

Vasanth Aggala

Atlanta, GA | vasanthaggala.com | github.com/vaggala | vasanthaggala@gatech.edu | [linkedin.com/in/vasanth-aggala](https://www.linkedin.com/in/vasanth-aggala) | U.S. Citizen

EDUCATION

Georgia Institute of Technology

Atlanta, GA

B.S. in Computer Engineering | GPA: 3.9

Expected May 2027

- **Concentrations:** Distributed Systems & Software Design, Systems & Architecture
- **Relevant Coursework:** Data Structures and Algorithms, Object Oriented Programming, Discrete Mathematics, Linear Algebra, Statistics/Probability, Data Input and Manipulation, Digital System and Design, Calculus I/II/III/IV
- **Affiliations:** iOS Club, RoboJackets, Student Government (Computer Engineering Rep.), Big Data Big Impact, DS @ GT

EXPERIENCE

Fiserv

Jun 2026 – Aug 2026

Software Engineering Intern - Carat Global Platform

Alpharetta, GA

- Incoming Summer 2026 SWE Intern on Carat, enhancing payment optimization and scalability using Java, Spring Boot, & AWS.

Medford Group

Jan 2026 – Present

Undergraduate Research Assistant - Computational Research

Atlanta, GA

- Automated SPARC-based DFT workflows using Python & Bash, reducing simulation setup time by 20% across the team
- Built Python workflows for DFT simulations of CO/Pt(111) on HPC systems, comparing LDA and GGA exchange-correlation functionals and analyzing adsorption energies across atop, bridge, and hollow surface sites
- Performed 500+ high-fidelity DFT calculations using Atomic Simulation environments to extract adsorption energies and charge density features for model analysis

Delta Air Lines

Aug 2025 – Dec 2025

Software Engineering Intern - Flight Safety

Atlanta, GA

- Developed and deployed ML models in Python on 200K+ flight records to predict flight risk anomalies, improving detection accuracy by 23% and enabling proactive mitigation of delays and operational disruptions
- Optimized backend SQL/Python ETL pipelines supporting Tableau dashboards, reducing query load times by 87% (25 mins → 3.3 mins) and improving data availability for operational decision-making

The Bhamla Lab

Mar 2025 – Aug 2025

Undergraduate Research Assistant - QByte Subteam

Atlanta, GA

- Developed software for a low-cost qBYTE biotech device deployed through the Frugal Science Academy, enabling accessible classroom diagnostics
- Engineered embedded temperature control for a qLAMP device in C++ on ESP32, reducing thermal overshoot by 80% and improving reaction stability
- Built real-time data visualization tools, including Python dashboards and a React/TypeScript mobile app, enabling live monitoring and configuration of fluorescence sensor data during experiments

PROJECTS

VibeRank | GitHub Repository Link

Feb 2026 – Apr 2026

- Built a real-time, swipe-based social ranking app where users vote on profiles and compete on a live leaderboard
- Implemented Firestore real-time listeners to propagate vote updates and maintain consistent leaderboard state across clients
- Developed backend service layer for authentication, profile management, and vote persistence using Firebase Auth and Firestore

Movie Revenue Predictor | GitHub Repository Link

Jun 2025 – Jul 2025

- Built an ML pipeline (Pandas, PyTorch) to predict movie revenue using metadata and text embeddings from plot summaries
- Engineered features and trained a Random Forest model to learn relationships between movie attributes and revenue
- Evaluated performance with RMSE/MAE and used feature importance to identify key drivers and debug errors

Delta Flight Delay Data & Visualizations | GitHub Repository Link

Feb 2025 – May 2025

- Built a data processing pipeline integrating 95K+ Delta flight records with weather and aircraft metadata by cleaning messy DOT data, normalizing schemas, and merging across multiple external sources
- Implemented UTC-based timestamp normalization to align flight schedules with hourly weather data from Open-Meteo API
- Built a BeautifulSoup4-based web scraper to enrich records with aircraft metadata by tail number

SKILLS

Languages: Python, Java, Swift, C/C++, SQL, Go, R, TypeScript, JavaScript (React), HTML/CSS, Bash

Frameworks/Libraries: Pandas, NumPy, OpenCV, Matplotlib, React, Spring Boot, Django

Tools/Platforms: Git, Firebase, Amazon Web Services (AWS), Docker, Kubernetes, Teradata, Linux

Concepts: Machine Learning, NLP, REST APIs, CI/CD, Agile Framework