, Vietnam)

High-dimensional Trajectory Data Analysis of Molecular Dynamics Simulations: A Case Study in Domainspecific Stabilization of GLP-1R Agonists
Minsung Ko, Soohwan Jeong, Jiyong Chung and Jaewoo Kim (Sungkyunkwan University, Korea (South)); David D. Mcpherson (The University of Texas Health Science Center at Houston, USA); Hyunggun Kim (Sungkyunkwan University, Korea (South))

Empirical Evaluation of Evolutionary NAS with Training-Free Metrics for Discovering Robust Networks under Adversarial Training
Can Do, Ngoc Hoang Luong and Quan Minh Phan (University of Information Technology, Vietnam)

AuroraMem: Towards Eternal Memory in Conversational AI
Thien Doanh Le and Thi Nguyen Van Ngoc (International University, Vietnam); Kha Tu Huynh (International University - VNU-HCM, Vietnam)

Evaluating Deep Learning Models for Negative Speech Emotion Recognition in Security Systems
Tien Giang My, Trang Huynh Ngoc, Tri Nguyen, Ho Duy and Duy Tri Nguyen Ho (University of Information Technology, VNU-HCM, Vietnam)

COM5: Communications, Networking, Internet of Things, Cloud Computing - Room: J.05.03

Chairs: Hai-Chau Le (Posts and Telecommunications Institute of Technology, Vietnam), Huu-Tien Vu (Posts and Telecommunications Institute of Technology, Vietnam)

Real-Time EEG Signal Denoising Using Discrete Wavelet Transform and Lightweight ICA on a Low-Power Nano 33 BLE Module
Xuan Bach Duy Nguyen (University of Information Technology, Vietnam); Anh-Vu Dinh-Duc (Vietnam National University - Ho Chi Minh City, Vietnam)

Performance Analysis of Satellite-to-Ground Entanglement-based QKD under Realistic Atmospheric Turbulence
Duc-Minh Nguyen (Posts and Telecommunications Institute of Technology, Vietnam); Khac Tuan Nguyen (University of Ulsan, Korea (South)); Hai-Chau Le (Posts and Telecommunications Institute of Technology, Vietnam)

Introducing Multi-Level Modulation for Improving Spectral Efficiency in Modified Walsh-Hadamard Code Division Multiplexing
Shinya Sotome and Toshiharu Kojima (The University of Electro-Communications, Japan)

Green Data Center Intelligence in Johor's Cloud Hub
Wai Yie Leong (INTI International University, Malaysia)

Towards Safer Autonomous Cars: A Roadmap for Gaps in Quality of Service and Quality of Experience Standardization
Oladayo Bello (New Mexico State University, USA); Sherali Zeadally (University of Kentucky, USA)

LAG1: Language and Speech Processing - Room: J.05.05

Chairs: Wai Yie Leong (INTI International University, Malaysia)

Towards Explainable Educational QA: A Chain-of-Thought and Retrieval-Augmented Approach
Van Tinh Tran, Duc Manh Nguyen Dang, Minh Quan Tran, Dang Khoa Huynh Tong, Nguyen Khang Nguyen, Hoan Dinh and Viet Hang Duong (University of Information Technology, VNU-HCM, Vietnam)

Multilingual NLP for Cross-Cultural Digital Communication
Wai Yie Leong (INTI International University, Malaysia)

Developing a RAG-Based LLaMA Chatbot for Restaurant Customer Service
Viet Thanh Huynh, Trung Thanh Ho, Nguyet Minh Nguyen, Nhan Hoai Dao, Nhi Yen Bui and Quyen To Nguyen (Ho Chi Minh City University of Transport, Vietnam); Hung Thanh Ngo (Ho Chi Minh University of Banking, Vietnam)

A Customized AI Chatbot for Educational Environments: Integrating Retrieval-Augmented Generation with Curriculum-Aligned Responses
Thuan Anh Trang (RMIT University, Australia); Phat Tran (School of Computing Australian National University, Australia); Tuan Minh Le (RMIT, Vietnam); Ly Le, Greeni Maheshwari and Nhu Do (RMIT University, Australia); Son Vu Truong Dao (RMIT University Vietnam, Vietnam)

Atayal Speech Recognition Based on Transfer Learning
Po-Cheng Chan (National Central University, Taiwan & Chunghwa Telecom Laboratories, Taiwan); Quan Manh Bui (HCMC University of Technology and Education, Vietnam); Hsin Ching-Ting and Di Tam Luu (National Tsing Hua University, Taiwan); Chi-Tao Chen and Jia-Ching Wang (National Central University, Taiwan)

IMA5: Image, Computer Vision, Pattern Recognition - Room: J.05.02

Chairs: Kha Tu Huynh (International University - VNU-HCM, Vietnam)

