# Vignesh Suresh Kumar

(470) 217-1987 | [vignesh.sureshkumar@gatech.edu](mailto:vignesh.sureshkumar@gatech.edu) | [linkedin.com/in/vigneshsk1](https://www.linkedin.com/in/vigneshsk1/) | [github.com/vigneshsk17](https://www.github.com/VigneshSK17)

**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, Object Design  *Awards*: ADP Henry Taub Scholarship | *GPA:* 3.9/4.0 | | Atlanta, GA |

**Experience**

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| **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.

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| **Kavi** | *June 2024 – Present* |
| Incoming Software Engineer Intern |  |

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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 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.

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| **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**

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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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| **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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| **CLI Shortener** |*SQLite, Rust, Axum, SQLx* | GitHub |

* 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