

Amit Rahman

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EDUCATION

Computer Engineering, Bachelor of Engineering (Honours), National University of Singapore **2025**

- **NUS Engineering Scholar** - Awarded to 50 engineering students in faculty cohort of 1500

WORK EXPERIENCE

Software Engineer **Feb 2024 - Present**
Kisi Inc. *Cloud-Based Security Platform* — C, C++, MQTT, lwIP, GCP, AWS IoT **Brooklyn, New York**

- Owned transition and IoT cloud platform integration for fleet of **50,000** access control IoT devices to a new proprietary IoT platform.
- Developed support for inbound HTTP capabilities, contributing to network architecture redesign, for Microvisor (micro-controller hypervisor) running on STM32 & FreeRTOS based firmware stack.
- Executed on development of an in-house IP stack, focusing on UDP protocol implementation using the lwIP & mbedTLS library to support critical local network features such as offline cache and feedback systems.
- Provisioned Cloud Integration with GCP, designing a scalable server architecture using MQTT for continuous device-server communication, crucial for configuration management and security updates.
- Established secure communication protocols for the IoT device ecosystem, including data encryption and signature validation processes to uphold network and data integrity.
- Collaborated on development of a comprehensive testing strategy and documentation, ensuring high coverage and maintainability of the system architecture and cloud integration solutions.

Fullstack Software Engineer Intern **Jul 2023 - Sep 2023**
Coditioning *EduTech Startup* — Python, React, Node.js, PostgreSQL **Remote**

- Owned system design & development of a code execution engine, tailored for Coditioning’s e-learning platform.
- Designed a RESTful OpenAPI Schema for a Python-centric backend, laying down foundation for seamless code submission and retrieval, as well as historic data access.
- Devised a suite of intuitive API endpoints to empower frontend functionalities: code submissions, status verifications, result acquisitions, and past submission access.
- Overcame Heroku’s 30-second response time constraints utilizing callback-enabled endpoints for clients to poll efficiently, averting timeouts and enhancing initial prototype’s responsiveness.

DevOps Intern **May 2023 - Aug 2023**
HydraX *FinTech SaaS Startup* — TypeScript, Python, AWS, Kubernetes, Prometheus, Grafana, SQL **Singapore**

- Deployed & implemented internal tools in Elastic Kubernetes Service, enabling cost analysis and optimization for the company’s products, increasing granularity from cluster to container level.
- Identified and handled duplication in log ingestion monitoring stack and reduced cloud storage costs in various clusters up to 39.8%.
- Migrated AWS resources to CDK in the infrastructure pipeline for private digital exchanges in development clusters, for increasing automation coverage of CI/CD pipeline.

Venture Capital Intern **Jan 2021 - Mar 2021**
K3 Ventures *Venture Capital Family Office* — Python, Pandas, NumPy, Bs4 **Singapore**

- Scraped and svisualized data from SEC EDGAR Filing API and identified IPOs stock price trends around lock ups.

PROJECTS

- **Port Scanning networking tool in Rust** — Rust, Tokio. **Mar 2024**
- **Rust static blog website** — Rust, Yew, Pulldown cmark, Github Actions. **Jan 2024**
- **Screen time limit Android App** — Kotlin, Jetpack Compose. **Jan 2024**
- **6502 Microprocessor Emulator C++ Library** — C/C++, ASM, CMake, Boost. **Dec 2023**
- **Search and Rescue Robot Vehicle** — C/C++, ROS, Linux, Arduino, Baremetal, UART, TLS. **Oct 2022**
- **Timetable Manager CLI tool** — Java, Gradle, JUnit, MVC, Github Actions. **Oct 2022**

SKILLS

Programming Languages C/C++, Python, Rust, Kotlin, TypeScript, JavaScript, Verilog, Bash
Technologies ROS, React, AWS, Kubernetes, Docker, Prometheus, CMake, Linux

AWARDS & ACTIVITIES

Hackathons & Competitions: NUS Hack&Roll (2024) Solana Metacamp Hackathon (2022), NUS Greyhats Capture The Flag (2023)
Extra Curricular Activites: Residential College 4 House Committee (2021-2023), Developers Club (2021-2023)