Multimodal Deep Learning for Cryptocurrency Trend Prediction via Candlestick Charts and Technical Indicators
Van Tinh Tran, Duc Manh Nguyen Dang, Minh Quan Tran, Dang Khoa Huynh Tong, Nguyen Khang Nguyen, Hoan Dinh and Viet Hang Duong (University of Information Technology, VNU-HCM, Vietnam)

A Semi-Supervised Sino-Nom Text Recognition Dataset via Pseudo-Labeling
Phat Kim Tran and Duy Khanh Ho (University of Science, Vietnam); Long H. B. Nguyen (University of Science, VNU-HCM, Vietnam); Dinh Dien (University of Science, Vietnam)

Morph-RAG-SAM: Few-Shot Medical Image Segmentation via Hybrid Semantic-Morphological Re- Ranking and Prompt-Guided Refinement
Lan-Phuong Nguyen Ngoc (Bosch Global Software Technologies Vietnam, Ho Chi Minh City, Vietnam); Danh Thanh Nguyen (University of Information Technology, Vietnam & Vietnam National University of Ho Chi Minh City, Vietnam); Vinh-Tiep Nguyen (University of Information Technology, Vietnam)

A Comparative Analysis of Modern CNN Architectures: EfficientNetV2 vs. ConvNeXt for Plant Disease Classification
Anh Thi Kim Vo (Ton Duc Thang University, Vietnam); Vo Ngoc Chau (Not Available Dept, Vietnam); Nho Thi Vo (Dong Thap University, Vietnam)

SegFormer3D-BMA: Enhancing 3D Medical Image Segmentation with BiMatch Attention Mechanisms
Huynh and Binh Trong Tran (Ho Chi Minh City University of Technology and Education, Vietnam)

Poster #4 - Room: J.05.Hallway
Chairs: Thanh Huy Phung (Ho Chi Minh City University of Technology (HCMUT), Vietnam & Vietnam National University Ho Chi Minh City, Vietnam)

Multi-Stakeholder Fairness in Recommendation Systems Using Distance Correlation
Gam Hong Thi Le (University of Economics Ho Chi Minh City, Vietnam); Nguyen Tan Khoi (Danang University of Technology, Vietnam); Hiep Xuan Huynh (Can Tho University, Vietnam)

Distance Correlation-Enhanced Collaborative Filtering for Tag Recommendation
Dao Xuan Thi Nguyen (University of Economics Ho Chi Minh City, Vietnam); Nguyen Tan Khoi (Danang University of Technology, Vietnam); Hiep Xuan Huynh (Can Tho University, Vietnam)

Real-Time Multi-Behavior Driver Monitoring with a Single-Stage Detector
Van Nang Hung Nguyen, Phan Van Tai, Tran Dinh Manh and Truc Thi Kim Nguyen (Da Nang University of Science and Technology, Vietnam)

Subscriber-Level Churn Prediction from CDR/OCS Data: A Comprehensive Machine Learning Approach with Feature Engineering Analysis for Telecommunications Marketing
Tru Trung Huynh (Post and Telecommunication Institute of Technology, Vietnam); Toan Phuc Nguyen (Viettel Cambodia, Vietnam); Ho Hung (Thu Dau Mot University, Vietnam)

Design of a Spiking Neural Network Circuit Using the Izhikevich Model for Epilepsy Detection on 180nm CMOS Process
Mai-Minh-Kha Nguyen, Thi-Thuy-Quynh Nguyen, Thi-Tra-Chi Nguyen and Chau-Thang-Loi Vu (University of Science, VNUHCM, Vietnam); Duc-Hung Le (University of Science, VNU-HCM, Vietnam)

ViTrend: A Real-Time System for Topic-Based Social Media Trend Analysis on Vietnamese Facebook
Hoi Vinh-Dang, Hiep Hoang Nguyen and Hoang Duc-Huy Pham (University of Information Technology, Vietnam); Anh Thi-Hoang Nguyen (University of Information Technology, Vietnam & Vietnam National University, Vietnam); Trong-Hop Do (University of Information Technology & Vietnam National University, Ho Chi Minh City, Vietnam)

Beyond Time-Series: Aligning Modalities and Architectures for Student Dropout Prediction
Khoa Tho Anh Nguyen (Vietnamese-Germany University, Binh Duong, Vietnam); Vy Nguyen Mai and Linh Khanh Vuong (Vietnamese-German University, Vietnam); Ngoc Hong Tran (Vietnamese German University, Vietnam)

Artificial Intelligence (AI) Applications in Construction Industry: A Big Data-driven Bibliometric Analysis
Ngan Nguyen Le (Van Lang University, Vietnam); Thanh Huy Phung (Ho Chi Minh City University of Technology (HCMUT), Vietnam & Vietnam National University Ho Chi Minh City, Vietnam); Hien Phuoc Phan (Van Lang University, Vietnam); Chuong Duy Nguyen (Telecommunications University, Vietnam); Buu Quoc Mai (Van Lang University, Vietnam)

