

# Vignesh Suresh Kumar

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## Education

### Georgia Institute of Technology

Bachelor of Science in Computer Science, Minor in Business Leadership

Courses: Data Structures & Algorithms, Java OOP, Systems Programming, Object Design

Awards: ADP Henry Taub Scholarship | GPA: 3.9/4.0

Expected Graduation: May 2026

Atlanta, GA

## Experience

### Meta x MLH Fellowship

June 2024 – Present

Site Reliability Engineer Intern

- Developing real-world projects utilizing relevant SRE skills with mentorship from Meta engineers.
- Enrolled in 12-week hands-on curriculum covering core SRE concepts, augmented by events led by industry experts.
- Working with 10+ interns to create a thoroughly developed portfolio utilizing industry best practices and services.

### Kavi

June 2024 – Present

Incoming Software Engineer Intern

### Machine Learning Research Intern

September 2023 – Present

Fung Group

Atlanta, GA

- Implemented a custom variant of the SZ3 framework to compress datasets by **50x** with minimal error margin.
- Developing a Graph Neural Network for **<1 second compression** of volumetric data while reducing dimensionality.
- Working with a cross-functional team of researchers to design **cutting-edge ML models** for quantum chemistry.

### Robotics Engineering Intern

August 2023 – Present

VIP – Automotive LIDAR

Atlanta, GA

- Led team of 4 interns in an initiative to migrate from ROS to ROS2 and facilitating rewrites of custom dependencies.
- Presented technical proposal regarding the migration to lead engineers and gained widespread approval.
- Utilized native multi-threaded support in Robot Operating System 2 to **4x** path planning computations using LIDAR.

### Software Developer Intern

January – May 2023

System Technology Works

Peachtree Corners, GA

- Designed **10+ movements** for humanoid robot Zeus2Q, including grabbing and an algorithm for bipedal walking.
- Integrated the NVIDIA Riva SDK to enable **real-time conversational AI** utilizing industry leading LLMs for Zeus2Q.
- Prepared YouTube videos to be used as technical documentation for Zeus2Q's interfacing API, written in Python.

## Projects

**GT Reserve** | AWS Lambda, S3, Python, Selenium, JavaScript, React | [gt-reserve.vercel.app](https://gt-reserve.vercel.app)

- Created a student-friendly library room scheduling site as an alternative to Georgia Tech's existing process.
- Hosted AWS Lambda functions to automate Selenium scraping of data **every 10 minutes**, stored within S3 Buckets.
- Designed a clean and responsive React page that displays bookings with **advanced sorting and filtering**.

**Unwrappd** | Android, Firebase, Java, Spotify API | [GitHub](https://github.com)

- Led team of 5 in developing an Android app for Spotify users to generate and save their Spotify statistics year-round.
- Pulled statistics and music samples from Spotify API and Firebase to facilitate back-end user auth and cloud storage.
- Utilized **Scrum**, an Agile methodology, to organize meetings & delegate tasks effectively within **weekly sprints**.

**CLI Shortener** | SQLite, Rust, Axum, SQLx | [GitHub](https://github.com)

- Engineered an efficient link shortener tool which can generate **500 million+ unique** shortened links.
- Integrated PostgreSQL and SQLx to ensure reliable storage and up to **5 concurrent retrievals** of shortened links.
- Increased overall efficiency by **20%** by utilizing Rust's asynchronous capabilities and Axum web framework.

## Skills

**Languages:** Java, Python, C, C++, Go, Rust, SQL (SQLite), JavaScript/Typescript, F#

**Technologies:** Docker, AWS, Git, GitHub, Firebase, Selenium, Android, React, SQLite, Robot Operating System, Vim

**Concepts:** Data Structures and Algorithms, Web/Mobile App Design, Cloud Computing, Machine Learning, Robotics