

ALAN MATTHEW

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EDUCATION

Yale-NUS College

Aug 2020 – May 2025

Bachelor of Science (Honours) in Math, Computational and Statistical Sciences | GPA: 4.87/5.00

Coursework: Asset Pricing, Statistical Inference, Stochastic Modelling, Machine Learning

Activities: Teaching Assistant for Data Structures & Algorithms, Probability Theory, Statistical Inference

Awards: Kewalram Chanrai Full Scholarship

EXPERIENCE

DRW

HFT Proprietary Trading

Incoming Quantitative Trading Analyst

Jan 2026

- Will trade stock options on HKEX, researching and implementing high-frequency and mid-frequency strategies.

Caladan

HFT Market Making

Software Engineer

Jul 2025 – Present

- Built generalised caching layer for time-series datasets, reducing query latency from seconds to milliseconds.
- Re-engineered distributed ETL workflows using DAG modeling with fault-tolerant retries for high-availability.
- Developed real-time PnL computation service with streaming validation and metric exposure to Grafana.
- Created modular Python services for fills and market research with generalised architecture for cross-team reuse.

Caladan

HFT Market Making

Software Engineering Intern

May 2024 – Aug 2024

- Implemented cold and hot path components for C# trade servers, expanding crypto trading to new exchanges.
- Developed data ETL pipeline visibility service in Python; Rewrote core services using async to improve speed.
- Resolved critical bugs in algorithm trading logic and fixed out of memory issues, saving monthly costs by 80%.

Evoqq

Fintech SaaS

Software Engineering Intern

Jan 2024 - Apr 2024

- Created a Python LLM chatbot that translated natural language queries into SQL for a MariaDB database.

Hatcher+

Fintech SaaS

Software Engineering Intern

May 2023 - Aug 2023

- Developed a Python LLM microservice to parse excel company capitalization documents into structured JSONs.
- Programmed a PHP scheduler leveraging an LLM to predict English sentences and translate foreign languages.

OPEN SOURCE

panglesd/diffcossible

Accessible Diff Viewer (OCaml)

- Developed side-by-side diff rendering with numbered lines, color highlighting, etc., to enhance user experience.
- Implemented data structures (e.g., zipper, block-based storage) and linear-space diff algorithms to enable precise word-level comparisons across multi-line changes and improve performance in large-scale file navigation.

PROJECTS

- **yokurang/poe2-arbitrage:** Engineered ETL and ML pipeline to scrape Path of Exile item prices and estimate FX via VWAP. Researched features and built regularized regression and closed-form models with residual diagnostics. Deployed live client to detect undervalued items across multiple currencies in real time.

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

SKILLS

Languages: Python, Rust, C++, OCaml, C#, TypeScript, JavaScript, SQL, Kotlin, Scala, Golang, Coq

Frameworks: React, Next.js, Flask, PyTorch, TensorFlow, scikit-learn, AWS (Lambda, DynamoDB)