



THANH-DUY CAO

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EDUCATION

Ho Chi Minh University of Science, Vietnam

Bachelor of **Computer Science**, Advanced Program in Computer Science

Expected 2024

Cum. GPA: 3.85/4.00

- Top 10% Best Student of APCS program to receive Supportive scholarship (1st semester 2021, 1st and 3rd semester 2022).

WORK EXPERIENCE

VietAI

Teaching Assistant

Hanoi, Vietnam

Sep 2023 – Current

- Assisted in delivering the “Foundation of Deep Learning”, and “Advanced Natural Language Processing” courses, provided support to instructors and students, ensuring optimal learning experiences.
- Collaborated with a team of educators to develop and improve course materials, as well as construct lesson quizzes and project assignments.

Katalon Inc.

AI/Software Research Intern

Ho Chi Minh, Vietnam

Oct 2023 – Mar 2024

- Researched and presented approaches of Generative AI in Software Testing.
- Enrolled in a publication process by conducting experiments and supporting the manuscript's writing. Getting one paper accepted at ICST 2024 (rank A conference, co-author).

BENIT Ltd.

Full-stack Developer Intern

Hanoi, Vietnam

Jun 2022 - Sep 2022

- Worked in a team of 3 developers remotely to develop features for Tymlez Cohort, a platform for energy supervision including solar power generation and carbon emission statistics.
- Designed the user interface with Next.js for the data visualization dashboard and admin page, which displays granular real-time information. Collaborated with project lead to re-factor the backend into micro-service architecture using NestJS.

RESEARCH EXPERIENCE

FoDL Research @ VietAI

Research Collaborator

Hanoi, Vietnam

Jan 2023 – Feb 2024

- Focused on the Vietnamese speech-to-text topic, with the core research to enhance the available dataset via crawling and preprocessing YouTube audio data and increase the robustness and accuracy of the Whisper model by applying different fine-tuning techniques.
- Published “Bud500: A Comprehensive 500h Vietnamese ASR Dataset” with over 1000 downloads and a model that fine-tuned on in Hugging Face within 2 months.

PUBLICATIONS

- **Thanh-Duy Cao**, Phong-Phu Nguyen, Vy Le, Vu Nguyen and Long Nguyen. “Try-Then-Eval: Equipping Large Language Models Agent with Two-Phase Mechanism to Solve Computer Tasks”, Submitted to *IEEE International Conference on Systems, Man, and Cybernetics, IEEE SMC, 2024*.
- Tri Le, Thien Tran, **Duy Cao**, Vy Le, Vu Nguyen, and Tien Nguyen. “KAT: Dependency-aware Automated API Testing with Large Language Models.” In *17th IEEE International Conference on Software Testing, Verification and Validation, 2024*.
- An Tuan To, Nam Minh Tran, Trong-Bao Ho, Thien-Loc Ha, Quang Tan Nguyen, Chau Hoang Luong, **Thanh-Duy Cao**, and Minh-Triet Tran. “Multi-perspective traffic video description model with fine-grained refinement approach”. In *CVPR Workshop, Seattle, WA, USA, 2024*.
- Minh-Nam Tran, Tuan-An To, Viet-Nhat Thai, **Thanh-Duy Cao**, and Trong-Tin Nguyen. “AGAIN: A Multimodal Human-Centric Event Retrieval System using dual image-to-text representations.” In *12th International Symposium on Information and Communication Technology, SOICT, 2023*.

PROJECT

Summarizer Web Tool 🤖

Personal Project

June 2023

- Applied and customized OnnxT5 from fastT5 library to export the pretrained ViT5-base model to quantized onnx format, which sped up the reference 5x faster, as well as building the keyword extractor by using cosine-similarity from sentence
- Developed the user interface with ReactJS and TypeScript, and integrated back-end with Flask using Restful APIs.

Bud 500 🤖👉

Group Project

June 2023

- Crawled and preprocessed YouTube audio data with the VCTube tool and applied audio force alignment technique for better data samples with support of Google Cloud Platform for storage.
- Published the 500-hour Vietnamese ASR dataset on HuggingFace with approximately 1000 downloads per month.

ACHIEVEMENTS

Third prize, AIoT Innworks 2021 @ Advantech

Sep 2021

- AIoT Innworks is a team-based competition officially launched globally by Advantech Group (Taiwan) since 2019 to promote development opportunities. and seminars with outstanding technology students at prestigious universities around the world.
- A member of the team SIReal with the topic of Smart Salanganes House.

Second prize, AI Challenge 2023 @ ICT HoChiMinh City

Oct 2023

- AI Challenge is an artificial intelligence competition organized by the Department of Information and Communications, Vietnam National University, the Department of Science and Technology, the Department of Education and Training HCM, etc. The competition attracted over 2700 participants with 60 teams going to the final.
- A member of the team Again with the solution of a multi-approaches image retrieval system.

Third prize, SoICT Hackathon 2023 @ BKAI & Naver

Oct 2023

- SoICT Hackathon 2023 is a programming competition organized by the Hanoi University of Science and Technology, in collaboration with partner organizations (including Naver, Samsung, Tiki, and Vietcombank).
- Our team participated in the "SLU - Spoken Language Understanding" track, which focused on solving the problem of "Understanding Vietnamese spoken language in smart homes".

EXTRACURRICULAR ACTIVITIES

BEE Club @ Ho Chi Minh University of Science

Nov 2021 – Jul 2023

Content writer

- Wrote, edited, and published 20+ posts communicating English-relating content to college students on the main Facebook page attracting 6300+ page likes.