

Aditya Agrawal

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Work Experience

Software Development Engineer - [Amazon](#)
Bengaluru, KA

January 2024 - Present
1 year, 8 months

- **Amazon Device Logs and Crashes:** (Present)
 - Worked on log encryption for proactive uploads from devices to minimize loss of device logs and better troubleshooting while preserving customer privacy.
 - Driven efforts to streamline codebase across services, including performance improvements like dropping heap usage from 42% to 2%.
 - Worked on authorization policies which works across Amazon Device Logs products.
 - Initialized work on events architecture across team's services and handed over for implementation.
 - Created tools to fasten up development. As a result, developers can test out changes immediately as they make changes compared to 5-20 min refresh time and 1-2 day initial setup time.
 - Helped new team members to get on-boarded to team and company culture and enabled them to deliver features on existing products under a month.
 - Worked on creating awareness about the traffic of team's service so steps could be taken to filter out or focus on important traffic
 - Worked with peer from multiple teams in code reviews, debugging and other experimental projects like multi-agent LLM environment for teams to collaborate and create a ecosystem of automated systems.
- **Cerulean - Data privacy solutions for Amazon Devices:** (1 year)
 - Project was initiated to cryptographically protect user data access.
 - Developed functionalities in C SDK related to cryptography operations, to facilitate content encryption in cloud services and devices, like Kindle, FireTV.
 - Built JNA wrappers to use the C SDK across cloud services to preserve business logic at one place.
 - Implemented various platform modules for various AWS Services and device implementations for the C library.
 - Worked with AWS Nitro Enclaves and proto bufs to provide trusted code execution for elevated crypto operations.
 - Worked with Amazon wide service to service communication and Authentication methods.
- **PaCT - Privacy and Consent Tooling for Amazon Devices:** (Away Team)
 - Project was initiated to streamline privacy settings and customer consent management across all Amazon Devices.
 - Developed OS native components such as IPC handlers, Turbo Module interface (for UI applications) for upcoming OS for Amazon Devices.
 - Implemented various features like push messages, unicasting & broadcasting, and task scheduling to manage application lifecycle.
- **Tech stack:** C, C++, Rust, Java

Software Engineer - [Quicko](#)
Ahmedabad, GJ

June 2023 - December 2023
7 months

Quicko is a tax platform for individuals and businesses, offering D2C, B2B, integration-based, and service models to simplify taxes for everyone at scale.

- **MEET by Quicko:**
 - Conducted **2,000+** meets for individuals tax filing in July month with **<40 tax experts** across India during the 2023 tax filing season.
 - Developed features around **bookings, orders** and **plans** management.
- **Tax P&L APIs by Sandbox:**
 - Developed **multi-threaded** Tax P&L APIs with **asynchronous** workflows to have resilient architecture for Domestic and Foreign assets trading data.
 - These APIs provided calculation engines for multiple kind of assets (equity, MFs, ETFs, etc.)
 - Target of integrations with **13+ brokers**, **SDK** based, **report** based and **B2B** integrations with **>60%** pitch success rate.
- Advocated for development and coding practices and helped in adopting and creating POCs for multiple technologies like **Terraform, Go, Code Bundler**, as better alternatives.
- **Tech stack:** Java - Spring Boot, Typescript, Flutter, NodeJS

Technical Skills

Languages	Java, Python, C, C++, JavaScript, GoLang, Rust, CUDA
Databases	DynamoDB, Postgres, Mongo DB, Redis, TimescaleDB
Frameworks	Next JS, Express JS, Spring Boot
Systems	Linux, AWS, Digital Ocean, Heroku
Tools	Postman, Terraform, Listmonk

Education

Bachelor of Technology - Computer Science and Engineering, **July 2019 — June 2023**
 Indian Institute of Information Technology, Raichur
 CGPA (Current): 8.58/10.00

Projects

TNP Portal Project | Gitlab

- Common portal for students and companies to manage placements in the institute
- **Rate limiting** (Authentication token based - fallback to IP) backed by **Redis**
- **Horizontally Scalable** application.
- Automatic expiry of incomplete user profiles using **Redis Pub/Sub**
- **Tech Stack:** Front-end → NextJS, MaterialUI | DB → Postgres, Redis | Backend → NodeJS, Firebase Storage | Others → Redis Pub/Sub, Helmet.js

Contrast Stretching Improvements Github

- Implemented multiple methods to improve performance of Contrast Stretching Operation
- Compared CPU, and multiple GPU implementations with different approaches and shared memory usage to find a better way.
- **Tech Stack:** CUDA, C++

Work Stealing Dequeues, Pull based work balancing **Sup.: Dr. Sathya Peri, Professor, CSE-IITH** Github

- Understand and Implement a work stealing dequeue to balance work among idle and loaded threads
- Implementation of the model in a multi-core environment
- Explore possible improvements and implementation in a distributed environment (balance multi-region load, etc.)
- **Tech Stack:** C++