# Vignesh Suresh Kumar

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**Education**

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| **Georgia Institute of Technology** | *Expected Graduation: May 2026* | |
| Bachelor of Science in Computer Science, Minor in Business Leadership  *Courses*: Data Structures & Algorithms, Java OOP, Systems Programming, Android Object Design  *Awards*: ADP Henry Taub Scholarship | *GPA:* 3.9/4.0 | | Atlanta, GA |

**Experience**

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| **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.

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| **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.

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| **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.

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| **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**

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| **Unwrappd** |*Android, Firebase, Java, Spotify API* | [GitHub](https://zghazanfar922.wixsite.com/unwrappd) |

* 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**.**

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| **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.

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| **CLI Shortener** |*MySQL, Rust, Axum, SQLx* | [GitHub](https://github.com/VigneshSK17/cli_shortener) |

* 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, Kotlin, Python, C, C++, Go, Rust, SQL, JavaScript/Typescript, Bash, F#

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

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