Gowthaman Aravindan

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🎓 Education

National University of Singapore (NUS)   **Expected Dec 2024**

Bachelor of Engineering, 2nd Major in Computer Science

Relevant Modules: Data Structures and Algorithms **|** Computer Organization **|** Networks **|** Object Oriented Programming **|** Machine Learning

💼 Experience

Google   **May 2023 – Aug 2023**

Software Engineer Intern   *Singapore*

- Developed a testing tool in **Java** that provides a visual representation of semantic changes, enhancing code review efficiency by 50%.
- Designed custom **Protocol Buffers** and implemented **RPC services** to efficiently fetch relevant test result data from backend servers.
- Provisioned and configured a new RPC server, actively monitored metrics and responded to alerts to ensure optimal server performance.
- Drafted design documents and underwent design review with senior engineers, ensuring code design adhered to Google's standards.

GovTech (SearchSG)   **Aug 2023 – Dec 2023**

Software Engineer Intern   *Singapore*

- Integrated UI configuration options using **ReactJS** for agencies leveraging on no-code website builders, increasing user customizability.
- Refactored search API to enforce access control using **Express** by updating the auth middleware to retrieve client id from access token.
- Resolved numerous bugs with the web crawler and indexer, leading to smoother search experiences and increased product adoption.
- Created a stateless login system for a new web application, wrote custom **Typescript** classes to store user sessions in browser cookies.
- Embedded **AWS Quicksight** dashboard on web application, with custom date pickers for users to view their search analytics with ease.
- Configured new **PostgresSQL** database using **Prisma**, wrote data retrieval endpoints and deployed them via **Serverless** architecture.

Zendesk   **Jan 2023 – May 2023**

Software Engineer Intern   *Singapore*

- Migrated **AWS EC2** development environments to **Kubernetes clusters** which improved resource utilization and reduced infra costs.
- Integrated **Devspace**, a Kubernetes developer tool, that streamlined interactive development workflows and increased team productivity.
- Successfully deployed new features into production, ensuring a stable release by monitoring **Jenkin** smoke tests and **Datadog** metrics.
- Developed a Slack bot using **NodeJS** that uses **NLP** and **supervised learning** to predict answers based on an existing FAQ database.
- Planned and performed authentication key rotation for **AWS ElastiCache** clusters as part of companywide secrets revocation program.
- Implemented mutations in a **Java GraphQL** server that routes client requests to upstream microservices and wrote unit tests with **JUnit**.

Kinexcs   **Nov 2022 – Jan 2023**

Software Engineer Intern   *Singapore*

- Designed widgets using **Figma** and added them into a mobile application using **Flutter** to support the launch of new gamified exercises.
- Integrated a **Unity** game into Flutter and enabled cross communication of game protocols and parameters through Flutter Blue plugins.
- Designed, restructured, and maintained DynamoDB and RDS databases (**Amazon Web Services**) to store user stats and game data.
- Built Back-End scripts using **Python (Flask)** and leveraged **Docker** containers for end-to-end testing and verification of API endpoints.
- Spearheaded weekly sprint meetings as the scrum master and managed 2 interns by assigning tasks and providing technical guidance.

PsyFinance   **March 2022 – July 2022**

Software Engineer Intern   *Singapore*

- Shipped UI enhancements such as pagination and modals using **NextJS**, **TypeScript** and **TailwindCSS** that benefited over 5000 users.
- Optimized the front-end performance through centralized state management using **Recoil**, reducing page loading times by about 25%.
- Integrated **Amplitude**, an analytics tool for monitoring statistics such as site traffic and transactions to understand customer behaviors.
- Added **CircleCI**, a CI/CD pipeline to automate the running of **Jest** unit tests on pull requests to prevent bugs from entering production.
- Created a debugging tool that deserializes JSON data into tables for better visualization, increasing productivity of developers by 50%.

🖥 Projects

Chatty ⬤ *JavaScript, Telegram API, Heroku*

- Telegram bot that leverages OpenAI's language model, GPT-3 to provide informative and contextually relevant responses to queries.

</> Technical Skills

Languages: JavaScript, TypeScript, Python, Java, C++, Dart, SQL, Bash, HTML, CSS, Swift
Technologies/Frameworks: NodeJS, ReactJS, MongoDB, ExpressJS, PostgreSQL, Flask, Flutter, Redux, GraphQL, Jenkin
Developer Tools: Git, Linux, Vim, Docker, Kubernetes, Postman, AWS, Heroku, Vercel, Devspace, Prisma, Serverless

👥 Activities

Teaching Assistant   **Aug 2021 – March 2022**

- Mentored 50 students in a 12-week long robot design course which exposed them to **C++** and Arduino **micro-controller programming**.