

Truong Gia Hy

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EDUCATION

Fachhochschule Aachen

Bachelor of Applied Chemistry

Royal Melbourne Institute of Technology

Bachelor of Information Technology

Aachen City, Germany

2021 — 2023

Ho Chi Minh City, Vietnam

2023 — present

PROFESSIONAL EXPERIENCE

Collaborative AI/ML Researcher, (*The Neurone Group*)

09/2023 - present

- Engineered CoT prompts, built LLM-based Chatbots, established PostgreSQL psycopg2 database with Docker for Text-to-SQL Agent.
- Experienced in supervised learning/unsupervised learning, applied Qwen2.5vl in reasoning images, research about CNN, Transformer.
- Researched about cryptographic techniques (e.g., AES, RSA, ECC) in enhancing data security and privacy within healthcare systems.

Designer UI/UX, Developer (*BlooMart Design Application*)

08/2025 - present

- Design wireframes via Figma, good sense at UI/UX, using React framework to code Frontend, connected with Backend by RestAPI.
- Developed and optimized secure code for rendering authentication pages like sign up, sign in for customers, vendors, and shippers.
- Using pastel colors to design visually appealing UI layout, optimizing the overall UX by ensuring clarity, accessibility, and consistency.

Designer UI/UX (*Grab But - Grab Bestie Idea Application*)

08/2025 - present

- Design wireframes via Figma with a strong sense of UI/UX principles, implement new features for Grab, optimize the overall UI layout.
- Create a message chat between users and Grab But, allowing interactive smoothly communication that enhances overall user experience.
- Collaborate with others to come up with creative ideas, improve the UI/UX of pastel colors for more appealing and consistent design.

Blockchain Research Leader, (*RMIT Neo Culture Tech*)

03/2025 - 06/2025

- Studied secure hashing algorithms (SHA), explored the backend structure of blocks and chains within the blockchain technology domain.
- Developed a small prototype application for a demo of how blockchain works using the transaction, hashing block function using Python
- Documented the daily report in LaTeX format, published it as semi-professional manner, research for further improvement on crypto.

RESEARCH PROJECTS

SLM Agent: Small Text-to-SQL Agents for Efficient Financial Data Retrieval and Strategization

[Github Link](#)

- Investigated 10 small language models ($< 12B$) to automatically generate SQL queries and natural language for information retrieval.
- Processed 4 financial datasets with over 10,000 observations and 12+ columns, pulled SLMs from HuggingFace, Ollama, ChatGroq.
- Research on NLP metric like RAGAS (Factual Correctness: F1, Precision), Cosine Similarity, BLEU, ROUGE to evaluate models output.
- Build ground-truth SQL queries pipeline using Groq API with Llama 3.3-70B model, manually evaluate the generated SQL queries.

Factors influencing the salaries of Data Scientists

[Project Link](#)

- Explored a dataset with 1500 entries and 11 features, used AWS SageMaker to analyze scatter plot, histogram and correlation diagram.
- Prepared a clean data set by handling outlier data, removing missing values, encoding numerical and categorical values, perform EDA.
- Models reached R^2 63.7%, MAE 0.3, and RMSE 0.4, concluding that the most relative factors affect salary is employee residence.

CLAM: A Hybrid Deep Learning Model for Weekly Stock Trend Forecasting

[Github Link](#)

- Developed a synthetic model with stacked layers of Conv1D, LSTM, and Attention Mechanisms for multi-step stock trend forecasting.
- Fine-tuned CLAM through 48 hyperparameters at 90:10 split, optimized training with EarlyStopping and ReduceLROnPlateau callbacks.
- Improved MAE and RMSE by 90%, capturing 75% of out-sample stock trends with flash crashes thus outperforming LSTM and CNN.

NLP-Web-based-Data-Application

[Github Link](#)

- Build the preprocessing pipeline (tokenize with the given regex, lowercase, handle missing values, outliers, spellchecking, stopwords).
- Embedding types review text: Count vectors, Unweighted embedded vectors using FastText, and TF-IDF-weighted embedded vectors.
- Train/evaluate classifiers using logistic regression with 5-fold CV to compare the three representations (Glove, FastText, Word2Vec).
- Check the performance of three representations with confusion metrics: result for F1 score accurate over 80%, Precision up to 93%,.

BlooMart: An E-commerce Website

[Github Link](#)

- An e-commerce platform allows customers to view and buy various products via Momo app from vendors and be delivered by shippers.
- Created the database with MongoDB Atlas, used Mongoose for schema modeling, and integrated it into a Node.JS and Express backend.
- Coding Backend using Node.JS, connected to Frontend via React Framework, created an interactive web interface using JS and SCSS.
- Implemented a secure JWT-based authentication system with RBAC, designed wireframes via Figma, localhost the website via Render.

Wander: A Tourism Forum Website

[Github Link](#)

- A platform allows users to share discussions about various tourist destinations and services, provides booking and payment experience.
- Designed the database using MongoDB Atlas, incorporating Mongoose for schema modeling and integrating it into a Node.js backend.
- Coding Backend using NodeJS, connected to Frontend via EJS Framework, created an interactive web interface using JS and CSS.
- Implemented a secure JWT-based authentication system with RBAC, designed wireframes via Figma, localhost the website via Render.

PUBLICATIONS

- [1] Anh Nguyen* and **Hy Truong**. "CLAM: A Synergistic Deep Learning Model for Multi-Step Stock Trend Forecasting". In: *MDAI 2024 Proceedings* (2024). **CORE B**. <https://journals.sagepub.com/doi/10.1177/17248035251322877>.

AWARD

NEO League: Prompting Engineering Competition - 2025

[Certificate Link](#)

- Prompting on Nova AI Platform to solve business logic problems, utilize prompting skills like (Zero-shot, Few-shot, Role Prompting, ...)
- Enhance problem-solving, prompting, and pitching skills by adopting a structured experiment loop (define → design → test → iterate)
- Provide the AI for Strategic Innovation and Sustainable Development (Text-to-SQL) that identifies SDG-aligned growth opportunities.

TECHNICAL SKILLS

Code Language: *Python (Numpy, Pandas, Matplotlib, PyTorch, Langchain), HTML, CSS, JS, React, NodeJS, Express, Git*

Data Analytics: *Debeaver, Excel, R, Python (Pandas, Matplotlib, NumPy), PostgreSQL, MongoDB, Docker*

LLM Models: *Gemma3:12b, Gemma3:4b, Llama3.3, Llama3.2:3b, Mistral:7b, Qwen2.5:3b*

Digital Tools: *Canva Pro, PowerPoint, LaTeX, Figma, ChatGPT 4o, ClaudeAI, Gemini, Tableau*

Languages: *English (IELTS 6.5), German (A2), Vietnamese (Native)*