

CURRICULUM VITAE

THANH HIEP VO

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EDUCATION

B.S. VNUHCM – University of Science

Ho Chi Minh City

Major: Bachelor of Science in Information Technology

October 2021 – April 2026

Specialized field: Computer Science

Thesis: Building Ontology-based Constraints for Large Language Models (**Grade: 9.5/10**)

Advisor: Dr. Tien-Len Bui

CGPA: 3.49/4.00

SKILLS

Programming Languages: Python, C/C++, Julia, Java

AI Framework: PyTorch, TensorFlow, LangChain, LangGraph

Libraries: Matplotlib, Pandas, Numpy, Scikit-learn, OpenCV, Keras, TensorFlow

Infrastructure: Docker, FastAPI

Data & Vector Databases: Qdrant, Neo4j, ChromaDB, FAISS

Cloud: AWS

Tools: Latex, SQL, Git

Languages: English (IELTS 6.0), Vietnamese (native)

EXPERIENCE

VinSmart Future

Hanoi, Vietnam

Machine Learning & Data Mining Engineer

July 2026 – Present

Mentors: Do Anh Dung, Dinh Tuan Cuong

- Improved a post-dispatch rider-cancellation prediction model on **75K trips** to **0.7500 ROC-AUC** and **0.2685 Cancel PR-AUC** (from 0.7267 and 0.2350, respectively) by adding **6 engineered features** and fixing a calibration failure with isotonic regression and threshold re-selection.
- Benchmarked 6 model classes with Optuna tuning and 1000-round paired bootstrap; selected XGBoost over the LightGBM baseline, and **investigated FT-Transformer**, finding its categorical bias term to be redundant (**-0.0126 Cancel PR-AUC**).

VinUniversity

Hanoi, Vietnam

Agentic AI Resident

May 2026 – Present

- Built production-grade agentic AI systems using LangGraph, Google ADK, Google's A2A protocol, and MCP, including ReAct agents, governed multi-agent orchestration, dynamic service discovery, parallel delegation, human-in-the-loop approvals, and traceable audit logging across educational, legal, and enterprise AI applications.

- Built and deployed production AI serving platforms supporting secure authentication, rate limiting, conversation persistence, load balancing, health monitoring, and automated testing.
- Engineered modern AI data platforms supporting ETL, schema evolution, feature stores, streaming anomaly detection, and medallion architectures, significantly improving query performance and data quality.
- Implemented end-to-end AI observability platforms providing distributed tracing, production monitoring, incident diagnostics, and model routing, reducing inference costs by **73.3%**.
- Developed AI infrastructure optimization solutions, including a GPU FinOps engine that analyzed inference telemetry and workload pricing to reduce projected monthly GPU costs by **46%**, lower cost per million tokens by **82.6%**, and decrease estimated carbon emissions by **92%**.

AI VIETNAM

Jun 2025 – May 2026

AI Resident (AIO2025)

Part-time

- Advancing expertise in Machine Learning and Deep Learning through an intensive AI Residency, combining applied research with real-world AI projects.

FPT Software Company Limited

Ho Chi Minh City, Vietnam

AI Engineer Intern

January 2026 – March 2026

- Developed enterprise chatbot solutions for automated code-quality verification and Excel knowledge retrieval by extracting structured metadata into Qdrant and Neo4j using custom .NET and Python data-processing tools.

School of Electronics, Electrical Engineering and Computer Science (EEECS)

Queen's University Belfast (QUB)

Belfast, Northern Ireland, United Kingdom

Advisor: Prof. Hui Wang, Dr. Thai-Son Mai, and Dr. Zheng Li

Visiting Research Student

August 2025 – November 2025

- Conducted research on **ontology-guided LLM reasoning** by integrating prompt engineering, Parameter-Efficient Fine-Tuning (PEFT), and Retrieval-Augmented Generation (RAG) to improve knowledge representation, disambiguation, and reasoning across both open- and closed-source large language models.
- Built an end-to-end legal-domain RAG system by fine-tuning decoder-only LLMs with LoRA/PEFT and developing dual-retrieval pipelines using LangChain, ChromaDB, and FAISS to jointly retrieve ontology entities and sentence-level legal obligations.

Research Assistant

April 2025 – August 2025

- Developed a **Guardrail** (neural network classifier) to check whether the response of an LLM constraints the pre-defined rules, axioms, etc.
- Implemented and evaluated the **PEFT** technique on the open-source decoder-only Transformer-based models published on Hugging Face.

PUBLICATIONS

1. Pham Hoai Nhan, Nguyen Dang Bui, Le-Van Thai, **Thanh-Hiep Vo**, Dinh Thi Lan Anh, Tien Dat Nguyen, Duy-Dong Nguyen, Ngoc Lam Quang Bui, Tam Tran, Zhi Huang. **CoDiR: Confidence-Guided Diffusion Refinement for Semi-Supervised Histopathology Segmentation**. MICCAI Workshop COMPAYL 2026.
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PROJECTS

Object Detection

- Fine-tuned pre-trained **Faster R-CNN**, **YOLOv12**, **FCOS**, **RetinaNet**, and **SSD300** to detect traffic signs in the Vietnamese Traffic Signs dataset.
- Labeled bounding boxes and corresponding targets for traffic signs in Ho Chi Minh City context correctly. ([Link on Kaggle](#))

Gait Recognition

- Inherited the GaitGL model ([paper](#)) for gait recognition based on deep learning.
- Utilized local temporal aggregation and global-local feature for improved gait analysis.

Big Data Server

- Set up a **Fully Distributed Hadoop** cluster in Non-Secure and Secure Mode and developed a **MapReduce program** in Java, informed by studying the original paper on the MapReduce concept.
- Applied the k-means clustering algorithm on document datasets using **Hadoop Reduce**.
- Implemented **Spark Structure API** and **Spark Streaming** in Python, Java, and Scala.

CERTIFICATIONS

- AWS Certified Cloud Practitioner ([Link](#))

SOCIAL ACTIVITIES

Technical Consultant for STEAM for Youth (S4Y) of Chu Van An High School for the Gifted, Hanoi

- Lead of the mentor team in the **Open Data Exploration Summer Camp 2026** at the **American Center**. Co-organized by the **U.S Embassy in Hanoi**, the **STEM Education Promotion Alliance** (SEPA), and **STEAM for Youth**.
- Consulted and Developed Green STEM Compass for **The International Youth Day 2026** event, organized by the **United Nations in Vietnam**.