- **Using quantization aware training technique to enhance performance of deep learning model for ADAS system**
  Phan Duy (University of Information Technology & UIT, Vietnam); Thi-Thanh-Dung Tran (University of Information Technology, VNUHCM, Vietnam); Vu Duc-Lung (University of Information Technology, VNU-HCM & Vietnam National University Ho Chi Minh City, Vietnam); Hoai Van Tran (Ho Chi Minh City University of Technology, Vietnam)
- **Disease Identification Model for Pomelo Leaves Using Deep Learning**
  Robert Gallena De Luna (Polytechnic University of the Philippines, Philippines & University of Sto. Tomas, Philippines); Rey Andrew C. Argañosa, Renz F Famisan, Patricia Anne A. Mangubat, Shenielle Kaye T Mancenon and Heavenly C. Villanueva (Polytechnic University of the Philippines, Philippines)
- **AI-Open-RAN for Non-Terrestrial Networks**
  Tri Nhu Do (Polytechnique Montréal, Canada)

15:00 - 15:30 (Asia/Saigon) - Coffee break

15:30 - 17:00 (Asia/Saigon)

AI6: AI, Data Science, Big Data Analytics, Smart Computing - Room: J.05.01

Chairs: Huu Quan Do (Van Lang University, Vietnam), Ly-Huynh Phan (Posts and Telecommunications Institute of Technology (PTIT), Vietnam)

- **Spatio-Temporal Graph Neural Networks for Real-Time Traffic Flow Forecasting in New Zealand**
  Khoi Anh Do (University of Information Technology, VNU-HCM, Vietnam); Trong-Hop Do (University of Information Technology & Vietnam National University, Ho Chi Minh City, Vietnam)
- **A contextual approach to modeling activity-related electricity consumption in instrumented dwellings**
  Ly-Huynh Phan (Posts and Telecommunications Institute of Technology (PTIT), Vietnam); Hong Anh Tan Nguyen (Posts and Telecommunications Institute of Technology, Vietnam)
- **Robust Abnormal Heart Sound Detection via Soft Voting Ensemble on Augmented MFCC Representations**
  Tan Nhat Phan Le, Khanh Duy Tran, Minh Nhat Doan, Uyen Nguyen and Ly Thi Khanh Vu (International University, Vietnam); Quoc T. Huynh (International University - VNU HCMC, Vietnam)
- **Improving the DF-Louvain Algorithm through Random Walk-Based Refinement**
  Do Duy Hieu (Vietnam Institute of Mathematics, Vietnam); Phan Thi Ha Duong (Institute of Mathematics, VAST, Vietnam); Dung Nguyen (Vietnam Joint Stock Commercial Bank for Industry and Trade, Vietnam)
- **ViTIED: A Vietnamese TikTok Influencer Engagement Dataset and Big Data-Driven Predictive Framework**
  Mai Ngoc Ho, Nhung Thi-Hong Duong and Phuc Ngoc-Thien Le (University of Information Technology, Vietnam); Anh Thi-Hoang Nguyen (University of Information Technology, Vietnam & Vietnam National University, Vietnam); Trong-Hop Do (University of Information Technology & Vietnam National University, Ho Chi Minh City, Vietnam)

COM6: Communications, Networking, Internet of Things, Cloud Computing - Room: J.05.03
Chairs: Ngo Hoang Tu (Van Lang University, Vietnam)

Graph Attention Network-Based AP Selection for Cell-Free Massive MIMO Systems
Nguyen Thi Xuan Uyen, Huynh Thanh Phong and Ngo Minh Nghia (University of Science, Vietnam)

On UAV Network Performance Considering the Clustering Dispersion of K-Means Algorithms
Rohith Racharla, Tejaswi Ananya Talagani and Hans-Juergen Zepernick (Blekinge Institute of Technology, Sweden)

WAVENET-MV: Wavelet-based Neural Image Compression for Machine Vision Tasks
Minh Ngoc Do (Vietnam National University, Vietnam); Dinh Trieu Duong (Vietnam National University in Hanoi, Vietnam); Hoàng Văn Xiêm (VNU University of Engineering and Technology, Vietnam)

Digital TwinEnhanced Communication Architectures for Malaysia's Smart Manufacturing Sector
Wai Yie Leong (INTI International University, Malaysia)

Spectrum Sharing and Cognitive Radio Applications for Urban Congestion in Klang Valley
Wai Yie Leong (INTI International University, Malaysia)

SOF1: Software Engineering, Information System, Computational Modelling - Room: J.05.05
Chairs: Tri-Hai Nguyen (Van Lang University, Vietnam)

An Experimental Study of Walrus Optimization-Based Deep Learning Models for Software Effort Estimation
Khanh Duy Nguyen, Duy Khanh Dao and Ngan Thi Kim Dang (Vietnam - Korea University of Information and Communication Technology, Vietnam); Phuong Thi Minh Ha (Vietnam - Korea University of Information and Communication Technology, Vietnam & Home, Vietnam); Ngoc Tho Huynh (Vietnam - Korea University of Information and Communication Technology & The University of Danang, Vietnam)

