

THE KHOI NGUYEN

AI Engineer / AI Researcher

Ho Chi Minh City, Viet Nam

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Education

FPT University

Sep. 2020 – December 2023

Bachelor of Artificial Intelligence

Ho Chi Minh, Viet Nam

- 100% tuition fee scholarship.
- Top 10 Graduated Bachelors of Batch 1, 2024.
- GPA: 8.91.
 - * Mathematics For Machine Learning: 9.4.
 - * Probability and Statistics: 9.5.

Publications

- Hoang, A., **Nguyen, K. T.**, Ho, T. V. (2024). Low-Barrier Object Detection for Mobile Applications. Journal on Information Technologies & Communications, Vol. 2025, No. 1. doi: 10.32913/mic-ict-research.v2024.n2.1343

Experience

TPS Software Corporation

Mar. 2024 – Present

AI Engineer

Ho Chi Minh, Viet Nam

- Computer Vision
 - * Built dataset, and finetuned YOLOv8 models
 - Developed Furniture Detection on 2D Floor Plans, achieving 91.28% counting accuracy on a dedicated unseen test set, successfully supporting the team in passing the client demo stage.
 - Vietnamese Vehicle License Plate Recognition: achieved a recall rate of 91.6% on Plate Recognition and 96.9% on Character Recognition.
- Generative AI
 - * Deployed the open-sourced Phi-3 and Stable Diffusion models from Huggingface.
 - * Tuned text prompts to retrieve pseudo product details based on domain requirements specified by users.
 - * Provided a unlimited data source for internal QC teams.
- Recommendation System
 - * Trained Collaborative Filtering BiVAE model on Instacart and ML-1M datasets.
 - * Trained Session-based HSTU model on ML-1M dataset.
 - * Implemented Content-based filtering using the NearestNeighbor model from Scikit-learn.
- Data Engineer QC
 - * Utilized SQL queries to conduct verification tests on transformation functions and data management procedures.
 - * Ran and monitored pipelines on Azure Databricks to migrate and transform data.
- API & DevOps
 - * Setup FastAPI to allow connection between Computer Vision model and software application.
 - * Ran prebuilt Docker images of Tensorflow Computer Vision model.
 - * Quantized language model (Phi-3) in Pytorch, and deployed on Linux server.
 - * Python automation, utilizing Selenium, automated model training on Colab, thereby reducing labor effort by 50%.

Gradients Technologies

Sep. 2022 – January 2023

AI Engineer Intern

Ho Chi Minh, Viet Nam

- Researched and optimized Transformer models for machine translation.
- Implemented bucket processing in Tensorflow for efficient model training.
- Remotely triggered and monitored model training on Linux servers via SSH tunnels.

Projects

Few-shot Object Detection Model | *YOLO-World, YOLOv8, few-shot object detection* Jul. 2024 – Present

- Researched and enhanced zero-shot object detection model (YOLO-World) with a few-shot learning module (Tip-Adapter).

Object Detection Model For Everyone | *model distillation, YOLOv8, Detic* Feb. 2024 – June 2024

- A model that is part of an Android app system that produce object detection model based on user's preference with 3-5 images as input from user.
- Model: utilized zero-shot object detection model Detic to label images crawled from the Internet.
- Built dataset and finetuned YOLO model from Detic-labeled images.

Object Recognition and Counting | *Python, Roboflow, YOLO, Pytorch* Sep. 2023 – December 2023

- Project management: as a team leader, applied Scrum framework.
- Algorithm: Researched about ByteTrack, BoT-SORT on counting objects.
- Algorithm: Experimented small-object-detection algorithm: SAHI.
- Model: Finetuned YOLOv5 models.
- Document: used Latex language to write reports.

Slide Generation using ChatGPT | *Python, ChatGPT* August 2023

- Utilized ChatGPT API to generate slide contents based on user prompts.
- Incorporated generated content and retrieved images into pre-designed slide templates.

Vietnamese Receipt Information Extraction | *Python, OpenCV* March 2023

- Image Processing: Detected edges, cropped and warped perspective the receipt in an image.
- Python Development: Developed a OCR data labeling app using Python Tkinter.

Relevant Courseworks and Certificates - Coursera

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|-------------------------------|----------------------------|-----------------------------|
| • Big Data | • Deep Learning | • Google Project Management |
| • Natural Language Processing | • Digital Image Processing | • Google Data Analytics |

Skills

English: Academic IELTS 7.5

Programming languages: Experienced in Python, SQL, Latex. Familiar with PySpark, Java, C.

Version Control Tools: Github, Gitlab, Azure DevOps.

Technologies/Frameworks - AI: Tensorflow, PyTorch, Ultralytics, Roboflow, Huggingface, Scikit-learn.

Technologies/Frameworks - Data & Cloud: Azure Databricks, SSMS, Google Cloud Platform.

Extracurricular

TEDx FPTU HCMC 2021

Spring 2021

Event Organizer Collaborator

Ho Chi Minh, Viet Nam

- Greeted attendees.
- Set up the revenue and prepared the tea break.