

Vignesh Suresh Kumar

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EDUCATION

Georgia Institute of Technology

Expected May 2026

B.S. in Computer Science, Minor in Business Leadership

Atlanta, GA

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

Awards: ADP Henry Taub Scholarship | GPA: 3.92/4.0

EXPERIENCE

Meta & Major League Hacking

June - September 2024

Production Engineer Fellow

- Engaged in 12-week program featuring guidance from Meta engineers, hands-on training, and talks on software development
- Secured admission into highly competitive mentorship program, placing in the top 2% of applicants
- Collaborated with 10+ interns to craft a robust Virtual Private Server utilizing MySQL, NGINX, Docker, Flask, etc

Fung Group - Georgia Tech

September 2023 - Present

Undergraduate Researcher

Atlanta, GA

- Designed a custom version of the SZ3 framework to compress terabytes of molecular charge data by 100x
- Developing a Graph Neural Network for <1 second compression of volumetric data while reducing dimensionality
- Automating aggregation of statistics from 5 compression algorithms to analyze impacts on charge density

Automotive LIDAR - VIP

August 2023 - Present

Software Subteam Lead

Atlanta, GA

- Led team of 4 interns in migrating software from ROS to ROS2, including rewrites of custom dependencies
- Presented technical proposal regarding migration to lead engineers and gained widespread approval
- Utilized native multithreaded support in ROS2 to 4x path planning computations with LIDAR laser scanner

System Technology Works

January - May 2023

Software Engineer Intern

Peachtree Corners, GA

- Designed 10+ movements for humanoid robot Zeus2Q, including algorithms for bipedal walking and grabbing
- Integrated the NVIDIA Riva SDK to enable real-time conversational AI utilizing leading LLMs and RAG
- Prepared technical documentation videos for Zeus2Q's Python API, allowing for interfacing by customers

PROJECTS

GT Reserve | *AWS, GraphQL, Python, SQL, Puppeteer, Typescript, Prisma, React* | gt-reserve.vercel.app

- Developed a scheduling site to allow Georgia Tech students to filter between bookings on 30+ rooms
- Hosted AWS Lambda functions to automate scraping of data by Puppeteer into SQLite database and S3 buckets
- Created a GraphQL API to allow the frontend to query booking data from generated database with Prisma ORM
- Designed a clean and responsive React page that displays bookings with advanced filtering and sorting

CLI Shortener | *Rust, AWS DynamoDB, NGINX, Docker, Axum, GitHub Actions* | [GitHub](https://github.com)

- Engineered a Rust-based link shortener that can create 500+ million shortcuts both on the internet and locally
- Employed DynamoDB to ensure highly efficient storage and retrieval of shortened links in a NoSQL format
- Utilized Docker and NGINX to provide secure HTTPS internet access, with CI/CD from GitHub Actions

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

- Led a team of 5 in developing an Android app for Spotify users to generate and save 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

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

Soft Skills: Communicator, Agile, Detail-oriented, Collaborative, Leadership, Quick Learner