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)   HFT Market Maker
Algorithm Developer   Jul 2025 – Present

- Automated daily post-trade analysis and transaction cost analysis for various trading algorithms, providing insights on hedge timing, execution quality, markout analysis, pricing, and other relevant statistics.
- Collaborate with quantitative researchers and traders to uncover, backtest, and deploy new signals to improve overall execution quality, reducing slippage, improving fill rates, and minimizing overall execution costs.
- Built custom reporting pipelines to analyze and monitor algorithmic trading PnL, surfacing the risk of our strategy being arbitraged and assessing potential hedge ineffectiveness, alongside other key performance metrics.

Caladan (AlphaLab Capital)   HFT Market Maker
Algorithm Developer 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   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.

Singular Asset Management   Asset Management
Equity Trading Intern   Jan 2022 - Apr 2022

- Traded Indonesian equities on IDX, supporting a long-only portfolio with PM; generated 11% returns.

Kredens Capital Management   Hedge Fund
Equity Trading Intern   May 2022 – Aug 2022

- Researched US equities and macro trends to pitch short-term trades; generated 17% 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: Python, Rust, C++, OCaml, C#, TypeScript, JavaScript, SQL, Kotlin, Scala, Golang, Coq
Frameworks: React, Vue.js, Next.js, Express.js, Flask, Laravel, AWS (Lambda, DynamoDB)