

Nathan Axel

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EXPERIENCE

Junior Software Engineer

Jul. 2024 – Present

Grasshopper

Singapore

- Developing on low-latency order management/execution system and market data protocols for Japan and Thailand exchanges, focusing on improving trade execution and upgrading market depth visibility.
- Actively engaged in deploying and troubleshooting critical C++20 applications in live production environment in Linux.

Software Engineer Intern

Feb. 2024 – May 2024

MS Capital

Singapore

- Developed real-time market connectivity framework through WebSocket and HTTP protocols for market data subscription and trade execution, on multi-threaded C++ environment.

Software Engineer Analyst Intern

May 2023 – Jul. 2023

Goldman Sachs

Singapore

- Engineered high-performance code-searching tool on 190 million lines of code for 17,000 engineers worldwide, reducing search time by 10x and index time by 3x compared to previous tool using *Elasticsearch* and *Kibana*

Jr. Solution Developer

Jan 2023 – May 2023

F5

Singapore

- Developed case review management application for reviewing engineers' performance, saving 6500 annual man-hours for support managers worldwide using *Salesforce Lightning Web Component* (LWC)

Software Engineer Intern

May 2022 – Aug. 2022

Anacle Systems Limited

Singapore

- Developed comprehensive *SQL* stored procedures scripts and conducted rigorous unit testing using *tSQLt* libraries to ensure the accuracy and efficiency of database operations.

IT & Specialized Assurance Intern

May 2021 – Jul. 2021

Deloitte

Singapore

- Developed automated host configuration review scripts to evaluate cyber-security readiness using *Python*

EDUCATION

Nanyang Technological University

Singapore

BEng in Computer Science (w/ second major in Business)

Aug. 2020 – May 2024

- Grade: Honours w/ Highest Distinction, 2021-2022 Dean's List Award (Top 5% in cohort)
- Awarded Dr.Goh Keng Swee Scholarship (1 out of 3 in Asia), ASEAN Scholarship (1 out of 10 in Indonesia)

AWARDS & PROJECTS

Multi-Chain Energy Trading in Microgrids

Aug. 2023 – Mar. 2024

- Developed interoperable energy trading infrastructure in Solidity and Algorand's PyTeal, focusing for seamless synchronisation across multiple blockchain platforms
- Codebase: <https://github.com/nathanaxel/FYP>

Goldman Sachs Intern Hackathon 2023: Generative AI (First Place, Champion)

July 2023

- Spearheaded a multidisciplinary team of quantitative researchers and software developers to build portfolio tailoring system to recommend security assets during major live news using *OpenAI API*

Optiver Ready Trader Go 2023 (Singapore Rank #1, World Rank #17 – #32)

March 2023

- Developed automated high frequency market-making algorithms in *C++* to maximise profits when two securities tracking the same index (Future & ETF) have different liquidity in their order books
- Codebase: <https://github.com/nathanaxel/sicilian>

TECHNICAL SKILLS

Languages: C++, Python, Solidity, Slang