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 Engineer of Applied Mathematics and Informatics*   2016 - 2021
– **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

PROJECTS

Advertify AI
– *Description*: Developed an innovative automated system for generating advertising images: by simply inputting a product URL, Advertify swiftly creates professional images for advertising campaigns in seconds.
– *Achievement*: Successfully developed a high-precision content generation mechanism, ensuring sharp, product-accurate images. Notably, Advertify excelled at accurately creating images with embedded text.
– *Techniques used*: Pytorch, Stable Diffusion, Text Generation, IP Adapter.

AI Art Generator
– *Description*: Developed an advanced AI Art Generator ecosystem, featuring capabilities such as Style Transfer, Enhancement, Face swapping, AI Inpainting, AI Outpainting, AI Avatar and more.
– *Achievement*: Achieved top trending status as an art generator on the Android app store. The product has generated substantial revenue for the company.
– *Techniques used*: Pytorch, Stable Diffusion, ControlNet, Dreambooth, Textual Inversion, Upscale and Enhance, LCM, TensorRT, and more.

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*: Utilized in products that help customers quickly and beautifully create images for their online products.
– *Techniques used*: Pytorch, Stable Diffusion XL, Controlnet, Background Removal, Text Inversion, 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^*). vspace0.1cm
3. **Thang Nguyen-Duc**, Quan Tran, Hoang Thanh-Tung (2022). Large Scale Error Detection with Small Data. Preprint. vspace0.1cm
4. Huu-Tien Dang, **Nguyen Duc-Thang**, Hoang Thanh-Tung, Naoya Inoue (2024). Detecting and Rectifying Noisy Labels: Similarity based Methods. Preprint.

SKILLS

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

ACHIEVEMENTS

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

INVITED TALKS

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