# Nguyen Phu Vinh - Portfolio & CV

By Nguyen Phu Vinh

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Pursuing a Master's Degree in Computer Science at Uppsala University, Sweden
**Specialized in:** Machine Learning, Natural Language Processing, Large Language Models, Vision-Language Models, Knowledge Graph, and Explainable AI
**Research Interests:** Language Models, Multimodal Systems, Explainable AI, and RAG Systems

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## Education & Achievements

`Oct 2020 - Sep 2024`
**University of Science, Vietnam National University Ho Chi Minh City**
*Bachelor of Computer Science (APCS Program)*

- IELTS: 7.0 • GRE: 315 • GPA: 8.26/10 • Thesis: 10/10
- Equivalent to Portland State University's CS curriculum

`Sep 2024 - Now`
**Uppsala University, Sweden**
*Master's of Computer Science*

- Areas of Focus: Artificial Intelligence, Machine Learning, and Data Science.

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## Finished Projects & Research

`Jan 2022 - Aug 2024`
**Computational Linguistics Center - HCMUS** *Student Researcher*

- Developed text-to-code conversion models
- Created chart generation/visualization methods with generative models
- Researched Vietnamese LLM integration

`Mar 2024 - Jun 2024`
**ViMedAQA** *Author*

- Built a Vietnamese medical QA dataset.
- Constructed the dataset by crawling documents from medical websites, generating question-answer pairs using LLMs, and validating them with human annotators.
- Accepted paper at SRW-ACL 2024: ViMedAQA: A Vietnamese Medical Abstractive Question-Answering Dataset

`Oct 2023 - Dec 2024`
**ViGLUE Dataset** *Author*

- Developed a Vietnamese benchmark for natural language understanding (NLU) tasks.
- The dataset includes translated GLUE tasks, custom datasets created through web crawling and processing, as well as previously collected Vietnamese benchmarks.
- Accepted paper at NAACL: ViGLUE: Vietnamese Language Understanding Benchmark

`Feb 2024 - Apr 2024`
**AIC2024 - Track 2: Multi-Video Description Generation** *Participant (Top 5 Finalist)*

- Designed a lightweight yet effective vision-language model (Phi-1.5 + Blip2) capable of generating fine-grained descriptions of complex traffic events across multiple videos.
- Achieved performance comparable to frameworks built on 14B-32B pretrained VLMs, despite using only a 1.5B-parameter LLM that had not been previously trained on any vision tasks.
- Paper: PerspectiveNet: Multi-View Perception

`Jun 2024 - Jul 2024`
**Vietnamese Text Retrieval** *Author*
- Developed a lightweight text retrieval model for Vietnamese that achieves performance comparable to larger models on text retrieval tasks.
- Created new benchmarks specifically for evaluating Vietnamese retrieval models, covering two tasks: reranking and text retrieval from a large corpus.
- Accepted paper at PACLIC 38: Advancing Vietnamese Information Retrieval

`Sep 2024 - Jan 2025`
**Multimodal Speech-Vision-Language Model** *Author*
- Developed multimodal (speech-vision-language) model for question-answering tasks.
- The model has object localization ability and can be interacted with both speech and text.
- Accepted paper at EMNLP 2025: SilVar: Speech-Driven Multimodal Model

`Feb 2025 - May 2025`
**Explain Vision Models using VLM** *Author*
- Developed a framework to automatically explain and diagnose vision models using Vision-Language Models (VLMs).
- The framework can identify issues in training data or attention mechanisms by analyzing vision model saliency maps.
- Provides explanations for model failures at both the instance and dataset levels.
- Paper: A Novel Framework for Automated Explain Vision Model Using Vision-Language Models

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## Work Experience

`Sep 2024 - Present`
**HysonLab - UAB** Working with Prof. Hy Truong Son (Alabama University) and Dr.Pham Tan Hanh (Havard University) about Explainable AI & Multimodal Systems Research.

`Dec 2024 - Present`
**Knovel** Research about application of LLMs for coding assistance.

`May 2025 - Aug 2025`
**SEAS** Working as a teaching assistant and supporting Vietnamese high school and university students in studying AI and ML. Working with Nguyen Canh Hoang (Stony Brook), Hoang Minh Duc (MIT, CERN), Binh Minh (Ericsson Research), Nguyen The Quynh (Harvard).

`Apr 2024 - May 2024`
**Finpros** Developed stock trading algorithms for Vietnam stock market.

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## Skills

- Programming Languages: Python, C++, Java, SQL, Matlab, R, TypeScript
- Frameworks & Tools: TensorFlow, PyTorch, Hugging Face, Git, Docker, Linux, PySpark, Hadoop,

LangChain
- Languages: Vietnamese (Native), English (Fluent), Swedish (Basis)
- Other Skills: Machine Learning, Deep Learning, Data Analysis, NLP, XAI

## Contact

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