

# Ly Nhat Phuong

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#### **WORK EXPERIENCE**

03/2025 - Now

#### **Xink Group**

#### **Software Engineer**

#### Chatbot Integration for Lark - 17/03/2025 - 26/03/2025

- Developed independently
- Developed a backend service using FlaskAPI to handle interaction between Lark webhook and Dify API.
- Integrated PostgreSQL to store and manage conversation IDs and Dify access tokens, enabling session tracking and authenticated requests.
- Implemented logic to forward user input from Lark to Dify, retrieve the LLM-generated result (including image responses), and render them back in the Lark chat.
- · Built features to enhance user experience:
  - · Rendered image responses directly in Lark messages.
  - Created interactive suggested question buttons based on Dify's follow-up recommendations, allowing users to continue the conversation contextually with one click.
- Ensured robust error handling and optimized request-response latency for smoother interaction in real-time chat.
- Technologies: FlaskAPI, PostgreSQL, Lark Webhook API, Dify API,
  Python, Requests, JSON, Lark Message Card, Lark Button/Action Handler.

#### **Sales Chatbot for Facebook Page** - 27/03/2025 - 14/04/2025

- Developed independently
- Developed a chatbot backend using FlaskAPI to handle interactions between Facebook Messenger Webhook and Dify API.
- Integrated with PostgreSQL to retrieve and display product information to users based on their messages.
- Implemented rule-based conversation flows to guide users through product inquiries and lead collection scenarios.
- Built validation functions to check the correctness and completeness of user-provided data (e.g., phone numbers, names, address).
- Technologies: FlaskAPI, PostgreSQL, Facebook Messenger Webhook, Dify API, JSON, HTTP Requests/Responses, Python.

#### SalonXink AI - 14/04/2025 - 25/05/2025

- Developed independently
- Used OpenAl API and LangChain to generate suitable hairstyle suggestions based on input images and prompts.
- Built a FlaskAPI to receive images from the backend, interact with the LLM, and return hairstyle recommendations.
- Evaluated the quality and performance of the LLM outputs to ensure relevance and accuracy.
- Wrote documentation for internal backend teams and client reporting.
- Technologies: OpenAl API, LangChain, FlaskAPI, Python, JSON, HTTP Request/Response.

#### Al-Powered Haircare Product Suggestion - 26/05/2025 - 03/06/2025

- Team (2 members)
- · Assigned tasks and reviewed team member progress via ClickUp.
- Used OpenAl API and LangChain to classify hairstyles from user images and map them to appropriate haircare products.
- Queried PostgreSQL based on the hairstyle result to fetch suitable products and care routines.
- Developed a FlaskAPI to integrate backend input/output for real-time product suggestions.
- Documented the full research and implementation process for the project manager.
- Technologies: OpenAI API, LangChain, PostgreSQL, FlaskAPI, Python.

#### Al Virtual Lipstick Trv-on - 02/06/2025 - Now

- Developed independently
- Implemented virtual lipstick try-on by combining Mediapipe (for lip landmark detection) and OpenCV (for applying lipstick color on detected regions).

- Built a FlaskAPI to receive images and lipstick color input from the backend and return the processed result.
- Documented the full research and implementation process for the project manager.
- · Technologies: Mediapipe, OpenCV, FlaskAPI, Python, NumPy.

### Virtual Nail Fitting Simulation - 02/06/2025 - Now

- Team (3 members)
- Defined weekly goals and tasks for the team on ClickUp, managed team workflows, and reviewed progress reports.
- · Supported team members in AI model research, training, and troubleshooting.
- Assisted in writing and compiling research documentation submitted to the project manager.

#### 02/2024 - 03/2025

## FHM.QAI, FPT Software Quy Nhon

## Fresher AI Engineer

## OCR project for European customers - 02/2024 - 07/2024

- Team (2 members)
- Researched and fine-tuned text recognition models using PaddleOCR, focusing on multilingual European documents.
- Evaluated model performance on various document types (invoices, forms, scanned PDFs), ensuring high accuracy.
- Conducted error analysis to identify common failure cases and iteratively improved preprocessing techniques.
- Authored detailed technical reports on training process, evaluation metrics, and model effectiveness to present to mentors.
- Technology: PaddleOCR, Python, OpenCV

## Al Chatbot Project for HR - 07/2024 - 08/2024

- · Team (2 members)
- Collected, cleaned, and indexed internal HR documents using ChromaDB and Elasticsearch to build the chatbot knowledge base.
- Developed RAG (Retrieval-Augmented Generation) pipelines using LangChain, enabling the chatbot to answer employee queries from structured and unstructured documents.
- Evaluated chatbot responses for relevance, correctness, and hallucination rate.
- Delivered technical documentation and implementation reports for project owners.
- Technology: LangChain, ChromaDB, Elasticsearch, OpenAl API, Python

## Sports broadcasting content censorship project - 09/2024 - 03/2025

- Team (3 members)
- Collaborated with the Tech Lead and PM to define sprint tasks, assign responsibilities, and evaluate team progress using Confidence.
- Managed data annotation workflows, reviewed labeled datasets created with Labelme, and ensured data quality before training.
- Led model training and evaluation using YOLOv8/v11 for logo detection and segmentation in sports broadcasts (e.g., NBA, FA).
- Performed EDA to identify common error patterns and refined data augmentation and anchor box strategies.
- Trained and improved BC-YOLO to adapt to limited-data scenarios and boost performance on rare logo appearances.
   Developed model demos and contributed code to integrate models into the censorship.
- Developed model demos and contributed code to integrate models into the censorship pipeline.
- Authored detailed analysis and documentation on research papers, model training logs, and improvement strategies for PM and Tech Lead.
- Technology: YOLOv8/v11, BC-YOLO, Labelme, Python, OpenCV, PyTorch

## **EDUCATION**

09/2020 - 06/2024

#### **Hue University of Sciences, Hue University**

Information Technology - GPA: 2.84

#### **Graduation Thesis:**

## **Extracting Prescription Data from Images to Excel using PaddleOCR**

Individual project

- Collected and manually annotated prescription image data.
- Trained text detection and recognition models using PaddleOCR, building on experience from prior internship at FPT Software.
- Evaluated model accuracy and performed error analysis to refine results.
- Developed post-processing logic to automatically map extracted fields (e.g., drug name, dosage, usage) into the correct columns in an Excel file.
- Consulted related research papers to improve model design and performance evaluation.
- Authored a detailed thesis under academic supervision and received high evaluation during the defense session.

## **SKILLS**

Language	English
Programming	Python, Latex
Al	Computer Vision, Machine Learning, LLM, Deep Learning, OCR, PyTorch, Langchain, OpenAl API
Database	PostgreSQL, Sqlite, Chromadb, Microsoft SQL Server, Elasticsearch
Version Control	GIT

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