Accurate Latency Predictor for Triton-based GPU Kernels with PTX Features and XGBoost
Quan Hong Tran, Sang Pham, Tien Son Pham and Duc Tuan Chu (Efficient Computing Research Group, Vietnam); Tuan Anh Mai (FPT Software AI Center, Vietnam); Xuan Truong Nguyen (Seoul National University, Korea (South)); Tuan Thanh Dao (Moreh Vietnam, Vietnam)

The Influence of Large Language Model-Based Decision-Making on Predator-Prey System Dynamics in Heterogeneous Niche Environment
Doanh Nguyen-Ngoc (VinUniversity, Vietnam & UMMISCO SEA, Vietnam); Nghi Huynh-Quang (Can Tho University, Vietnam); Linh Do Bui Khanh (VinUniversity, Vietnam)

On Specifying and Verifying OCL Temporal Properties
Duc-Hanh Dang (VNU University of Engineering and Technology, Ha Noi, Vietnam); Lan Hoang Le, Quyen Duc Nguyen and Hai Dinh Minh (VNU University of Engineering and Technology, Vietnam)

A Parallel UE/gNB Emulator for Large-Scale Validation of 5G Core Networks
Dung Vu Luong and Kieu-Ha Phung (Hanoi University of Science and Technology, Vietnam)

IMA6: Image, Computer Vision, Pattern Recognition - Room: J.05.02

Chairs: Huu-Tien Vu (Posts and Telecommunications Institute of Technology, Vietnam)

MaxMpox-Det: A Dual-Input Transformer-Based Model for Mpox Skin Lesion Detection

Tram-Tran Nguyen-Quynh (Ho Chi Minh City University of Foreign Language-Information Technology, Vietnam); The Vinh Hoang (Vietnamese German University VGU, Vietnam); Binh Thanh Nguyen (Ho Chi Minh City University of Foreign Languages InformationTechnology, Vietnam & 828 Su Van Hanh, Hoa Hung Ward, Ho Chi Minh City., Vietnam)

Energy-Based Pattern-Inspired Sampling for Motion Analysis

Dung Ngoc Le Ha (Can Tho University of Technology, Vietnam); Nghia Trung Duong (IU International University of Applied Sciences, Germany); Hiep Xuan Huynh (Can Tho University, Vietnam)

AnoResLSTM: A Hybrid Deep Learning Framework for Real-Time Cheating Detection in Online Exams

Huy Bui Quoc and Thach Van Nguyen (Posts and Telecommunications Institute of Technology, Vietnam); Minh Ngoc Do (Vietnam National University, Vietnam); Hai-Chau Le, Thao Nguyen Thi Huong and Huu- Tien Vu (Posts and Telecommunications Institute of Technology, Vietnam)

Transformers based 3D Image Reconstruction using 2D low resolution image Data

Srinivas Mettu, Prapti Maheshwari, Sanyukta Patil and Kavitha B (NIT Warangal, India)

Transformer-based Segmentation of Pituitary-related Structures in T1CE MRI Using Swin-Unet

Woojae Hong, Seong-Min Kim and Joongyeon Choi (Sungkyunkwan University, Korea (South)); So Won Oh (Seoul National University Boramae Medical Center, Korea (South)); Hyunggun Kim (Sungkyunkwan University, Korea (South)); Yong Hwy Kim (Seoul National University Hospital, Korea (South))

Saturday, December 20

7:30 - 8:30 (Asia/Saigon) - Registration

8:30 - 10:00 (Asia/Saigon)

AI7: AI, Data Science, Big Data Analytics, Smart Computing - Room: J.05.01

Chairs: Huu Quan Do (Van Lang University, Vietnam)

Lightweight Statistical Model for Bash Command Recommendation

Cuong Tran Manh and Duy Ngo Hoang (VNU University of Engineering and Technology, Vietnam); Hieu Vo (University of Engineering and Technology, VNU, Vietnam)

Can LLMs Construct Valid Syllabi? Vietnamese High School Math Case Study

Ngoc-Bich Nguyen Thi (University of Social Sciences and Humanities, VNU-HCM, Vietnam); Tam Vo Minh and Anh-Khoa Nguyen Vu (University of Information Technology, VNU-HCM, Vietnam); Vinh-Tiep Nguyen (University of Information Technology, Vietnam)

Predicting Urbanization Trend in Vietnam Based on Machine Learning Models with Geographic Information Features

Nam Hai Le (VNUHCM-UIT, Vietnam); Son T. Luu (University of Information Technology & Vietnam National University, Ho Chi Minh City, Vietnam); Tuan Anh Nguyen Gia (UIT, Vietnam)

