

Nguyen Quoc Anh — Data Scientist

 TheQuantScientist |  andrewfinance |  anhnguyen.ai.ml@gmail.com |  +84 585775676 |  Portfolio

SUMMARY

Dynamic and passion-driven senior Economics and Finance Undergraduate student. Experienced in Data Science with 2 years of academic research in applied Machine Learning. Collaborated with EU research institutions and global Ph.D. scientists. Leading AI/ML projects on predictive modeling. Assisted research in Computer Vision and differential mathematical modeling.

EDUCATION

Royal Melbourne Institute of Technology
Bachelor of Business, *Economics and Finance*

Ho Chi Minh City, Vietnam
2021-2024

AREAS OF EXPERTISE

Deep Learning - Feature Engineering - Data Mining - Data Visualization - Data Analytics - Data Storytelling - Quantitative Analysis - Financial Reporting - Financial Modeling - Investment Research - Portfolio Risk Management - Project Management

PROFESSIONAL EXPERIENCE

AI/ML Researcher, (*RMIT University*)

Ho Chi Minh City, Vietnam 03/2023 - present

- Crawled and processed over **72,000** healthcare data points from PhysioNet, deployed time-sensitive learning to solve **irregular** data.
- Developed and fine-tuned **deep** Neural Network models on **S&P 500** stocks for forecasting, achieving **82%** swing-trading accuracy.
- Labeled time series for **binary** classification, designed **technical** indicators, trained **Image Models**, reducing error metrics by **70%**.
- Led and mentored **5** research groups to deploy projects from scratch. Compiled cryptographic algorithms and notations for **IoT** security.

AI Systems and LLMs Trainer, (*Outlier*)

Freelance, Remote 04/2024 - present

- Trained **8** AI bots to be proficient in **Vietnamese**, engineered LLMs logic in consecutive **prompting**, surpassing **ChatGPT-4o** fluency.
- Applied **copywriting** on AI prompts to mirror native Vietnamese dialogues, semantic fine-tuned until reached **90%** response rationality.
- Monitored systems' dialogues for rhetorical error, flagged over **80** syntax bugs to Team Lead for review, enhancing overall **NLP** systems.

PROJECTS

Detecting Intraday Crypto Price Movements Using Hierarchical Vision Transformers

04/2024 - 07/2024

- Fetches 2-year **hourly** crypto data, transformed **arbitrary** intervals into **images**, embedded static info as **metadata** for optimal training.
- Ensured label balance, engineered **MA** and **RSI** indicators, developed correlation **heatmaps** between OHLCV and **engineered** datasets.
- Reduced intercorrelation by **53%**, reached **95%** accuracy, **91%** AUROC, and **90%** AUPRC with Swin Transformer over ViT and DeiT.

Phu Nhuan Jewelry Company Valuation Report for Q1/2024 Investment (Distinction)

03/2024 - 04/2024

- Analysed PNJ financial state, benchmarking CAPM, DDM, P/E models. Recommended **BUY** strategy despite **OVERVALUED** signal.
- Interpreted **5-year** financial reports, identified **56%** post-2022 and **21.6%** YoY increase in 2024, surpassing peers and industry median.
- Detected PNJ's leverage for expansion, recommending target price of **VND105** thousand for risk-seeking investors to optimize profit.

Phase Space Reconstructed Neural ODE for Financial Time Series Forecasting

01/2023 - 03/2024

- Programmed thus hyperparameter-tuning NODE for time series regression, optimized model with **3:1** embeddings and time delays ratio.
- Deployed **Takens's Theorem** to reconstruct **3D** phase space, capturing **75%** of cyclical and long-term dependencies across industries.
- Applied **TimeSeriesSplit** and **5-fold** validation, improved **MAE** and **RMSE** metrics by **70%**, outperforming LSTM, Transformer, SVR.

PUBLICATIONS

- Anh Nguyen*** and Son Ha. "Transforming Stock Price Forecasting: Deep Learning Architectures and Strategic Feature Engineering". In: *MDAI 2024 Proceedings* (2024). **CORE B**. DOI: <https://dx.doi.org/10.2139/ssrn.4729146>.
- Anh Nguyen***, Son Ha, and Hieu Thai. "Phase Space Reconstructed Neural Ordinary Differential Equations Model for Financial Forecasting". In: *PACIS 2024 Proceedings* (2024). **CORE A**. <https://aisel.aisnet.org/pacis2024/ai-business>.

TECHNICAL SKILLS

- **Data Science & AI:** TensorFlow, Keras, PyTorch, Numpy, Scikit-learn, XGBoost, (Vision) Transformers, Fastai, Cloud GPU
- **Data Analytics:** Power BI, Excel, R, MySQL, Python (Pandas, Matplotlib, Seaborn, Geoplotlib), PostgreSQL, MongoDB
- **Financial Analysis:** Auditing, Financial Reporting, Budget Forecasting, Cost Analysis, Tax Planning, Profit Optimization
- **Digital Tools:** Canva Pro, PowerPoint, LaTeX, Figma, ChatGPT 4, ClaudeAI, Gemini, Slack, Tableau, Google Analytics

HONORS & ACCOLADES

Breakthrough Lead Researcher RMIT News	Aug. 2024
Conference Presenter Pacific Asia Conference on Information Systems	July. 2024
Invited Peer Reviewer Springer , IEEE , Elsevier , ICPR , Nature	Jan. 2024
Finalist (CNN-BiLSTM-GRU) RMIT Impact	Jan. 2024
Conference Presenter Digital3 International Conference	Oct. 2023
Conference Presenter ICYREB 2023	Sep. 2023
Project Love Meter Winner RMIT Showcase	Nov. 2023
Certified Python for Machine Learning and SQL for Data Analytics NASBA	Nov. 2023

VOLUNTEER

Academic Research Peer Reviewer, ([WoS Record](#)) **Ho Chi Minh City, Vietnam** 01/2024 - present

- Assessed **20** papers for Q1-Q2 journals of IEEE Access.
- Evaluated **10** papers for Computers & Electrical Engineering of Elsevier (Q1 Journal).
- Examined **4** papers for the International Conference on Pattern Recognition (ICPR 2024).
- Critiqued **4** papers for Humanities & Social Sciences Communications of Nature (Q1 Journal).

Supporter of Con Duong Xanh Charity Group, Member **Dong Nai, Vietnam** 01/2024 - present

- Constructed and repaired roads for Truc Lam Tri Duc Zen **Monastery**, hence ensuring safe access for visitors and religious **practitioners**.
- Planted trees and seeds around a **10-hectare** temple land, contributing to the **beautification** and ecological **sustainability** of the temple.
- Assisted monks in **cleaning** and **cooking** daily meals, supporting the monastery’s operations to ensure a **harmonious** living environment.
- Promoted **green** campaigns, marketing future **charity** activities to connections. Maintained continuous and stable cash flow for groups.

Academic and Communication English Tutor, Freelance **Ho Chi Minh City, Vietnam** 02/2021 - 11/2023

- **1:1** tutored **7** students (**2** Onsite and **5** Online), taught basic communication English for DM&C’s **Korean** CEO and a native **Japanese**.
- Focused on **IELTS** Academic training (Reading, Writing, and Speaking) thus designing **personalized** study plans for each participant.
- Consulted more than **200** undergraduate Bachelor students’ work, earned **1** Bronze medal in the National English Test for the **Gifted**.
- Allocated **50%** of monthly freelance income to the local impoverished, contributing over **VND50** million to local medical aid programs.

LANGUAGES

- **Vietnamese** [Native]
- **English** [IELTS 7.0]