



LÊ NGỌC ĐỨC

AI SCIENTIST

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About me

I am an AI researcher specializing in Explainable AI (XAI), Trustworthy AI, and Safety AI. With extensive experience in applying large language models (LLMs) and image processing models to real-world problems, I have made significant contributions to various projects. Additionally, I possess a broad knowledge base across multiple supplementary fields, enabling me to approach and solve problems comprehensively and effectively.

Skills and Proficiencies

Programming Language: Python, Javascript, C++, C#

Machine Learning: Tensorflow, Pytorch, scikit-learn

Natural Language Processing: Spacy, NLTK

Software Development: HTML, CSS, MySQL, SQL, ReactJS, Docker, FastAPI

LLM Experiments: ChatGPT, Llama, BERT, Mistral

Special Experiments: Biomedical Research

English Proficiency: IELTS 5.5

Work experience

AI Researcher - HCMUS

June 2023 – Now

Advisor: Prof. Dr Bac Le

Conducting research and supporting research teams under the guidance of professors.

- I conduct research on medical model development processes and guide research teams on Explainable AI (XAI) in image processing.

Competition

Top 2 - Musti: Multimodal Understanding of Smells in Texts and Images – MediaEval Workshop 2023 ([Click here](#))

Publication

2023

Handle the problem of ample label space by using the image-guided feature extractor on the musti dataset

MediaEval Workshop - 30th International Conference on Multimedia Modeling - [Paper](#)

Education

Ho Chi Minh City University of Science (HCMUS)

Computer Science - Honors Program (2021 – 2024)

Computer Science - Bachelor's Degree (2020 – 2024)

Graduates - GPA: 8.6

Nguyen Du Gifted High School, Dak Lak

Mathematics major class (2017 – 2020)

GPA: 8.5

Ngoc-Duc Le*, Minh-Hung Le*, Quang-Vinh Dinh

In this research, we fine-tuned the loss function parameters to help the model overcome severe label imbalance issues. Additionally, we utilized the BERT model for language modeling before feeding it into the classifier. This approach achieved performance nearly on par with studies using Llama but with significantly lower hardware requirements. This research was conducted in collaboration with AI Viet Nam.

- Team size: 2
- Tech stack: Pytorch, HuggingFace, BERT, ChatGPT
- My work: My personal responsibility included proposing the idea to use fine-tuning of the loss function and employing BERT for text processing. Additionally, I conducted experiments to validate these approaches.
- Repo: [Click here](#)

2024

Multi-scale and Multi-level Attention based on External knowledge in EHRs

16th Asian Conference on Intelligent Information and Database Systems

Duc Le, Bac Le

In this study, we augmented knowledge into the disease diagnosis model to enhance its understanding of disease conditions. This allows the model to better conceptualize medical knowledge.

- Team size: 1
- Tech stack: Pytorch, Scikit-learn
- My work: I manage all aspects of projects under the critique and guidance of professors.
- Repo: [Click here](#)

2025

From Visual Explanations to Counterfactual Explanations with Latent Diffusion

Oral - IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)

Tung Luu, Nam Le, **Duc Le**, Bac Le

In this study, we propose to use the CAM method to localize the changing region of the Counterfactual algorithm to generate new images that can change the classification label.

- Team size: 3
- Tech stack: Pytorch

- My work: I shaped the research direction, proposed research questions and challenges to address, supported the implementation of evaluation methods and experimental analysis, critiqued findings, and guided the paper presentation.
- Repo: Private until publication