

# Quoc Thai Tran

## Quantitative Analyst

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[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