Nguyễn Tấn Khang

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Summary

Highly motivated and technically proficient individual with a passion for leveraging data-driven insights to solve complex problems. Possess strong skills in data pipelines, machine learning, and programming. Eager to apply theoretical knowledge in a practical setting to contribute effectively to data-driven projects. Seeking an internship opportunity to further develop skills and gain hands-on experience in the field of data science, data engineering, or AI engineering.

Education

University of Information Technology - VNUHCM   *HCMC, VN*
Bachelor of Computer Science   *Sept 2021 - Jun 2025*
Current GPA: 8.59/10.0

Skills

Web development	HTML, CSS, Flask, FastAPI.
Database	SQL (MySQL, MSSQL Server), NoSQL (MongoDB).
Frameworks & Libraries	Tensorflow, Pytorch, OpenCV, Sklearn, Selenium, Streamlit, Gradio, PySpark, Kafka.
Visualizations	Matplotlib, Seaborn, Power BI.
DevOps	Docker.
AI services	Azure AI.
Others	Ubuntu server.
Language	English (IELTS 6.5).

Experience

Multimedia Communications Laboratory (MMLab) - UIT   *HCMC, VN*
Undergraduate Research Assistant   *Jul 2024 - Current*

Aesthetics Aware Prompt-based Image Cropping

- Construct and publish two datasets for distracting objects (with respective to main object) segmentation, using Generative AI.
- Introduce a novel pipeline to crop image based on user's prompt with aesthetics aware.
- Build an end-to-end model for distracting objects segmentation (in progress).

Sudo Code 2024 - Women Techmakers HCMC   *HCMC, VN*
Mentee   *Oct 2024 - Dec 2024*

Customer Service Chatbot for Online Sales Website - 3rd Prize

- Use BeautifulSoup and API to crawl data from websites.
- Implement RAG with filter metadata and hybrid search for better retrieval documents and answers.
- Implement Tools Calling to route and handlle analytical cases.
- Enhance response time by integrating Semantic Cache.
- Build UI and backend with Streamlit and FastAPI.

Projects

License Plate Recognition

Developing a system to extract text from license plate via images/videos.

- Train YOLOv8, v10 on custom dataset and use the pretrained model WPOD-NET to detect license plate.
- Train SVM, kNN model to classify characters from license plate.
- Use TesseractOCR, PaddleOCR for text recognition from license plate.
- Use Streamlit/Flask to provide demo.

Vietnamese Handwritten OCR

Building models to extract text from Vietnamese handwritten images.

- Generate images to enrich dataset by using handwritten fonts.
- Implement CRNN architecture, finetune VietOCR and PaddleOCR.
- Use seq2seq model for post processing (error correction).

Image-based Pneumonia Detection

Building models for predicting whether pneumonia or normal via X-ray images.

- Apply computational thinking process for problem solving.
- Extract deep features with VGG19 and EfficientNetB2.
- Use ML models such as SVM, kNN, Naive Bayes, Random Forest to classify images.
- Use Gradio to provide demo.

Real-time Credit card Fraud Detection

Developing a system to detect fraud transaction in real-time.

- Apply SparkSQL to interact with large amount data in MySQL database.
- Train Decision Tree, SVM model with SparkML.
- Stream big data by using Kafka and do real-time prediction.

Telco Churn Prediction & Analysis

Using Data Mining skills and ML algorithm to analyze churn customers.

- Analyzing characters of churn customers by plotting chart combined with Apriori algorithm, then suggest new bussiness approach.
- Implement Decision Tree, Random Forest, XGBoost to predict churn.

Achievements

| 2024 | **3rd Prize**, SUDO CODE 2024 |
| 2022 | **UIT Academic Encouragement Scholarship**, 3rd Semester |

Certifications

| 2023 | **Problem Solving Using Computational Thinking**, University of Michigan |

Activities

Communist Youth Union of Computer Science Faculty *HCMC, VN*

Member of The Executive Committee *2021 - 2023*

- Trainee Program - a program training for freshman of UIT.
- Wecode Challenge - a coding challenge for freshman of UIT in Wecode online judge.
- UCPC - an ICPC-like competitive programming contest by the Computer Science Faculty.