User-based recommendation with Latent Variable Energy-Based Model

Kim-Yen T. Nguyen, An Cong Tran and Hiep Xuan Huynh (Can Tho University, Vietnam)

Where You Cite Matters: Section-Aware Embeddings for Citation Intent Classification

Seohyun Nam, Tuan Anh Phan, Gwanpil Kim and Jason J. Jung (Chung-Ang University, Korea (South)); Khac-Hoai Nam Bui (Korea Institute of Science and Technology Information, Korea (South)

SS3.1: Reconfigurable Antennas and Intelligent Surfaces for Beyond 5/6G Wireless Communication Systems and Networks - Room: J.05.03

Chairs: Huy T. Nguyen (Van Lang University, Vietnam)

STAR-RIS-Assisted Sum Rate Maximization for Underlaid D2D Communications
Huy T. Nguyen (Van Lang University, Vietnam); Duc Cuong Nguyen and Nguyen Tien Hoa (Hanoi University of Science and Technology, Vietnam)

Array Pattern Synthesis Using Adaptive Gradient Method for RIS-aided Wireless Networks
Nguyen Minh Tran (VNU - University of Engineering and Technology, Vietnam); Toan Thi Nguyen (University of Hai Duong, Vietnam); Giang Truong (Vietnam National University, Hanoi, Vietnam); Cong Minh Nguyen (VNU University of Engineering and Technology, Vietnam)

Circularly Polarized Printed Dipole Antenna Array Using Sequentially Rotated Technique
Cuong Ngoc Ho (Hanoi University of Science and Technology, Vietnam); Thuy Minh Le (School of Electrical & Electronic Engineering, Vietnam & Hanoi University of Science and Technology, Vietnam); Quoc Cuong Nguyen (Hanoi University of Science and Technology, Vietnam); Igor Borisovich Shirokov (Sevastopol State University, Russia)

Design of Multi-Beam Intelligent Reflecting Surface For 6G Wireless Communications
Ngoc Tung Phung, Thanh Nam Le, Phuong Linh Nguyen, Quang Tuan Le, Nguyen Khac Kiem and Son Xuat Ta (Hanoi University of Science and Technology, Vietnam)

Energy Efficiency Maximization for RIS-aided Integrated Sensing and Communication
Huy T. Nguyen, Tri-Hai Nguyen and Vo Nguyen Quoc Bao (Van Lang University, Vietnam); Van-Dinh Nguyen (Trinity College Dublin, Ireland); Nhan Nguyen (University of Oulu, Finland)

SOF2: Software Engineering, Information System, Computational Modelling - Room: J.05.05

Chairs: Kieu-Ha Phung (Hanoi University of Science and Technology, Vietnam)

RBFRNN4HP: An Integrated Radial Basis and Recurrent Neural Network Framework for Long-Term Hydrological Time-Series Prediction
Tham Vo (Nguyen Tat Thanh University, Ho Chi Minh City, Vietnam); Cao Thanh Xuan (Thu Dau Mot University, Ho Chi Minh City, Vietnam)

Prediction of Longitudinal Stability Derivatives of a Projectile using Unsteady Computational Fluid Dynamics
Quoc Huy Vu (Van Lang University, Vietnam); Trung Huy Nguyen (Hanoi University of Science and Technology, Vietnam)

Revolutionizing C++ Programming Education: A Gamified Interactive Educational Game
Dung L. H. Nguyen (University of Science, VNUHCM, Ho Chi Minh City, Vietnam)

A Taxonomy of CPU Scheduling Problems
Binh Nguyen Thanh (Hanoi University of Science and Technology, Vietnam)

Development for an AI Agent-Powered System for Intelligent Quality Management Documentation
Hieu Ngoc Le (Van Hien University, Vietnam & FPT Software, Vietnam)

IMA7: Image, Computer Vision, Pattern Recognition - Room: J.05.02

Chairs: Robert Gallena De Luna (Polytechnic University of the Philippines, Philippines & University of Sto. Tomas, Philippines)

YOLO-TrOCR: A Proposed Model for Automated Ballot Counting
Thuan Duc Le, Nghia Manh Do and Ngan Thi Hong Nguyen (Academy of Cryptography Techniques, Vietnam)

A Survey of Deep Learning Approaches in UAV-Based Forest Monitoring
Quan That Minh Ton and Tung Thanh Pham (University of Science, Vietnam); Ngoc Quoc Ly (VNUHCM-University of Science, Vietnam)

Development of YOLO-Based Fall Detection With Real-Time Monitoring System on Raspberry Pi 5
Phan Duy (University of Information Technology & UIT, Vietnam); Anh Tran Ngoc, Hoang Phuc Nguyen and Hoang-Loc Tran (University of Information Technology, Vietnam)

