THANH LONG LY

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Education

2023 – 2027 **National Economics University (NEU)**, Hanoi, Vietnam.
Major: Data Science in Economics and Business
CGPA: 3.55/4.0
Relevant coursework: Programming, Database Management System, Discrete Math, Econometrics, Data Structures & Algorithms, Data Preparation and Visualization, Machine Learning.

Research Experience

2025 – Present **Research Assistant**, Predictive Models and Machine Learning Research Applications, NEU.

- Contributed to multiple industry-linked projects, bridging academic research with business applications via predictive modeling.
- Fine-tuned transformer-based architectures (BERT/RoBERTa) for domain-specific NLP tasks.
- Hosted local seminars and technical training sessions for lab members, fostering a collaborative research environment and knowledge sharing.
- In preparation of the publication: *"Agentic B2B2C AI - how AI has been transforming B2B2C E-commerce in Vietnam"*.

2024 – 2025 **Student Researcher**, Scientific Student Research Competition, NEU.

- Co-authored the paper *"The Regulatory Role of Provincial Governments in the Impact of Labor Shift on Agricultural Production Efficiency in Vietnam"*, published in *Proceedings of the National Scientific Conference: Vietnam's Economy in 2024 and Prospects for 2025*, pp. 488–501.
- Implemented **spatial econometric models with panel data** to quantify policy impact, utilizing rigorous statistical tests to validate hypothesis significance.
- Recognized with the university-level "**Student Research Award 2026**" for methodological excellence.

Research Publications

Conference Proceedings

1 M. D. Phung, B. D. T. Vu, T. L. Ly, T. H. T. Duong, and K. L. Pham, "The regulatory role of provincial governments in the impact of labor shift on agricultural production efficiency in Vietnam," in *Proceedings of the National Scientific Conference: Vietnam's Economy in 2024 and Prospects for 2025*, Promoting Economic Institutional Reform in the New Context, Hanoi, Vietnam: National Economics University Publishing House, 2025, pp. 488–501.

In Progress

1 T. P. Trinh, A. T. Tran, T. L. Ly, A. K. Phan, Q. A. Bui, and N. H. Dang, *Agentic B2B2C AI - how AI has been transforming B2B2C e-commerce in Vietnam*, In Preparation, 2026.

Projects

2025 – Present — **RAG-based Information Retrieval for E-commerce** (Rang Dong).

- Designed a **hybrid retrieval system** (dense + sparse + RRF reranking) on **Qdrant**.
- Built data ingestion pipelines and LLM response postprocessing to match business intents; deployed on **Render** with **Opik** monitoring and **MongoDB** logging.

December, 2025 — **Domain-Specific Conversational AI** (Gigabyte Hackathon).

- Architected a **hybrid agentic system** (LangGraph + Retion.ai) with specialized REST tools (ROI calculation, review search) to handle complex B2B/B2C scenarios.
- **Result:** Awarded **1st Place** for the comprehensive scenario design and robust system performance.

November, 2025 — **Time-Series Forecasting for Meteorological Data**.

- Developed a **29-model framework** (CatBoost/LightGBM/XGBoost) with 60+ engineered features, optimized via Optuna (2,400+ trials).
- Achieved **RMSE 1.52°C / R^2 0.902** (daily) and **RMSE 1.61°C / R^2 0.907** (hourly), deploying the pipeline via FastAPI and ClearML.

Working Experience

2025 – Present — **AI Engineer Intern**, Alpha Data Academy, Hanoi, Vietnam.

- Developed an Agentic RAG System for Rang Dong, a company in the lighting industry.
- Participated in the design of data ingestion pipeline for the system.
- Optimized the response to be natural and human-like.

Honors, Awards & Outreach

Oct. 2025 – Dec. 2025 — **Champion (1st Place)**, Master AI, Master Career Hackathon.

- Developed a high-precision QA system for technical hardware specifications, overcoming challenges in terminology ambiguity and context retention.
- Evaluated by industry judges as the most technically robust solution among 20+ participating teams.

Skills

Research Stack — **Languages:** Python, C++, SQL.
ML/AI: PyTorch, TensorFlow, HuggingFace Transformers, LangChain, Scikit-learn.

Engineering — **Backend/DB:** Qdrant (Vector DB), PostgreSQL, MongoDB, Supabase.
DevOps/Tools: Docker, Kubernetes, AWS, Git, MLFlow.

Languages — English, Vietnamese, Chinese.