

# Mridul Gupta

484-695-7228 | mgupta358@gatech.edu | linkedin.com/in/mridul-g

## EDUCATION

### Georgia Institute of Technology — Atlanta, GA

Master of Science in Computer Science (Computing Systems)

Expected: May 2025

Bachelor of Science in Computer Science (GPA: 3.88, Dean's List, Faculty Honors)

Expected: May 2024

- **Coursework:** Algorithms Design and Analysis, Data Structures, Computer Systems & Networks, Database Design, Object-Oriented Design, Machine Learning, Computer Vision, Probability & Statistics, Perception & Robotics

## EXPERIENCE

### BerkOne

Bethlehem, PA

Software Engineering Intern - Application Infrastructure Group

May 2023 – Aug. 2023

- Expedited new hire request by 65% by utilizing C#, ASP .NET MVC, MS SQL Server, Bootstrap, and jQuery to create an Employee Requisition screen, moving from paper to an in-house digital system
- Implemented dynamic feature for multi-group selection across logins, improving resource tracking efficiency by 43%
- Engineered 5 high-performance SPs to facilitate automated email notifications, improving responsiveness to stakeholders
- Achieved a 40% cut in load time by successfully upgrading 3 .NET Nuget applications using Azure DevOps tools
- Decreased the processing time of undelivered emails by 75% by coding 3 new tasks on the In-House distributed task scheduler to automate the generation and FTP-ing of 350+ CSV file reports monthly

### Experimental Flights

Atlanta, GA

Software Engineering Team Lead - Vertically Integrated Program

Jan. 2022 – Present

- Led an 8-person Agile team to develop a full-stack application rendering real-time drone data using AWS, Express.js, Node.js and Docker for containerization to create an isolated environment for testing
- Designed a scalable and reliable system that efficiently manages up to 4 simultaneous ArduPilot simulations in Firebase
- Integrated QGroundControl into a BVLOS system for aerial vehicles, employing Flask API for path planning algorithm
- Implemented an Auto-report and File-reader option in the Battery Management web page using React.js, enabling real-time drone activity status monitoring and analysis

### College of Computing @ Georgia Tech

Atlanta, GA

Database Systems & Object-Oriented Programming Teaching Assistant

Aug. 2022 – Present

- Expanded the question bank by 20% and played a pivotal role in the refinement of the course autograder tests using GitLab
- Crafted 5+ entity-relationship diagrams, constructed 25+ MySQL queries, and implemented comprehensive autograder tests
- Graded and critiqued 350+ student code submissions and provided individualized feedback throughout the semester
- Provided individualized mentorship, including code review, to a group of 40 students by teaching data structures, algorithms and Object-Oriented Programming concepts in Java, leading to a 10% increase in homework average

## PROJECTS

### Autonomous lane bot | C++, Arduino, OpenCV

- Developed a C++ based autonomous lane follower using OpenCV for edge detection, achieving 98% recognition accuracy
- Engineered an ultrasound sensor integration, enhancing obstacle detection and reducing collision rate by 40%
- Implemented a modular system architecture in C++, facilitating seamless component interaction and accelerating development time by 25%

### Game Suite Application | Android Studio, Kotlin, Java, JUnits

- Created an interactive Android game suit consisting of Chess, Blackjack and Wordle in a collaborative, Agile scrum environment with test driven development
- Led frontend development of main screen UI using Android Studio and integrated Chesslib API in Kotlin
- Produced JUnits edge test-cases for robust testing leading to a 25% improvement in app performance and error handling

### Socio-Economic Data Prediction Platform | Python, Numpy, React, Jupyter

- Trained a neural network model and a Random Forest Regression model to determine socioeconomic development levels of geographic regions based on satellite imagery using TensorFlow and UC Merced dataset
- Utilized GraphQL API to create an interactive choropleth map in React from data produced by the model
- Assembled Jupyter notebook for swift onboarding featuring model instructions, dataset examples, and key Numpy functions

## SKILLS & LEADERSHIP

**Technologies:** Java, Python, C#, C/C++, CI/CD, ASP.NET, AWS, Kotlin, DevOps, REST API, Jenkins, Gitlab

JavaScript, React.js, jQuery, Angular.js, SQL Server Management, Firebase (NoSQL), PyTorch, Docker, Git, Linux

**On-Campus Involvement:** Sigma Beta Rho Fraternity (EBP – Chair of Finance), India Club (Board Leader - IT),

Big Data Big Impact, GT Agency, Flower Invention Studio, Housing and Residence Life - Resident Assistant