

TUAN-CUONG VUONG

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SELECTED PUBLICATIONS

- [S.1] Tuan-Cuong Vuong, Trang Xuan Mai, Thien Van Luong. (2026). **MPSL: Learning Patient-State Representations from Multimodal ICU Records for Early Clinical Outcome Prediction**. In *The 35th ACM International Conference on Information and Knowledge Management (CIKM 2026)*, (Under Review). [PDF] [Code]
- [S.2] Tuan-Cuong Vuong, Trang Xuan Mai, Son Thai Mai, Duong Tung Ta, Vu-Duc Ngo, Xuan-Nam Tran, Tien-Cuong Nguyen, Huan Vu, and Thien Van Luong. (2026). **PIKE: A Multimodal Framework for Short-Sequence EHR Prediction via Physiology-Informed Temporal Modeling and Knowledge Graphs**. *IEEE Transactions on Neural Networks and Learning Systems* (Under Review). [PDF] [Code]
- [S.3] Tuan-Cuong Vuong, Trang Xuan Mai, Thien Van Luong. (2025). **A Training-Free Mixture-of-Agents Framework for Multi-Document Summarization using LLMs and Knowledge Graphs**. *Neural Computing and Applications - Q1 journal* (Accepted, Impact Factor: 4.50, SJR: 1.102). [PDF] [Code]

EDUCATION

- **Phenikaa University**  Sep 2021 - June 2025
Ha Noi, Viet Nam
Bachelor of Science in Computer Science (Graduated Jun 2025)
◦ GPA: 3.23/4.00

OTHER PUBLICATIONS C=CONFERENCE, J=JOURNAL

JOURNAL PAPERS:

- [J.2] Cong Chi Nguyen, Tuan-Cuong Vuong, Mai Xuan Trang, Huan Vu, Vu-Duc Ngo, Thien Van Luong. (2026). **LLM-Powered Intrusion Detection Systems for Unmanned Aerial Vehicles**. *Cluster Computing* (Under Review). [PDF]
- [J.1] Ngo Vu-Duc, Tuan-Cuong Vuong, Thien Van Luong, Hung Tran. (2023). **Machine learning-based intrusion detection: feature selection versus feature extraction**. *Cluster Computing*, pp. 1-15. Springer. [PDF]

CONFERENCE PAPERS:

- [C.6] Tung Duong Ta, Tim Oates, Manas Gaur, Trong-Nghia Nguyen, Tien-Cuong Nguyen, Tuan-Cuong Vuong, Mai Xuan Trang, Thien Van Luong. (2026). **MDEF: Multi-Report Deep Ensemble Fusion for 3D CT Report Generation**. In *IEEE International Conference on Data Mining 2026 (ICDM 2026)* (Under Review). [PDF]
- [C.5] Duong Ngoc Vu, Tuan-Cuong Vuong, Kim-Ngan Thi Nguyen, Tien-Cuong Nguyen, Vu-Duc Ngo, Trong-Nghia Nguyen, Mai Xuan Trang, Huan Vu, Thien Van Luong. (2026). **STGraph-FS: Structural Temporal Graph with Feature Selection for Ethereum Fraud Detection**. *The 35th ACM International Conference on Information and Knowledge Management (CIKM 2026)* (Under Review). [PDF]
- [C.4] Gia-Bach Nguyen, Tuan-Cuong Vuong, Trang Xuan Mai, Duy Quoc Ngo, Tien-Cuong Nguyen, Huan Vu, Thien Van Luong. (2025). **HERMES: Contrast-Aware Knowledge Graph Reasoning from Clinical Notes for Patient Outcome Prediction**. In *CITA 2026: The 15th Conference on Information Technology and its Applications* (Accepted). [PDF] [Code]
- [C.3] Tuan-Cuong Vuong, Trang Xuan Mai, Thien Van Luong. (2024). **BERT-VBD: Vietnamese Multi-Document Summarization Framework**. In *CITA 2024: The 13th Conference on Information Technology and its Applications*, pp. 1798-1804. [PDF] [Code]
- [C.2] Tuan-Cuong Vuong, Cong Chi Nguyen, Pham Van-Cuong, Le Thi-Thanh-Huyen, Tran Xuan-Nam, Thien Van Luong. (2024). **Effective Intrusion Detection for UAV Communications using Autoencoder-based Feature Extraction and Machine Learning Approach**. Manuscript accepted for publication in *2024 International Symposium on Nonlinear Theory and Its Applications*, pp. 798-804. [PDF] [Code]
- [C.1] Tuan-Cuong Vuong, Hung Tran, Trang Xuan Mai, Ngo Vu-Duc, Thien Van Luong. (2022). **A Comparison of Feature Selection and Feature Extraction in Network Intrusion Detection Systems**. In *2022 Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC)*, pp. 1798-1804. [PDF]

