

Arnav Aggarwal

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WORK AUTHORIZATION

Singapore Citizen; eligible for H-1B1 and J-1 US visas

EDUCATION

National University of Singapore (NUS)

Bachelor of Computing (Honours) in Computer Science

Expected: May 2025

GPA: 4.72/5.00

- Second Major in Quantitative Finance
- Teaching Assistant for CS2107 (Information Security) and CS2109S (AI and Machine Learning)
- Research Assistant, Singapore Blockchain Innovation Programme, NUS

EXPERIENCE

Hudson River Trading

May 2024 – Aug 2024

Software Engineering Intern

Singapore

- Architected and implemented a novel state machine framework enabling distributed systems to process cryptocurrency transfers in parallel, significantly improving throughput and reliability
- Optimized a critical trade extraction and storage tool, reducing operating time by 75% through advanced Python profiling techniques and C++ refactoring
- Developed a high-performance position consolidation tool with variable field support, implementing flexible 'GROUP BY' operations for enhanced post-trade data analysis
- Engineered a multi-worker system for parallel processing of crypto transactions, leveraging Redis streams and Trio channels for robust state management and transaction persistence

Tocco

Feb 2023 – Aug 2023

Founding Software Engineer Intern

Paris, France

- Spearheaded data collection and analysis for over 25,000 sustainable products and 5,000 companies, automating information extraction to under 2 minutes
- Orchestrated comprehensive database management, from schema design to implementation and ongoing upkeep, ensuring optimal performance and reliability
- Pioneered front-end development, coding 40% of website pages with interactive elements using ReactJS and Tailwind CSS, enhancing user engagement

Cyball

Aug 2022 – Dec 2022

Back End Engineer

Singapore

- Engineered and deployed websocket and REST endpoints in GoLang using AWS Lambda, enhancing service functionality
- Boosted the coverage of unit tests by more than 50%, resolving concurrency bugs in CI/CD, elevating code reliability

Psyk.care

May 2022 – Sep 2022

Lead Software Developer

Singapore

- Co-founded Psik.care and led software development initiatives from scratch with a team of 4, covering frontend, backend, and blockchain projects
- Authored Solidity smart contracts and REST endpoints for user authentication, forming the user authentication system backbone
- Structured GitHub organization and repositories with security features, enhancing project management

MicroSec

Jan 2021 – Jun 2021

Full-Stack Developer / Cybersecurity Intern

Singapore

- Enhanced a front-facing application for real-time IoT device performance tracking, improving user experience
- Developed reusable backend submodules, optimizing IoT device communication with customer databases, reducing data retrieval times by 30%
- Implemented hardware tracking and vulnerability scanning for Linux OS devices, increasing security and decreasing vulnerability incidents by 25%

SKILLS

- **Languages:** Python, Go, Java, Solidity, C/C++, TypeScript, HTML, CSS, SQL
- **Technologies:** Git, Linux, Docker, AWS, Google Cloud, Redis, MongoDB, PostgreSQL, WebSockets, REST APIs, gRPC
- **Frameworks:** ReactJS, NextJS, Tailwind CSS, Reinforcement Learning, Neural Networks