Vignesh Suresh Kumar

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Education

Georgia Institute of Technology   *Expected Graduation: May 2026*
Bachelor of Science in Computer Science, Minor in Business Leadership   Atlanta, GA
    Courses: Data Structures & Algorithms, Java OOP, Systems Programming, Object Design
    Awards: ADP Henry Taub Scholarship | *GPA:* 3.92/4.0

Experience

Meta & Major League Hacking   *June 2024 – Present*
Production Engineer Intern
- Developing real-world projects utilizing relevant SWE and SRE skills with mentorship from Meta engineers.
- Enrolled in 12-week hands-on curriculum covering key 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.

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 Engineer 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 Engineer 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 technical documentation videos for Zeus2Q's interfacing Python API, intended for early customers.

Projects

GT Reserve | *AWS Lambda, S3, Python, Selenium, JavaScript, React* | 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
- 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 | *MySQL, Rust, Axum, SQLx* | GitHub
- Engineered an efficient link shortener tool which can generate 500 million+ unique shortened links.
- Integrated MySQL 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, JavaScript/Typescript, Bash, F#
Technologies: Docker, AWS, Git, GitHub, Firebase, Selenium, Android, React, MySQL, SQLite, Robot Operating System
Concepts: Data Structures and Algorithms, Web/Mobile App Design, Cloud Computing, Machine Learning, Robotics