# Truong Duc Tai AI/Algorithm Engineer

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#### Education

## Industrial University of Ho Chi Minh City, Vietnam

Bachelor's Degree in **Data Science** 

09/2021 - Present GPA: 3.48/4.0 TOEIC: 715

### **Projects**

## Fine-tuning Vision-Language Model (VLM)

01/2025 - 05/2025

NLP Final Project, Scored 8/10

[Kaggle]

- Fine-tuned Vintern-1B-v2 on Viet-chart-VQA dataset using LoRA with PyTorch, peft, and datasets; processed 110k chart images and text queries.
- Preprocessed image-text pairs with PIL, tokenized text, and optimized training with DeepSpeed; achieved 0.91 BERTScore F1 on test set, improving baseline by 5.8%.

## Multi Large Language Model Code Solver

03/2025 - 04/2025

Kaggle Competition, Ranked 21/149

[Github]

- Standardized prompts, queried DeepSeek-V3, Gemini 2.0 Flash, GPT-40, Llama 3 via API, validated outputs (A, B, C, D), used majority/confidence-weighted voting.
- Achieved DeepSeek-V3 75%, Gemini 2.0 Flash 72%, GPT-40 70%, Llama 3 62%, ensemble 71%.

# Mammography Breast Cancer Detection

01/2025 - 03/2025

 ${\bf Kaggle\ Project}$ 

[Github]

• Converted DICOM to PNG, filtered view/laterality, augmented data (flips, rotations, brightness), fine-tuned EfficientNet-B0, Resnet50, HR-Net, Swin-Transformer.

#### Open Set Recognition

03/2024 - 09/2024

Young Scientists Conference 2024

[Kaggle]

- Utilized beta-VAE with Wide ResNet for latent space encoding; applied Extreme Value Theory for open set detection via probability thresholds.
- Achieved 99.7% closed set accuracy, 94.0% open set accuracy.

#### Skills

Machine Learning/AI Frameworks: TensorFlow, PyTorch, Transformers, Keras, Scikit-learn, OpenCV

Data Science: Pandas, NumPy, Matplotlib, Seaborn, Plotly

Version Control: Git, GitHub

Databases: MySQL, MongoDB, SparkSQL

Awarded for outstanding academic performance.

APIs & Web Services: Django Rest Framework, FastAPI

Crawl Data: Selenium, BeautifulSoup, Requests Laboratories: Programming Lab, Data Innovation Lab

### Awards

LOTTE Scholarship	2024
Academic excellence award by LOTTE Foundation.	Scholarship
Top 500 – Meta Hacker Cup	2024
Ranked among top 22492 participants.	Certificate
Top 12 Vietnam – ICPC Asia Hanoi Regional Contest	2024
Ranked among top 12 teams in Vietnam.	Certificate
Third Prize – ICPC Southern Vietnam Regional Contest	2023
Secured third place in regional programming contest.	Certificate
Second Prize - Vietnam National Collegiate Programming Contest	2022
National Round – Specialized Track.	Certificate
Consolation Prize - Vietnam National Collegiate Programming Contest	2021
National Round – Non-specialized Track.	Certificate
Top 5% – Scholarship for Encouraging Study	2 semesters