ALAN MATTHEW

9 Jalan Membina, Singapore | +65 8047 3599
alan.matthew.yk@gmail.com | linkedin.com/in/alan-matthew-yk | github.com/yokurang | yokurang.github.io/

EDUCATION

Yale-NUS College — Singapore
Bachelor of Science (Honours) in Mathematics and Computer Science; GPA: 4.87/5.00 — May 2025

Relevant Coursework: Asset Pricing, Statistical Inference, Stochastic Modelling, Machine Learning
Activities: Teaching Assistant for Data Structures & Algorithms, Probability Theory, and Databases
Awards: Kewalram Chanrai Full Scholarship

EXPERIENCE

Caladan (AlphaLab Capital) — High Frequency Market Making in Singapore
Algorithm Developer — Jul 2025 – Present

- Perform post-trade analysis and generate the daily transaction cost analysis report, providing insights on hedge timing, execution quality, basis pricing, funding fee impact, and other post-trade analytics.
- Collaborate with senior researchers to debug and align simulation versus production execution behavior for strategy improvement.
- Analyze client PnL using custom-built reporting pipelines to detect and evaluate arbitrage behavior, such as for USDC/USDT and spot-future basis hedging.

Caladan (AlphaLab Capital) — High Frequency Market Making in Singapore
Algorithmic Trading Intern — May 2024 - Aug 2024

- Engineered low-latency trading execution servers and market quote polling services for new exchanges.
- Monitored and resolved production issues in core trading algorithms, ensuring correct trading behavior.
- Expanded **Python** analysis libraries for deeper insights into market volume, PnL, and trading statistics.
- Built ETL visibility tools and debugged out of memory issues in **Python**, reducing AWS costs by 80%.

Switcheo Labs — Singaporean Cryptocurrency Exchange
Software Engineering Intern — Oct 2022 - Dec 2022

- Automated market and liquidity pool allocation logic in Golang for DeFi trading across 90+ markets.
- Developed a **TypeScript** service for monitoring debt transactions and visualizing trades using **React**.
- Developed a Telegram bot to monitor and alert support of stalled Carbon blockchain trades.

Kredens Capital Management — Singapore
Equity Trading Intern — May 2022 – Aug 2022

- Researched US equities and macro trends to pitch short-term trades; generated 27% portfolio returns.

PROJECTS

- **Strategy Behaviour Analysis**: Investigated trade direction predictability using classification models. Engineered features and systematically trained and applied different models to understand trading behavior.
- **Market Impact Analysis**: Designed custom metrics and applied permutation-based hypothesis testing to evaluate the market impact of a live trading strategy.
- **Strategy Markout Analysis**: Performed post-trade analysis on crypto data by identifying key one-hour windows, computing markouts, and visualizing strategy behaviour, trade profiles, and drawdowns.

SKILLS

Languages: C++, Python, C#, TypeScript, JavaScript, SQL, Kotlin, Scala, Golang, Rust, OCaml, Coq
Frameworks: React, Vue.js, Next.js, Express.js, Flask, Laravel, AWS (Lambda, DynamoDB)