




## Ngô Quang Đức

### AI INTERN


## CAREER GOALS


With a solid foundation in advanced mathematics, and fundamental machine learning and deep learning algorithms, my short-term goal as an AI intern is to apply and expand my knowledge in a professional environment. I aim to leverage tools like Python, TensorFlow, or PyTorch to contribute to real-world AI projects, participate in research on new AI technologies, stay updated with the latest developments and trends in the field. In the long term, I aspire to become a highly skilled AI engineer, continuously innovate and promote advances in AI technology, and aim for future advancement, become a leader, and contribute an important part to the company's development.


## CONTACT

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## WORK EXPERIENCES

### EDABK LAB

11/2023 - Now

#### Position: AI Research Assistant

Implement AI projects and do research under the guidance of Dr. Nguyen Huy Hoang

- Conduct research on the latest AI publications and provide the optimal solutions.
- Participate in research and write paper for publication in journals or conferences.
- Participate in implementing practical AI projects for businesses and companies.

## EDUCATION

### HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

9/2021 - Now

#### SMART EMBEDDED SYSTEM AND IOT

CPA (09/2024): 3.64 (Calculus 1-2-3: A, Probability and Statistics: A+, AI and Applications: A, C/C++ Programming Language: A, Data Structure and Algorithms

## PROJECTS

### BUILD QA CHATBOT USING RAG AND LANGCHAIN

08/2024 - Now

Developed a QA Chatbot using RAG and LangChain with a Chainlit UI for answering questions based on user-uploaded documents.

- Processed PDFs and text files, storing them in a vector database.
- Integrated Vicuna-7B for language generation and Chroma for document retrieval.
- Implemented conversational memory for context-aware responses.
- Built an interactive UI with Chainlit for seamless document uploads and querying.

### FINGER IDENTIFICATION USING SNN

03/2024 - 08/2024

This is my research project. The goal of the project is to build and evaluate the performance of SNN with Capacitive images on Finger Identification task comparing to the performance other approaches: CNN, DNN.

- I collected raw data set of low-resolution fingerprints, process the data, train and optimize on Neural Network and then convert to Spiking Neural Network.
- My approach achieved over 93% accuracy in distinguishing left and right thumbs with the optimal NN model and close to 90% with the SNN model.
- The results of the project are being submitted to the IAES International Journal of Artificial Intelligence (IJ-AI) and are currently awaiting review.

### FACIAL FEATURE EXTRACTION USING DEEP LEARNING - LEADER

10/2023 - 01/2024

Developed an AI system to extract features on human faces by deploying 2 separate AI models (Face Detection Model and Features Extraction Model).

- Collected a large amount of data, processed noisy images, blurry images and used data augmentation technic before training the model.
- Used the YOLOv8s model for training data for the human head recognition phase and fine-tuned the ResNet50 architecture (Keras) for the feature extraction phase.
- The completed model can extract features such as gender, masks, earrings, hats, glasses with 93% accuracy on test set.

## SKILLS

### Soft and Tools Skill

- Proficient in software development and data science tools: Google Colab, GitHub, Jupyter Notebook, VS Code
- Basic proficiency in office applications such as Excel and Word
- Fluent in English for communication and reading technical documents with IELTS 6.5.
- Strong time management and problem-solving skills.
- Ability to quickly adapt to new working environments and tools
- Skilled in crafting effective prompts to optimize AI model outputs for various tasks.

### AI Technical Skill

- Proficient in Python and experienced in using ML/DL frameworks and libraries such as PyTorch, Keras, TensorFlow, Open-CV, Scikit-learn, and NumPy for developing AI systems.
- Strong knowledge of key Machine Learning and Deep Learning concepts, including CNNs and Transformers.
- Experienced in building and deploying AI models to solve real-world problems, from data preprocessing to model training and evaluation.

### Data Skill

- Solid foundation in data processing with a strong background in probability and statistics.
- Proficient in using libraries such as Pandas, NumPy, Seaborn, SQL for data manipulation and visualization.
- Skilled in performing key tasks related to tabular data, including Exploratory Data Analysis (EDA) and data visualization.
- Experienced in handling image data through image processing techniques.
- Competent in processing textual data for NLP task.

## CERTIFICATES

**AI VIETNAM:** AI Certificate of Completing Module "Math, Programming, Data Science" (AIO)

**Coursera:** Deep Learning and Machine Learning and Natural Language Processing Specialization (Deep Learning.ai)

**Coursera:** Google Advanced Data Analytic (Google)

**Coursera:** Generative AI with Large Language Model (IBM)

**IDP :** IELTS 6.5 (IDP)

## PRIZES AND AWARDS

### SCHOLAR SHIP FROM HANOI UNIVERSITY OF SCIENCE AND TECHNOLOGY

2022

Excellent achievements during the semester (2021.2 semester: GPA 3.92 and 2022.1 semester: GPA: 3.93).

## ACTIVITIES AND COMPETITIONS

### HO CHI MINH CITY AI CHALLENGE

07/2024 - Now

#### Leader

Qualified for Final Round of the Competition The competition with the topic of querying events from video and image data warehouses. And my team has built a query system using CLIP and FAISS for embedded search and filter search, combined with Captioning Image and optimizing UI functions for more accuracy.

### BADMINTON OLB CLUB

03/2022 - Now

#### Member

Participated as an active member of the Badminton Club , engaging in regular practice sessions and tournaments.

### VSET

1/2022 - 12/2022

#### Volunteer

I used to be a member of the communications team of the VSET volunteer group as a video editor. I work as a volunteer participating in volunteer activities in school along with volunteer activities in remote areas in northern Vietnam.