HONORS AND AWARDS

- Best Graduation Thesis Award in Computer Science, Phenikaa University June. 2025
- Nominee for Student Best Paper Awards in CITA2024 Jul. 2024
- Viet Nam Informatics Olympiad consolation prize 2023 Dec. 2023
- JASSO Scholarship for International Students in Japan Feb. 2023
- Asia Pacific Signal and Information Processing Association Annual Summit and Conference Scholarship Dec. 2022
- Second Prize in Scientific Research Competition hosted by Phenikaa University Aug. 2022
- First Prize in Scientific Research Competition hosted by Faculty of Computer Science Feb. 2022

RESEARCH EXPERIENCE

- **Business AI Lab - National Economics University** [🌐] Aug 2025 – Present
Ha Noi, Viet Nam
Research Assistant
 - Implemented **multimodal learning pipelines** for healthcare AI, focusing on EHR.
 - Contributed to **system design, experiment design, and benchmark construction** for collaborative research projects, including healthcare reasoning and LLM-based security studies such as **HERMES** and **LLM-IDS**.
- **A2I Lab - Phenikaa University** [🌐] Oct 2021 – Present
Ha Noi, Viet Nam
Research Assistant
 - Implemented **multi-agent / multi-LLM systems** for multi-document summarization and knowledge-intensive applications, integrating **RAG, knowledge graphs, and coordinated agent reasoning**.
 - Supported paper writing and internal research review through **related-work synthesis, experimental verification, and technical review of manuscript drafts**.
- **Shibaura Institute of Technology** [🌐] Dec 2022 – Feb 2023
Tokyo, Japan
Talent Student - Exchange Student
 - Developed a home-based IoT framework integrating wearable ECG sensors and anomaly-detection agents to detect sudden cardiac arrest in elderly residents.

INDUSTRY EXPERIENCE

- **BSM Labs** [🌐] Apr 2024 – Jun 2025
Ha Noi, Viet Nam
AI Engineer
 - Led a 5-member AI team to deliver a hospital digitalization product for Bach Mai Hospital, with deployment in real-world clinical operations.

TECHNICAL SKILLS

- **Programming Languages:** Python, C++, Latex
- **LLM & Agents:** LangChain, OpenAI-agents, LlamaIndex, Qdrant, n8n, Unslloth
- **ML & DL:** PyTorch, TensorFlow, scikit-learn, Transformers (BERT, GPT)
- **Data & Databases:** Pandas, NumPy, Faiss, ChromaDB, Milvus, Neo4j
- **DevOps & MLOps:** GitHub Actions, Docker, RunPods, PM2
- **Cloud & Infra:** AWS, GCP, self-hosted GPU clusters

TEACHING ASSISTANTSHIP

- Computer architecture, Phenikaa University. 2023
- Introduction to artificial intelligence, Phenikaa University. 2022
- Machine Learning, National Economics University (NEU). 2025
- Computer Networks, National Economics University (NEU). 2025
- Introduction to Data Science, National Economics University (NEU). 2025
- Cloud Computing, National Economics University (NEU). 2025

PROFESSIONAL ACTIVITIES

- Student member of Asia-Pacific Signal and Information Processing Conference November 2022 - Present
- Reviewer, ISCIT 2025 - International Symposium on Communications and Information Technologies, IEEE 2025
- Reviewer, ISDS 2025 – International Conference on Intelligent Systems and Data Science, Springer 2025
- Reviewer, AI & Society, Springer 2025
- Reviewer, CITA 2025 – Conference on Information Technology and its Applications, Springer 2025
- Reviewer, FJCAI 2026 – Fisu Joint Conference on Artificial Intelligence 2025
- Reviewer, KSE 2023 – International Conference on Knowledge and Systems Engineering, IEEE 2023

LANGUAGES

Vietnamese (Native), **English**

REFERENCES

1. **Dr. Thien Van Luong**
Lecturer, Faculty of DS&AI, College of Technology, National Economics University
Head of Business AI Lab
Website: <https://tvluong.wordpress.com/> | Email: thienlv@neu.edu.vn
Relationship: Supervisor
2. **Dr. Trang Xuan Mai**
Vice-Dean and Program Chair, School of Computing, Phenikaa University
Head of A2I Lab
Email: trang.maixuan@phenikaa-uni.edu.vn
Relationship: Supervisor