Efficient Diagnosis of Chronic Obstructive Pulmonary Disease Using a Lightweight Deep Learning Model
Minh-Nhat Nguyen (University of Information Technology, Vietnam); Thinh Bao Nguyen-Tat (Lanh Binh Thang Hospital, Vietnam); Thien Bao Nguyen-Tat (University of Information Technology, Vietnam)

Coconut Maturity Level Classification Using Image Preprocessing and Deep Transfer Learning
Robert Gallena De Luna (Polytechnic University of the Philippines, Philippines & University of Sto. Tomas, Philippines); Jhea Camille M. Alegre, Rhose Anne P. Martinez, Monica Rose N. Ramos, Hannah Micah A. Sadian and Oswald Godwin G Villanueva (Polytechnic University of the Philippines, Philippines)

Poster #5 - Room: J.05.Hallway

Chairs: Hieu Ngoc Le (Van Hien University, Vietnam & FPT Software, Vietnam)

Data Augmentation Pipeline for Text Recognition of Laser-Etched Serial Number images
Theerapat Niamhom, Worarat Krathu and Pornchai Mongkolnam (King Mongkut's University of Technology Thonburi, Thailand)

From Keywords to Context: An AI Agent for Natural Language Document Lookup in the Enterprise
Hieu Ngoc Le (Van Hien University, Vietnam & FPT Software, Vietnam)

Design of Reconfigurable Beam Scanning Array Antenna with CNN-Based Machine Learning for mmWave 5G/6G Applications
Truong Khang Nguyen and Huu Quan Do (Van Lang University, Vietnam); Kieu Thi Thanh Nguyen (Binh Thuan College, Vietnam)

Agentic AI Framework for Adaptive Clinical Workflow Orchestration
Quy Minh Le and Duc-Trong Le (VNU University of Engineering and Technology, Vietnam); Hoang D. Nguyen (UCC, Ireland)

Application Of OCR And NLP Technology In Text Summary And Vietnamese Handwriting Recognition
Chau Thi Huyen Ly, Thanh Cong Tran, Duc Vo Chi and Tran Van Kha (Van Lang University, Vietnam)

Advancing Time Series Anomaly Detection using Transformer-based Models
Phuoc Tan Lien (Nguyen Tat Thanh University, Vietnam); Nam Thoai (Ho Chi Minh City University of Technology, Vietnam); Phan Cong-Vinh (NTT University, Vietnam)

An Edge-Oriented Approach to PCB Defect Detection with YOLOv11n
Phuoc Nguyen Duy Vo (Da Nang University of Science and Technology, Vietnam); Thanh Ngo (Danang University of Science and Technology, Vietnam); Mai Nguyen Hoang (The University of Da Nang - University of Science and Education, Vietnam); Truc Thi Kim Nguyen (Da Nang University of Science and Technology, Vietnam)

- **High-Gain Dual-CP Antenna Using High-Order Mode**
  Khanh-Dieu Thi Nguyen (Phenikaa University, Vietnam); Duc-Nguyen Tran-Viet (Le Quy Don Technical University, Vietnam); Hung Tran-Huy (Phenikaa University, Vietnam)
- **An Optimized Machine Learning Approach to Robust and Scalable Face Recognition**
  Minh N. T. Nguyen (International University & Vietnam National University Ho Chi Minh City, Vietnam); Duong T. T. Tran (International University, Vietnam)
- **Cross-lingual Transfer for Low-Resource Translation: Fine-tuning mBART50 on Indonesian to Aid AtayalChinese Tasks**
  Po-Cheng Chan (National Central University, Taiwan & Chunghwa Telecom Laboratories, Taiwan); Quan Manh Bui (HCMC University of Technology and Education, Vietnam); Di Tam Luu and Hsin Ching-Ting (National Tsing Hua University, Taiwan); Jia-Ching Wang (National Central University, Taiwan)
- **A Dual-Band Circularly Polarized Slot Antenna With EBG Structure For Wi-Fi Applications**
  Hien Thi Ngoc Doan (Hanoi University of Science and Technology, Vietnam); Hoai Vu Ngoc (Hanoi University of Science and, Vietnam)

10:00 - 10:30 (Asia/Saigon) - Coffee break

10:30 - 12:00 (Asia/Saigon)

