

Nguyen Quoc Anh — AI Engineer

 TheQuantScientist |  andrewfinance |  anhnguyen.aiml@gmail.com |  +84 39-998-5047 |  Portfolio

EDUCATION

Royal Melbourne Institute of Technology

Bachelor of Business — Economics and Finance

Ho Chi Minh City, Vietnam

2021 — 2024

PROFESSIONAL EXPERIENCE

AI/ML Researcher, ([RMIT Vietnam](#))

03/2023 — present

- Developed SOTA deep Neural Network models on S&P 500 stocks for quant exchange, achieving 75% real-time swing-trading accuracy.
- Optimized models' metrics up to 85% by implementing Phase Space Reconstruction and Attention Mechanisms into their architectures.
- Managed ETL processes and 2M irregular observations from PhysioNet and YFinance using Python, increasing data credibility by 55%.
- Built cryptographic algorithms and Federated Environments for IoT cybersecurity experiments, peer-reviewed 43 PhD research papers.

AI Systems and Multilingual LLMs Trainer, ([Scale AI](#))

04/2024 — 09/2024

- Trained private AI chatbots to reach a native level of Vietnamese, scoring 81% customer satisfaction rate through periodic public surveys.
- Designed LLMs' logic through consecutive, recursive copywriting and iterative feedback loops, engineered to 90% response rationality.
- Monitored GenAI's natural language errors in testing to conduct weekly NLP reports and user guides for optimal prompting experience.

RESEARCH PROJECTS

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

[Project Link & Paper](#)

- 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.

CryptMAGE: An Intraday Crypto Price Movements Recognition System

[Project Link & Paper](#)

- Converted hourly multivariate cryptocurrency time series into 12K arbitrary interval line-graph images for UP-DOWN binary classification.
- Engineered MA and RSI indicators into the OHLCV crypto data, reducing feature correlation by 53% to enable real-time categorization.
- Fine-tuned pre-trained Swin Transformer, achieved a 92% AUROC/AUPRC and 93.65% F1-Score, surpassing ViT, DeiT, and ResNet50.

PSR-NODE: A Neural ODE Model for Stock Price Forecasting

[Project Link & Paper](#)

- Programmed a neural differential-equation-based model incorporating Taken's Embedding Theorem for financial time series prediction.
- Reconstructed data phase space into 3D-dimension with a delay of 1 and TimeSeriesSplit with 5-fold cross-validation for efficient training.
- Boosted training speed by 63% and reduced errors metric by 70%, surpassing SVR, LSTM, and TFT thus mitigating investments' risk.

PUBLICATIONS

[1] **Anh Nguyen*** and Son Ha. "Transforming Stock Price Forecasting: Deep Learning Architectures and Strategic Feature Engineering". In: *MDAI 2024 Proceedings* (2024). **CORE B**. <https://doi.org/10.1007/978-3-031-68208-720>.

[2] **Anh Nguyen***, Son Ha, and Hieu Thai. "Phase Space Reconstructed Neural Ordinary Differential Equations Model for Stock Price Forecasting". In: *PACIS 2024 Proceedings* (2024). **CORE A**. <https://aisel.aisnet.org/pacis2024/ai-in-business>.

HONORS & ACCOLADES

Breakthrough Lead Researcher in Deep Learning | [RMIT News](#), [BaoMoi](#), [StockBiz](#)

Aug. 2024

Conference Presenter | [Pacific Asia Conference on Information Systems](#)

July. 2024

Invited Reviewer of High-Impact Journals | [ICPR](#), [Elsevier](#), [IEEE](#), [Springer](#), [Nature](#)

Jan. 2024

Conference Presenter | [Digital3 International Conference](#)

Oct. 2023

All-Category Winner: Student Project Showcase | [RMIT Showcase](#)

Nov. 2023

Certified Python for Machine Learning and SQL for Data Analytics | [NASBA](#)

Nov. 2023

TECHNICAL SKILLS

Data Science & AI: TensorFlow, Keras, PyTorch, Numpy, Scikit-learn, XGBoost, Transformers, Llama, Mistral AI, UNet, GPT

Data Analytics: Power BI, Excel, R, MySQL, Python (Pandas, Matplotlib, Seaborn, Geoplotlib), PostgreSQL, MongoDB

Digital Tools: Canva Pro, PowerPoint, LaTeX, Figma, ChatGPT 4o, ClaudeAI, Gemini, Slack, Tableau, Google Analytics

Languages: English (IELTS 7.0), Vietnamese (Native), German (Beginner)