

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 software talks
- 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

Compliant Labs

September 2024 - Present

Technology Consultant

- Responsible for analyzing working processes of 150+ documentary trade companies; determining points of weakness
- Conducted market research on AI-based document segmentation models to save clients up to \$500k a year.

Fung Group - Georgia Tech

September 2023 - Present

ML Researcher - Undergraduate

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 Engineer - Software Lead

Atlanta, GA

- Utilized native multithreaded support in ROS2 to 4x path planning computations with LIDAR laser scanner
- Led multiple developer in streamlining migration of foundational software for Project Sprite from ROS to ROS2
- Crafted unit and integration testing (90% code coverage) using Python and C++ for obstacle detection algorithms

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

Nomad | *Swift, SwiftUI, XCode, iOS, OpenAI, MapKit, Mapbox, Firebase*

- Implementing lossy route storage algorithms to reducing route size by 50%+ for routes over 1000 coordinates
- Enhanced app functionality by integrating Mapbox iOS SDK with MapKit, improving routing precision and user direction metadata

Unwrappd | *Android, Firebase, Java, Kotlin, Spotify API | GitHub*

- 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

Cubimer | *Dart, Flutter, Local Storage, Cloudflare, Git | cubimer.pages.dev*

Jun 2023 - Aug 2023

- Produced a multi-platform cubing timer app using Flutter, utilizing each platform's state management solution
- Hosted the web version of the app on Cloudflare Pages to ensure fast loading times and reliable access worldwide
- Crafted an elegant and effective layout utilizing the Material Design philosophy and responsive layouts

SKILLS

Languages: Java, Python, C, C++, Go, Rust, Kotlin, Swift, Dart, SQL, JavaScript, Typescript, Bash, F#

Technologies: Docker, AWS, Git, GitHub, Firebase, Selenium, Android, SwiftUI, Jetpack Compose, React, Flutter, MySQL, SQLite, MongoDB, 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