DUONG DINH HIEU
AI Engineer Intern

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PROFESSIONAL SUMMARY

AI student with a strong foundation in Machine Learning and Deep Learning, with hands-on experience in Computer Vision and Natural Language Processing projects. Skilled in reading and implementing research papers, and able to quickly adapt to new technologies. Interested in developing Large Language Models and efficient Small Language Models for Vietnamese applications.

EDUCATION

FPT University   *Hanoi, Vietnam*
Bachelor of Information Technology - Artificial Intelligence   2023 – Present

SKILLS

Programming: Python
Tools & IDEs: Git/GitHub, Jupyter Notebook, VS Code
AI Concepts: Object Detection, BERT, Transformers, Embedding models, Vector Databases
Soft Skills: Demonstrated strong time management skills to consistently meet project deadlines, while working collaboratively in team environments. Actively took initiative in addressing challenges, applying analytical thinking and proactive problem-solving to ensure successful project outcomes.

PROJECTS

Key-Value Extraction from Vietnamese Administrative Documents   *06.2025 – 08.2025*
Natural Language Processing

- Fine-tuned RoBERTa for Vietnamese document NER (7 labels); delivered micro-F1 0.95 with a production-ready IDP pipeline (PyTorch/HF, AdamW, BIO).
- Designed the end-to-end pipeline (text normalization, BIO tagging, BPE tokenization, seqeval evaluation) and exported JSON outputs for an IDP workflow.

Document Intelligence System for Electronic Invoices   *02.2025 – 05.2025*
Computer Vision & Small Language Models

- Built an end-to-end pipeline for multilingual invoice understanding.
- Implemented robust image preprocessing (de-skew, illumination correction, denoising, contrast/thresholding) to stabilize OCR and layout detection.
- Trained a Detectron2 layout/field detector and reached $\sim$0.94 average precision on the hold-out set.
- Reconstructed table structure with PaddleOCR TableCellsDetection and a custom GNN to infer cell adjacency, reading order, and header–value links
- Leveraged Qwen 2.5 (1.5B) for multilingual text normalization, value inference, and post-processing checks.

DocBot - AI-Powered Document Q&A System   *09.2025 – 12.2025*
Generative AI, RAG & Small Language Models (SLMs)

- Implemented an Adaptive RAG pipeline combining BM25 sparse retrieval and Dense Retrieval (multilingual-e5-small) with

dynamic re-ranking to optimize context accuracy.

- Leveraged Qwen 2.5 (1.5B) for multilingual reasoning (Vietnamese and English), utilizing Chain-of-Thought prompting to provide transparent, step-by-step explanations.
- Optimized retrieval performance by integrating FAISS for vector indexing and implementing smart text chunking strategies (1200 characters) for efficient knowledge management.

ACHIEVEMENT

- Notebook Expert Kaggle.

INTEREST

- Reading Papers - Football - Music.