

## RELEVANT EXPERIENCE

### Quantitative research assistant

ICLS Tech

April 2024 – Current

Ho Chi Minh City, VN

- Performed comprehensive **data cleaning, preprocessing, and feature engineering** on FOREX and CRYPTO datasets, ensuring high-quality inputs for machine learning models.
- Applied a triple-labelling method for labelling FOREX and CRYPTO data, integrating regime-switching models such as Gaussian Mixture Models and Hidden Markov Chains to enhance **prediction** accuracy in volatile market conditions.
- Developed and implemented **automated machine learning pipelines** to assess the probability of backtest overfitting and evaluate the robustness of existing cross-validation schemes.

### Product assistant

YOLA English

Jan 2022 – Jan 2023

Ho Chi Minh City, VN

- Assisted the Product Manager in developing an English learning app and web extension, conducting **market research** and executing **targeted marketing** strategies; increased the app's user base by 25,000 and the extensions by 15,000, achieving a monthly active user rate of ~50%.
- Collaborated with external artists to implement **user-nurturing** strategies, resulting in a 7-10% retention rate for the 21-day user cohort.

## EDUCATION

### WorldQuant University

Master of Science in Financial Engineering

Oct 2024 – Current

Remote

### Western Sydney University Vietnam

Bachelor of Business – Applied Finance Major (advanced graduation - degree completion in 2 years)

May 2022 – May 2024

Ho Chi Minh City, VN

- Dean's Merit List for Academic Excellence - Distinction Award (GPA: 6.43/7.00)**
- Awarded **192,000,000 VND+** in scholarships over 2 years (Highest-tier First-year, Second-year, and Third-year Vice-Chancellor's Academic Excellence Scholarships; third-year scholarship awarded a year ahead of cohort).
- Selected by HCMC Department of Industry and Trade & HCMC Women Entrepreneurs Association to represent Australia at the ASEAN++ Bridge Forum, engaging with over 500 diplomats, consuls, business associations, including Australian Consul-General Ms Sarah Hooper, to promote sustainable development.
- Achieved High Distinction (A+ equivalent) in Econometrics, Philosophical Economics, Securities & Business Valuation, Financial Institutions & Markets, Management, Accounting, Economics, Enterprise Law, Consumer Behaviour, International Business, Corporate Finance, and Human Resources.

### VNU-HCM University of Economics and Law (UEL)

Discontinued

Sep 2021 – Feb 2022

Ho Chi Minh City, VN

- Awarded **36,000,000 VND+** in scholarships over 1 semester (Valedictorian entrance scholarship for highest SAT/IB score; Academic scholarship for highest GPA in semester 1).
- Assisted with qualitative data analysis for a paper titled "Peer Tutors' Agency and Emotions in Tertiary English Education in Vietnam" and participated in Sociology and Cross-Cultural Studies classes for Master's students.

### Condell Park High School

HSC

2017 – 2020

Sydney, AUS

- Valedictorian / Dux of High School and First in Course throughout all academic years
- HSC Band 6/6 for Mathematics Advanced (93/100) and Mathematics Extension 1 (47/50); Top 8.4% for all-subject performance in State of NSW
- Distinction & Merit awards | Australian Mathematical Olympiad (AMO) & Australasian Problem Solving Mathematical Olympiads (APSMO)

### Tran Dai Nghia High School for the Gifted

Discontinued

2014 – 2016

Ho Chi Minh City, VN

## EXTRACURRICULARS & NON-ACADEMIC ACHIEVEMENTS

- P&G PEAKathon 2024** | Top 4 Finalists of Vietnam
- Vietnam's Southern region IELTS Talent Contest 2021** | First place award (month) and Merit award (quarter)
- Mentee at Project X** | Joined a fellowship for Vietnamese students interested in IT, offering career guidance, and skills training
- Project leader at university's English club EFFI** | Leader of a team of 40+ members, organised two successful projects attracting 250+ participants.
- YOLA English Tutor** | Tutored students and working professionals, in IELTS preparation and general English language proficiency
- Member of university's music club SOL** | Member of the piano team, in charge of piano-related production for 2 music videos
- Freelance graphic designer** | Designed 200+ presentations, logos, marketing and product materials in accordance with strict regulatory requirements (U.S. FDA standards) for export to international markets such as Japan, New Zealand, and the U.S.; experience in preparing materials for both digital and print production

## SKILLS

- Technical tools** | Python, R, PostgreSQL, LaTeX, Markdown, CSS, Excel, SPSS, Minitab, Stata, PowerBI
- Languages** | Proficient English (CEFR C2, 4.5 years of overseas study experience), Elementary Chinese, Elementary Korean, Elementary French
- Business** | Financial machine learning, market research, algorithmic trading, securities analysis, portfolio management, stock valuation
- Graphic design** | Adobe Photoshop, Adobe Illustrator

## TECHNICAL PROJECTS

**Evaluate backtest overfit in popular financial cross-validation schemes using AutoML (research paper)** | Machine learning, Python

- Used regime-switching models (Hidden Markov) and Entropy Theory of Information for feature construction and engineering FOREX and CRYPTO data
- Evaluated the extent of overfit in K-Fold, Purged K-Fold, Walk Forward, Combinatorial Purged Cross Validation (CPCV) using AutoML

**Business model analysis and stock valuation of public company – Hoang Anh Gia Lai** | Finance, Excel

- Analysed HAG's 3F business model, SWOT, Porter's competitive positioning analysis, financial ratios, valuation risk (sensitivity analysis and scenario analysis) and investment risks (Altman's Z-Score, Kupiec POF test and Monte Carlo simulation).
- Initiated coverage on HAG with a BUY recommendation based on a target price of 11,220 VND through a weighted mix of DCF, APV, and relative valuation (CCA).

**Stock analysis & Value-at-Risk estimation for major US tech companies** | Finance, Python

- Analysed stock performances (AAPL, AMZN, GOOG, MSFT), incl. closing prices, trading volumes, moving averages, daily returns using real-time data
- Estimated Value-at-Risk using 3 methods: historical, parametric and Monte Carlo simulation.