

# Nguyen Thieu Huy

AI Engineer Intern

n.thieuhuy43@gmail.com (+84) 364-814-697 github.com/ThieuHuy43 linkedin.com/in/thieuhuy43

## OBJECTIVE

Final-year AI student seeking an AI Engineer Intern role to apply machine learning and deep learning skills in building practical, scalable AI solutions.

## WORK EXPERIENCE

### Institute of Electronics, Informatics and Automation

Hanoi, Vietnam

*AI Engineer Intern*

*Month Year – Month Year*

- Supported research projects in electronics, informatics, and intelligent automation systems.
- Developed data processing and algorithmic solutions using Python for applied research tasks.
- Collaborated with researchers on technical documentation and experimental evaluation.

### AI Laboratory, Thuyloi University

Hanoi, Vietnam

*AI Research Assistant*

*Month Year – Month Year*

- Conducted research on Machine Learning and Deep Learning, focusing on data analysis and model development.
- Built and evaluated AI models using Python, PyTorch, and Scikit-learn on large-scale datasets.
- Reviewed and summarized international research papers (IEEE, arXiv) and presented findings in lab seminars.

## PROJECTS

### DentalGPT: Vietnamese Dental Healthcare AI Assistant

*Graduation Project Python, PyTorch,*

*HuggingFace, PEFT/LoRA, LangChain, ChromaDB, FastAPI, Docker*

- Fine-tuned an **8B-parameter LLM (DeepSeek-R1)** using LoRA/PEFT for Vietnamese dental healthcare applications.
- Built a **RAG** pipeline with ChromaDB vector store, FAISS indexing, and KeyBERT-based keyword extraction.
- Developed a FastAPI backend with **streaming inference** and support for multiple reasoning modes.
- Implemented **Chain-of-Thought prompting** with structured outputs to enhance medical reasoning and response consistency.
- Assessed generation quality using **Perplexity** and semantic similarity metrics (BLEU, ROUGE, METEOR, BERTScore).

### 3D Human Pose Estimation

*Python, PyTorch, Graph Neural Networks, Computer Vision*

- Designed and analyzed **GraphMLP**, a lightweight architecture combining **MLP-Mixer** and **Graph Convolutional Networks** for 3D human pose estimation from 2D keypoints.
- Achieved **49.2 mm MPJPE on Human3.6M**, outperforming MLP-Mixer, GCN, and PoseFormer while using **70% fewer parameters**.
- Demonstrated strong **cross-dataset generalization** on MPI-INF-3DHP (MPJPE = **80.1 mm**) and efficient scalability to video-based pose estimation.

### Fire and Smoke Detection (RGB-Thermal pair images)

*PyTorch, OpenCV, YOLO*

- Developed a multi-modal object detection system using visible and thermal images.
- Designed a dual-backbone **mid-fusion architecture** for robust fire and smoke detection.
- Achieved mAP@0.5 of **78%** on a custom RGBT dataset.

## EDUCATION

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### Thuyloi University

*B.S. in Artificial Intelligence & Data Science*

Hanoi, Vietnam

*Aug 2022 – May 2026*

- **GPA:** 3.03/4.0
- **Relevant Coursework:** Machine Learning, Deep Learning and Applications, Statistics

## HONORS & AWARDS

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**Best Paper Award — ICAI 2025:** For the paper “*AMAF-Net: Training-Free Multi-Modal Alignment for Fine-Grained Counterfeit Fruit Detection*”.

**Academic Excellence Scholarship:** Two consecutive semesters.

## CERTIFICATIONS

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**DeepLearning.AI Deep Learning Specialization:** Neural networks, CNNs, RNNs, sequence models, optimization.

**Samsung Innovation Campus - AI Course:** Completed with Very Good grade

**English Proficiency:** CEFR (B2 – good at Speaking), Vietnamese (Native)

## SKILLS

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**Languages:** Python, C++, C

**Frameworks:** PyTorch, Sklearn

**Computer Vision:** YOLO, CLIP, ViT, OpenCV

**NLP:** Transformers, BERT, LLaMA, QLoRA

**MLOps:** Docker, Git, Linux, MLflow

**Tools:** Jupyter, VSCode, Pycharm