

TIÊU TRÍ BĂNG (DARYN)

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EDUCATION

Bách Khoa University (Ho Chi Minh City University of Technology)

2022 - 2026

Junior Student

- Bachelor of Engineering (Computer Science)

Academic Achievements

- International Youth Math Competition | **Silver Medalist**
- IELTS: **8.0**, SAT: **1460**

TECHNICAL SKILLS

Languages: Python, Java, C/C++, SQL(MySQL, SQLite), JavaScript, HTML/CSS, R

Data Science/ML: Pytorch, Tensorflow, Numpy, Scikit-learn, Pandas, XGBoost, CV, NLP

Frameworks/Libraries: Django, Playwright, Selenium, BeautifulSoup, SelectoLax, Streamlit, FastAPI, OpenCV, Pillow

Visualizations: Matplotlib, Seaborn, Plotly, PowerBI

Developer Tools: Git, Cloud Platform, Pycharm, CLion, IntelliJ, Colab, Kaggle

PROJECTS

Research on Long-Document Multi-Page Visual Question Answering

Feb 2025 - Current

Pytorch, Huggingface, Kaggle, Arxiv

- Exploring Document Understanding models like Donut, Pix2Struct, Matcha and CREAM for DocVQA tasks.
- Studying ArXiv research papers to analyze model architectures, methodologies, and limitations.
- Investigating novel techniques to enhance visual and textual understanding of documents in VQA systems.
- Experimenting with Retrieval-Augmented Generation (RAG) for efficient document retrieval and integrating powerful multimodal LLMs for text generation.

Handwritten Math OCR – End-to-End Image-to-LaTeX Network

Nov 2024 - Mar 2025

Pytorch, Huggingface, Pandas, Numpy, Streamlit

- Devised and trained from scratch a multimodal encoder-decoder network to convert printed and handwritten mathematics images into LaTeX sequences.
- Utilized Huggingface repositories for obtaining datasets of image-sequence pairings.
- Preprocessed data for improved computational efficiency, reducing overall training time by 50%.
- Built a hybrid backbone: ResNet50 encoder for visual extraction with integrated Attention mechanism for enhanced feature representation and Transformer decoder blocks for autoregressive LaTeX generation.
- Fine-tuned the model on a handwritten-equation dataset to achieve robust OCR for unstructured math.
- Publicized a Streamlit web application for user interaction and real-time model output validation.

Electronic Ecommerce Django Website

Sep 2024 - Nov 2024

Django, MySQL, Playwright, SelectoLax, JavaScript, HTML/CSS

- Automated data extraction and webscraping of over 500 products using Playwright and SelectoLax.
- Designed and populated a structured database in MySQL after thoroughly cleaning the data.
- Integrated an existing MySQL database into the backend of a Django-based web application.
- Developed functionalities including user login, search, and filtering, enhancing user experience. Deployed the Django website, which was used by 20+ users, demonstrating practical scalability.

EXPERIENCE

HCMUT Computer Vision and AI Development Team

Oct 2024 - Current

Research Assistant

- Assisted and collaborated with research peers in expanding multimodal deep learning resources.

KynaEnglish

Aug 2023 - Current

Business/IELTS Teacher

- Supervised one-on-one tutoring sessions to refine English proficiency of adult learners in professional settings.