







NGUYEN DUC THANG

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WORK EXPERIENCE

Apero

AI Engineer

Apr 2023 - Now

- Conducted extensive research in the field of AI, with a focus on Generative AI techniques.
- Developed and implemented state-of-the-art algorithms for Stable Diffusion models.
- Played a pivotal role in researching and developing core AI components for integration into web and app-based products.
- Collaborated closely with a multidisciplinary team of developers and product managers to deliver cutting-edge AI solutions.

FPT Software

AI Resident

May 2021 - Apr 2023

- Joined the first cohort of the FPT Software AI Residency program as an AI Resident.
- Conducted research and proposed innovative problems and ideas for submission to international conferences.
- Actively kept abreast of the latest advancements in the field of AI, attending conferences and engaging in continuous learning to enhance skills and knowledge.
- Provided mentorship in the 2022 Junior Summer Internship Program.

EDUCATION

Hanoi University of Science and Technology (HUST)

Engineer

- **Major:** *Talented Engineering of Applied Mathematics and Informatics*
- **Graduation level:** **Very Good** (Top 4/26 in class)
- **Coursework:** Data Structures and Algorithms, Discrete Math, Probability and Statistics, Optimization, Linear Algebra, Calculus, Object Oriented Programming, Database

2016 - 2021

PROJECTS

AI Avatar

- *Description:* Conducting research and developing an AI system that independently learns users' unique facial features, and skillfully creates avatars in a variety of styles.
- *Achievement:* Outperformed competitors in the AI Avatar market by ensuring stability.
- *Techniques used:* Pytorch, Stable Diffusion, Dreambooth, Face processing models, Prompt engineering

AI Art Generator

- *Description:* Transformed creative visions into captivating artworks within seconds, applying over 130 styles for photo enhancement. This technology is now integrated into the company's Android app offerings.
- *Achievement:* Achieved top trending status as an art generator on the Android app store.
- *Techniques used:* Pytorch, Stable Diffusion, ControlNet, Dreambooth with LoRA, Textual Inversion, EsrGAN, Latent Consistent Models, Optimized Processing Speed

AI E-Commerce

- *Description:* Developed an AI solution for e-commerce systems that automatically adjusts backgrounds dynamically, tailored to each product. This enhances the visual appeal and consistency of the product catalog.
- *Achievement:* Pending integration into the product.
- *Techniques used:* Pytorch, Stable Diffusion XL, ControlNet, Background Removal, Image Processing

IFClass: Class based Influence Functions for Error Detection

- *Description:* Conducted research and proposed innovative solutions for detecting mislabeled data in classification and sequence-to-sequence problems.
- *Achievement:* Published 2 papers rank A*.
- *Techniques used:* Pytorch, Pytorch Lightning, Influence Function, BERT, CodeBERT, Hydra Config

PUBLICATIONS

1. **Thang Nguyen-Duc**, Hoang Thanh-Tung, Quan Hung Tran, Dang Huu-Tien, Hieu Ngoc Nguyen, Anh T. V. Dau, Nghi D. Q. Bui (2023). *Class based Influence Functions for Error Detection*. The 61st Annual Meeting of the Association for Computational Linguistics (ACL - Rank A*).
2. Anh T. V. Dau, **Thang Nguyen-Duc**, Hoang Thanh-Tung, Nghi D. Q. Bui (2022). *Towards Using Data-Influence Methods to Detect Noisy Samples in Source Code Corpora*. 37th IEEE/ACM International Conference on Automated Software Engineering (ASE - Rank A*).
3. **Thang Nguyen-Duc**, Quan Tran, Hoang Thanh-Tung (2023). *Large Scale Error Detection with Small Data*. Preprint.

SKILLS

Framework	Pytorch, Pytorch Lightning, Tensorflow
Languages	<i>Proficient</i> : C/C++, Python - <i>Basic</i> : Javascript, Matlab, C#
Libraries	Accelerate, Flask, FastAPI, Sklearn, Numpy, Pandas, Matplotlib, Seaborn, Httpx, Wandb, MLFlow, Keras, Pytest, Streamlit, Gradio, Selenium, Scrapy
Maths	Linear Algebra, Probability & Statistics, Discrete Math, Calculus, Optimization
Other	HTML/CSS, WordPress, Latex, Git, Data Version Control (DVC)

ACHIEVEMENTS

Certificate: Machine Learning DevOps Engineer, <i>Udacity</i>	2023
Champion of the AI Center Hackathon Competition, <i>FPT Software</i>	2023
Teaching Assistant, <i>HUST</i>	2020
Scholarship for excellent students (Top 5%), <i>HUST</i>	2020
Scholarship for excellent students (Top 5%), <i>HUST</i>	2019
Scholarship for study promotion, <i>HUST</i>	2019
Top 2 at HUST Alphathon Competition, <i>WorldQuant</i>	2019

INVITED TALKS

- Diffusion model: Use cases and Fine-tuning techniques, <i>Google I/O Extended</i>	07/2023
- Diffusion model: Foundations and Applications in Natural Language Processing, <i>FPT Software</i>	04/2023