

Gowthaman Aravindan

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🌐 github.com/gowthaman-01

🌐 gowthaman.app

🎓 Education

National University of Singapore (NUS)

Aug 2020 – Jan 2025

Bachelor of Engineering (Second Major in Computer Science)

Honors (Distinction)

Relevant Modules: Data Structures & Algorithms | Operating Systems | Computer Organization | Networks | OOP | Machine Learning & AI

📁 Experience

Google

May 2023 – Aug 2023

Software Engineer Intern

Singapore

- Developed a **Java** tool that embeds previews of UI changes directly within pull requests, resulting in a **20%** faster code review process.
- Implemented a **gRPC** data pipeline by engineering custom Protocol Buffer schemas to automate the extraction of semantic test results.
- Provisioned and maintained a **gRPC** server, ensuring continuous system reliability through performance monitoring and alert handling.

GovTech (SearchSG)

Aug 2023 – Dec 2023

Software Engineer Intern

Singapore

- Integrated UI configuration options using **React** within a no-code website builder, giving users granular control over design elements.
- Upgraded backend API authentication middleware with stronger access tokens, increasing data protection and enforcing access control.
- Debugged and resolved critical bugs within the SearchSG engine's web crawler and indexing pipeline, doubling search result accuracy.
- Engineered login workflows for a new application, leveraging browser cookies to store authentication tokens and manage user sessions.
- Embedded an **AWS QuickSight** analytics dashboard with interactive components, allowing users to seamlessly access usage reports.

Zendesk

Jan 2023 – May 2023

Software Engineer Intern

Singapore

- Migrated development environments from **AWS EC2** to **Kubernetes**, optimizing resource utilization and reducing infrastructure costs.
- Collaborated on production deployments, ensuring stable releases by monitoring **Jenkins** smoke tests and analyzing **Datadog** metrics.
- Implemented **Java GraphQL** mutations for routing client requests to upstream microservices, ensuring code reliability with **JUnit** tests.
- Launched a Slack bot that utilizes Natural Language Processing and supervised learning to predict answers from an FAQ database.

Kinexcs

Nov 2022 – Jan 2023

Software Engineer Intern

Singapore

- Designed interactive widgets for a mobile game application using **Figma** and **Flutter**, enhancing the visual appeal of the user interface.
- Architected and maintained scalable production-level **DynamoDB** and **RDS** databases for storing user details and game status data.
- Wrote back-end scripts using **Python (Flask)** and leveraged **Docker** to automate end-to-end testing and verification of API endpoints.

PsyFinance

Mar 2022 – Jul 2022

Software Engineer Intern

Singapore

- Shipped UI enhancements using **NextJS**, **TypeScript**, and **TailwindCSS**, improving overall user experience for more than **5,000** users.
- Optimized front-end efficiency through **Recoil**-based centralized state management, achieving a **25%** decrease in page loading latency.
- Enabled data-driven decision making by integrating Amplitude analytics to monitor site traffic, revealing key customer behavior insights.
- Automated **Jest** unit test execution on pull requests using **CircleCI**, streamlining development workflow and minimizing production bugs.
- Developed a **JSON** deserialization tool that transforms raw data into a user-friendly tabular format, resulting in a **10%** productivity gain.

🖥️ Projects

Pathium 🌐 [pathium.gowthaman.app]

Jan 2024 – Dec 2024

Interactive tool used by over 500 students each year to visualize and compare shortest path algorithms. Features a customizable graph editor, real-time performance metrics, and multi-algorithm support, offering an engaging, hands-on experience for mastering graph theory concepts.

🔗 Technical Skills

Languages: JavaScript, TypeScript, Python, Java, C++, Dart, Bash, HTML, CSS

Technologies/Frameworks: Node.js, React, MongoDB, Express.js, PostgreSQL, Flask, Flutter, Redux, GraphQL, Jenkins

Developer Tools: Git, Linux, Vim, Docker, Kubernetes, Postman, AWS, Heroku, Vercel, Devspace, Prisma, Serverless

🌟 Activities

Teaching Assistant

Aug 2021 – Mar 2022

- Mentored 50 students in a robotics course, covering C++ and microcontroller programming, leading to 70% receiving an A grade.