- **AI8: AI, Data Science, Big Data Analytics, Smart Computing - Room: J.05.01**
  Chairs: Hiep Xuan Huynh (Can Tho University, Vietnam)
- **Development of a System for Predicting Continuous Integration Build Failures Using Deep Learning and MLOps**
  Thien Luu-Minh, Phuong Quach-Thi-Hoai and Tuan Le-Anh (University of Information Technology, VNU-HCM, Vietnam); Bao Nguyen-Van and Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)
- **Enhancing WiFi Fingerprinting-based Indoor Positioning Using SAE and MLP-Mixer**
  Nga Phan (DaLat University, Vietnam); Nhan Thi Cao (University of Information Technology, Vietnam); Luong Nguyen Thi (Dalat University, Vietnam); Ninh Duong-Bao (Ho Chi Minh City University of Industry and Trade, Vietnam); Trung Vu-Thanh (Hunan University, China & School of Interdisciplinary Sciences and Arts, Vietnam National University, Hanoi, Vietnam); Khanh Nguyen-Huu (Dalat University, Vietnam)
- **An AI-Enhanced Adaptive Test Generation System for Data Structures and Algorithms Assessment Using Reinforcement Learning**
  Long Ngoc Hoang (HongBang International Universisty, Vietnam); Nhon V Do (Hong Bang International University, Vietnam)
- **Classifying Pulmonary Diseases Using Small Multimodal Model on X-Ray Images and Reports**
  Minh Kien Thai (Vietnamese German University, Vietnam); Khanh Tran (Vietnamese-German University,
- **EEG-Based Brain-Computer Interface for Directional Control Using Machine Learning on Overt Spatial Attention**
  Minh Nhat Doan, Khanh Duy Tran and Tan Nhat Phan Le (International University, Vietnam); Hai Son Dang (Ho Chi Minh City University of Technology, Vietnam); Uyen Nguyen and Ly Thi Khanh Vu (International University, Vietnam); Quoc T. Huynh (International University - VNU HCMC, Vietnam)

SS3.2: Reconfigurable Antennas and Intelligent Surfaces for Beyond 5/6G Wireless Communication Systems and Networks - Room: J.05.03

Chairs: Ngo Hoang Tu (Van Lang University, Vietnam)

A 1-bit Reconfigurable Intelligent Surface: Design, Theory and Beam Steering in S and C band
Jaganbharathi K R (Vellore Institute of Technology, India); Boopalan G (VIT University, India); Truong Khang Nguyen (Van Lang University, Vietnam); Senthilnathan K (VIT University, India)

Active STAR-RIS-Empowered RSMA Systems: Outage Probability and Ergodic Capacity
Ngo Hoang Tu (Van Lang University, Vietnam); Thien Thanh Tran (Ho Chi Minh City University of Transport, Vietnam); Vo Nguyen Quoc Bao (Van Lang University, Vietnam)

Enhancing Reliability and Energy Efficiency in NOMA-CDRT Systems via Reconfigurable Intelligent Surfaces and UAV-based Relays
Thu Anh Pham, Nguyen Thi Thu-Hang and Hai-Chau Le (Posts and Telecommunications Institute of Technology, Vietnam)

Optimization of User Distance in STAR-RIS-Assisted NOMA Random Networks Using Supervised Deep Learning Techniques
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)

A Transmissive Frequency Selective Surfaces with Polarization Conversion
Khiem D. Nguyen (International University, VNU HCM, Vietnam); Truong Khang Nguyen (Van Lang University, Vietnam); Trung Kien Pham (International University, VNUHCM, Vietnam & IETR, France)

SS1: AI-Powered Health Ecosystems: Intelligent Systems for Adaptive, Equitable, and Preventive Care - Room: J.05.05

Chairs: Truong Khang Nguyen (Van Lang University, Vietnam)

Advanced Gene Selection Methods for Machine Learning-based Amyotrophic Lateral Sclerosis Diagnosis
Hai-Long Nguyen (Posts and Telecommunications Institute of Technology, Vietnam); Quan Dang Dinh (Hanoi University, Vietnam); Hai-Chau Le (Posts and Telecommunications Institute of Technology, Vietnam)

Synthetic Swarm Mosquito Dataset for Acoustic Classification: A Proof of Concept
Thai-Duy Dinh (Vietnamese German University, Vietnam); Minh Luan Vo, Tuan Cuong Nguyen and Hien Bich Vo (Vietnamese-German University, Vietnam)

Aegis Agent Framework: Proactive Fall Detection and Response Using a Multi-Agent System
Nam Tran Dang (FPT School of Business and Technology, Vietnam); Vinh Truong Hoang and Viet-Tuan Le (Ho Chi Minh City Open University, Vietnam)

Reduced-Complexity Transfer Learning Based BiLSTM Network for Multi-Amplifier Behavioral Modelling
Marwan Emira, Majid Ahmed and Oualid Hammi (American University of Sharjah, United Arab Emirates)

WeakSegFormer: A Transformer-Based Weakly Supervised Framework for Brain Tumor MRI Segmentation
Luan Thanh Truong (UIT, VietNam National University HCMC, Vietnam); Quan Manh Bui (HCMC University of Technology and Education, Vietnam); Viet-Hang Duong (UIT, VietNam National University HCMC, Vietnam)

SS2: New Technologies in Automotive Engineering: Driving Innovation through Integration and Intelligence - Room: J.05.02

Chairs: Luu Phu Thuong Nguyen (School of Technology Van Lang University, Vietnam)

Green Manufacturing of EV Batteries: A Novel Non-Contact Roll-to-Roll Approach for Double-Side Electrode Coating

