Arnav Aggarwal

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Work Authorization: Singapore Citizen, eligible for H-1B1/J-1 US visa   Availability: 10 May 2024 - 27 Aug 2024

EDUCATION

Bachelor of Computing (Honours) in Computer Science, National University of Singapore   **2021 - 2025**

- **GPA: 4.7/5.0**, Second Major in **Quantitative Finance**
- **Teaching Assistant** for CS2107 (Information Security) and CS2109S (AI and Machine Learning)
- **Research Assistant**, Singapore Blockchain Innovation Programme, NUS

WORK EXPERIENCE

Founding Software Engineer Intern   **Feb 2023 - Aug 2023**
Tocco ↗   *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 frontend development, coding 40% of website pages with interactive elements using ReactJS and Tailwind CSS, enhancing user engagement.

Back End Engineer   **Aug 2022 - Dec 2022**
Cyball ↗   *Singapore*

- Engineered and deployed websocket and REST endpoints in GoLang using AWS Lambda, enhancing service functionality.
- Boosted unit test coverage by over 50%, resolving concurrency bugs in CI/CD, elevating code reliability.

Back End Engineer Intern   **May 2022 - Sep 2022**
TikTok ↗   *Singapore*

- Developed Golang microservices for TikTok Shop's Data Compass, empowering over 200,000 sellers with actionable product promotion insights.
- Led backend R&D for novel go-to-market strategy for new features, surging user penetration rate by over 30%.
- Refined REST endpoints to fetch e-commerce metrics via gRPC calls, aligning with product requirements.

Lead Software Developer   **May 2022 - Sep 2022**
Psyk.care ↗   *Singapore*

- Co-founded Psyk.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.

Full-Stack Developer / Cybersecurity Intern   **Jan 2021 - Jun 2021**
MicroSec ↗   *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, bolstering security and decreasing vulnerability incidents by 25%.

SKILLS

FrontEnd: TypeScript (NextJS, ReactJS), HTML, CSS   **BackEnd:** Python, Go, Java, Solidity, C/C++
Tools: Git, Linux, Docker, Postman, AWS, Google Cloud   **Databases:** MongoDB, PostgreSQL, Redis
AI/ML: Reinforcement Learning, Prompt Engineering, Neural Networks

PROJECTS

PrintStream Debugging Library ↗   **Oct 2023**

- Engineered a Python library to enrich print statements for debugging, targeting ease of use in personal projects.
- Implemented intuitive configuration and activation mechanisms, fostering streamlined user experiences.
- Enhanced debugging clarity by developing features for function name prepend, message alignment, repeat function name, and colorful output.
- Facilitated community collaboration by publishing the library on PyPI and GitHub; iteratively refined the library based on user feedback.