

Quoc Thai Tran

Quantitative Analyst

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[Portfolio](#) | [GitHub](#) | [LinkedIn](#)

Highly motivated Quantitative Analyst with a strong background in Mathematical Financial Modeling. Currently finalizing Master of Data Science in Quantitative Finance at University of Technology Sydney, I specialize in statistical modeling, interest rate & credit risk modelling, trading algorithms and derivatives pricing. Adept at using Python, C++, and advanced mathematical techniques to develop and optimize trading strategies

Education

UNIVERSITY OF TECHNOLOGY SYDNEY

Master of Data Science in Quantitative Finance

Sydney, Australia

2024 - now

- **Cummulative WAM:** 9.4/10
- **Award:** Dean's Merit List for Academic Excellence 2024
- **Relevant Coursework:** Probability Theory and Stochastic Anaysis, Interest Rate and Credit Risk Modeling, Fundamental of Derivative Security Pricing

UNIVERSITY OF WESTERN SYDNEY

Bachelor of Business (Applied Finance)

Ho Chi Minh City, Viet Nam

2021 - 2024

- **Cummulative GPA:** 5/7
- **Relevant Coursework:** Financial Econometric Modeling, Security Analysis and Business Valuation, Financial Market Instruments, Enterprise Finance

HO CHI MINH UNIVERSITY OF TECHNOLOGY

Bachelor of Science (Computer Science)

Ho Chi Minh City, Viet Nam

2020 - 2023

- **Cummulative GPA:** 8.36/10
- **Award:** Early Graduation with Distinction
- **Relevant Coursework:** Machine Learning, Deep Learning, Data Structure and Algorithm, Oriented Object Programming, Database System, Analyzing and Designing Algorithm, Software - Web Developement

Research Experience

UNIVERSITY OF TECHNOLOGY SYDNEY

Master Thesis of Data Science in Quantitative Finance

Sydney, Australia

Nov 2024 - now

- **Title:** Properties and performance of new estimators for ergodic, mean-reverting processes
- **Relevant Fields:** Statistical Inference, Mean reverting processes, Mean reverting spread trading framework

Extra-curriculum Research

Nov 2024 - now

- **Content:** Quasi-Gaussian discontinuous short rate model calibration with SOFR derivatives and term structure extraction
- **Relevant Fields:** interest rate futures, interest rate options, interest rates, SOFR, term structure model calibration

HO CHI MINH UNIVERSITY OF TECHNOLOGY

Bachelor Capstone Project of Computer Science

Ho Chi Minh City, Viet Nam

Jan 2023 - Oct 2023

- **Title:** A real-time water quality monitoring and forecasting module for RAPIDO system
- **Relevant Fields:** Web development, MLOps, Neural Network, LSTM, Time series Analysis

Professional Experience

UNIVERSITY OF TECHNOLOGY, SYDNEY

Official Teaching Associate
Volunteer Teaching Associate

Sydney, Australia
July 2025 - now
February 2025 - May 2025

- **Summary:**

- **Course:** Financial Market Instrument, Interest rate and Credit Risk Modelling, Fundamental of Derivatives and Security Pricing
- Prepared whiteboard tutorials, solved queries and guided students.

HO CHI MINH DEVELOPMENT JSC BANK

Quantitative Developer Intern

Ho Chi Minh City, Viet Nam
November 2024 - February 2025

- **Project:** Backend system of Macro Economic Forecasting System
- **Role:** Quant Developer - Backend Developer

- **Summary:**

- Implemented and deployed on-premise macro-economic forecasting models using Machine Learning, Statistical Techniques and Bayesian Vector Autoregression.
- Built scalable backend systems for model deployment and data processing.
- Keywords: NestJS, Docker, Machine Learning, Statistical, Backend

WALA ICT VIET NAM

Backend Developer

Ho Chi Minh City, Viet Nam
November 2023 - March 2024

- **Project:** Backend system of Construction Worker Job Advertising Website for a Korean government entrepreneur company
- **Role:** Lead Backend Developer, Dev-Ops, Code Maintainer
- **Summary:**
 - Led the development and deployment of backend infrastructure for a job advertising platform.
 - Integrated third-party APIs for payments, messaging, and authentication, optimizing user experience.
 - Maintained and deployed systems on AWS, implementing CI/CD pipelines.
 - Keywords: AWS, NestJS, TypeScript, APIs, Web Development

Relevant Project

UNSW ALGOTHON 2024

Quantitative Trader

Sydney, Australia
June 2024 - July 2024

- **Project:** Automatic trading algorithm
- **Role:** Quantitative Researcher-Modeller
- **Summary:**
 - Designed strategies to maximize daily profits with risk control.
 - Implemented Genetic Algorithms (GA) & Support Vector Regression (SVR) for trade signal prediction.
 - Utilized Bidirectional LSTMs to enhance trading signals and time-series predictions.
 - Keyword: GA-SVR, Bidirectional LSTM, Python, Machine Learning, Deep Learning

Technical Skills

- **Programming:** Python (Pandas, NumPy, Scipy, Scikit-learn, Keras, Tensorflow, HDF5), C++, TypeScript, NestJS, FastAPI
- **Quantitative Modeling:** Bayesian Statistics, Stochastic Processes, Monte Carlo Simulations, DSGE Models, BVAR, HJM, LMM, Black-Scholes, CVA
- **Machine Learning:** GA-SVR, Ensemble Learning
- **Deep Learning:** Bidirectional LSTMs, Time Series Forecasting
- **Cloud & DevOps:** AWS, Docker, CI/CD

Referee

Prof. ERIK SCHLÖGL
Professor | RAO Thesis Examinations
School of Mathematical and Physical Sciences

Dr. SCOTT ALEXANDER
Lecturer
School of Mathematical and Physical Sciences