Akshaj Nadimpalli

akshajnadn@gmail.com — (860) 996-2832 — github.com/akshajnad — akshajnad.github.io/website

Education

Georgia Institute of Technology — *B.S. Computer Science* Expected 2028

- GPA: 4.0/4.0
- Relevant Coursework: Data Structures and Algorithms, Linear Algebra, Objects and Design, Computer Organization
- Activities: Big Data Big Impact, Competitive Programming, Robojackets

Experience

RIA Advisory — *Summer Student Intern* May 2025 – August 2025

- Automated ETL workflows with Python + AWS Lambda, reducing manual data migration overhead for financial systems.
- Worked on anomaly detection engine using gradient boosting to validate migrated datasets, improving data quality checks by 35%.
- Contributed to backend services (Spring Boot + MySQL) and Angular UI components, with CI/CD pipelines tested in Postman and deployed in AWS.

CT Science Center — *Teen Ambassador* June 2024 – August 2024

- Designed and led STEM programs on circuits, renewable energy, and engagement for 1K+ students, combining presentations with interactive demos full time (30 hrs/wk).
- Built a custom web application to support event management, participant tracking, and exhibit services, streamlining logistics for recurring programs.

Verdant — *Founder & Developer* Mar. 2025 – Present

- Built a Flask + SQLAlchemy platform with dashboards for shelters and admins to analyze yields, requests, and donations.
- Integrated TensorFlow models to optimize crop allocation under weather scenarios and GPT-2 to generate week-by-week instructions.
- Building a multi-objective optimization engine balancing yield, timing, and space efficiency, deployed with Power of Peace in active food donation networks.

Projects

Research with Dr. Ashani Dasgupta — ***University of Wisconsin – Milwaukee*** May 2024 – Dec. 2024

- Applied Dihedral and Cyclic group theory to swarm robotics, enabling symmetry-based formation control and coordinated agent strategies.
- Designed reinforcement learning framework with dynamic symmetry switching to adapt movement to changing game states.
- Improved resource collection efficiency 2–3x in Halite challenge compared to baseline bots.

Independent Research Jul. 2023 – Mar. 2024

- Built predictive models on startup datasets with Decision Trees, Random Forests, and boosting, benchmarked with cross-validation.
- Engineered features on funding timelines, team composition, and market categories; applied PCA and SHAP for interpretability.
- Published methodology and findings in the *Journal of Student Research*.

911 Call Analysis Model — ***Independent Project*** May 2024 – Present

- Designed a Flask-based application with preprocessing pipelines for 911 call datasets.
- Applied Apriori algorithm for association rule mining, uncovering frequent incident patterns across EMS, fire, and traffic calls.

FIRST Robotics Competition — ***Co-Captain: Design, Scouting, Strategy Lead*** 2021 – 2025

- Built scouting system (PHP front-end, MySQL + Excel backend) enabling real-time match analysis and strategy planning.
- Implemented regression models and match prediction scripts to optimize alliance strategy at competitions.
- Simulated drivetrain performance in CAD (Onshape), tested autonomous routines, and earned multiple Innovation in Engineering awards.

Skills

- **Programming & ML:** Python, Java, C++, TensorFlow, PyTorch, scikit-learn, OpenCV, SQL, Spring Boot, Flask
- **Data & Modeling:** Pandas, NumPy, Matplotlib, Seaborn, PCA, SHAP
- **Systems & Tools:** AWS (Lambda, S3, EC2), SQLAlchemy, RESTful APIs, Angular, Git, Onshape CAD