

ALAN MATTHEW

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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 Statistical Inference

Awards: Kewalram Chanrai Full Scholarship

EXPERIENCE

Caladan

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.
- Built custom reporting pipelines to analyze and monitor algorithmic trading PnL, surfacing the risk of our strategy being arbitrated and assessing potential hedge ineffectiveness, alongside other key performance metrics.

Caladan

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%.

Switchero 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

- **yokurang/mytree:** A published **Rust** tool for displaying directory trees with custom filters. 2k+ downloads.
- **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)