Luu Phu Thuong Nguyen (School of Technology Van Lang University, Vietnam); Ho Anh Duc Nguyen (Binh Duong Economics and Technology University, Vietnam)

A Long-Endurance VTOL UAV for Aerial Monitoring with Fire Detection Capabilities

Teng Huang, Trung Nguyen Huynh Tran, Long Bao Do and Nguyen Hai Nguyen (RMIT University, Australia); Tuan Minh Le (RMIT, Vietnam); Son Vu Truong Dao (RMIT University Vietnam, Vietnam)

Transformer-based Traffic Flow Forecasting: A Survey and Experimental Comparison of Time-Series Analysis

San Van Tran (Ho Chi Minh City Industry and Trade College, Vietnam); Viet-Hang Duong (UIT, VietNam National University HCMC, Vietnam)

Lightweight Autonomous Exploration on Embedded Robots: A Benchmark with Nav2 and ExploreLite

Phu Hoai Tran (University of Information Technology, VNU-HCM & Bosch Global Software Technologies (Vietnam), Vietnam); Dai Phuoc Tran (University of Information Technology, Vietnam); Chuong Dang-Le-Bao (University of Information and Technology, Vietnam); Quan Le-Trung (University of Information Technology - VNUHCM, Vietnam)

Remote Sensing-Based Human Detection Using a Custom-built Coaxial UAV System

Viet Quoc Phan and Kien Dinh Vu (International University, VNUHCMC, Vietnam); Tuan Minh Le (RMIT, Vietnam); Hieu Minh Tran (RMIT University, Australia & International University, VNU-HCMC, Vietnam); Quoc Bao Vuong (International University, VNUHCMC, Vietnam); Minh N. T. Nguyen (International University & Vietnam National University Ho Chi Minh City, Vietnam); Son Vu Truong Dao (RMIT University Vietnam, Vietnam)

12:00 - 12:30 (Asia/Saigon) - Closing session **- Room: J.05.03**

9. INFORMATION

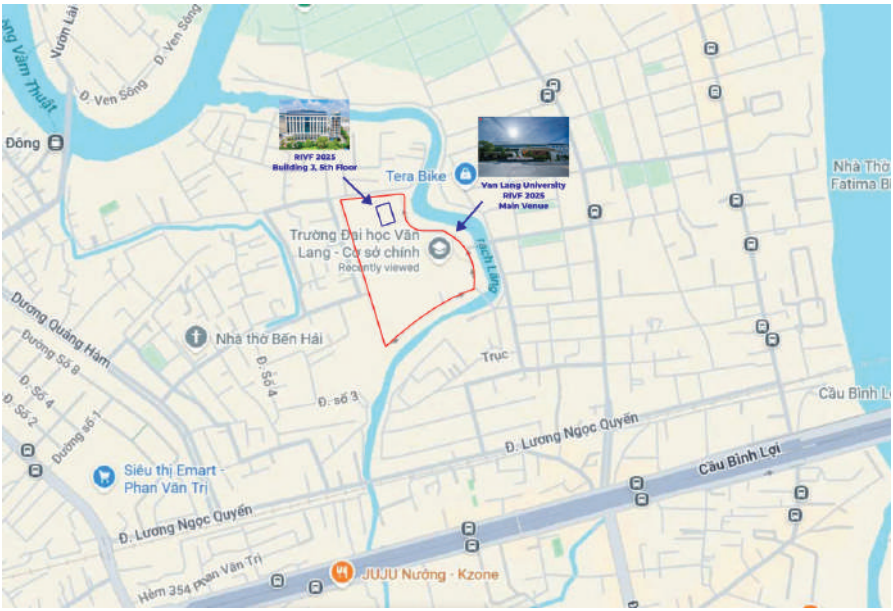
VENUE MAP

RIVF 2025 will take place at:

- Floor 5, Building J
- Van Lang University – Main Campus

(69/68 Dang Thuy Tram, Binh Loi Trung Ward, Ho Chi Minh City, Vietnam)

To ensure smooth and convenient travel to the conference venue, we highly recommend using ridehailing services such as Grab or XanhSM (Android/iOS apps). These services provide reliable pickup and drop-off options directly at the campus. For the best access and shortest walking distance to the main event area, please enter the campus via the Dang Thuy Tram gate. This entrance offers the most convenient route to the registration desk and conference rooms.



DIGITAL RESOURCE & CONFERENCE PROCEEDINGS

The Complete Ho Chi Minh City Travel Guide for First-Timers

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Address: 69/68 Dang Thuy Tram Street, Binh Loi Trung Distreet, Ho Chi Minh City, Vietnam

GALA DINNER:

Time: 18:00 December 18th, 2025 (Shuttle bus is available at 17:30 from the conference venue)
Location: Capella Park View
Address: 3 Dang Van Sam, Duc Nhuan Ward, Ho Chi Minh City


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