

Akash Sarode

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EDUCATION

Georgia Institute of Technology

Aug. 2024 - May 2027

BS in Computer Science | Threads: Intelligence, Systems & Architecture | GPA: 4.0/4.0

Atlanta, GA

- Core Courses: Data Structures and Algorithms, Discrete Math, Coding in Python, Objects and Design, Java OOP, Linear Algebra, Multivariable Calculus

TECHNICAL SKILLS

Languages: 5+ years in Java, Python, HTML/JS/CSS, Proficient in PHP, C++, SQL

Platforms/Tools: Git, Github, React.js, Node.js, Flask, ROS, Pandas, NumPy, SciPy, PyTorch, Firebase, Matplotlib, BeautifulSoup, OpenCV, TensorFlow

Awards: Research Experience for Undergraduate (REU) Award – National Science Foundation (NSF), FTC State Championship Control (Software) Award 1st Place, FTC World Championship Robot Game Semifinalist, Presidential Volunteer Service Award

EXPERIENCE

Urban Audio Sensing Lab

Dec. 2024 – Present

Undergraduate Research Assistant

Atlanta, GA

- Developing a large scale audio and video dataset prepared for pedestrian detection with 2,600 hours of audio
- Creating a PyTorch model & using audio transformers (VGGish, AST, CONV) to analyze spectrogram data
- Applying Mask2Former (COCO trained) computer vision model to detect pedestrians, validating audio models

Better Place Drones (VIP) – Autonomous Drone Development

Aug. 2024 – Present

Undergraduate Research Assistant

Atlanta, GA

- Built an autonomous solution to suppress high-risk fires through a system of extended flight-time drones
- Developed a wildfire object detection model through PyTorch and YOLOv11 with 85% accuracy
- Created a web scraper using Python & BeautifulSoup to collect training data for fire detection models

Project Hive React App

Aug. 2024 – Present

Backend Project Lead

Atlanta, GA

- Developed React web app with a Flask & Firebase backend to help students find & recruit peers for projects
- Implemented real-time search functionality with filters for 15 attributes, including skills & availability
- Designed secure authentication to support future growth, ensuring data privacy & scalability

PROJECTS

NBA API Project | Python, Pandas, NumPy, SciPy

Aug. 2023 – May 2024

- Developed ridge regression models using scikit-learn to predict player performance with up to 80% accuracy
- Processed & cleaned over 15,000 records of shot data using pandas, improving prediction accuracy by 10%
- Created advanced visualizations with Matplotlib to illustrate trends & insights such as shot distribution patterns
- Utilized NumPy & SciPy to identify significant correlations with 70% confidence in predicting game outcomes

InfoTrade App | Java, Firebase, Git, GitHub

Aug. 2023 – Dec. 2023

- Developed a Firebase app in Android Studio for users to exchange requests regarding homework & projects
- Implemented Firebase Authentication & Realtime Database for secure user access & for data synchronization
- Designed the app's interface with XML layouts providing an intuitive & visually appealing user experience

FIRST Tech Challenge (FTC) Robotics - #8468 | Java, OpenCV, TensorFlow, Git

June 2019 – Present

- Implemented custom TensorFlow & OpenCV pipelines to detect game objects & April Tags with 95% accuracy
- Leveraged GitHub for version control, employing feature branching, rebasing, & pull requests for collaboration
- Created odometry system for robot's localization ($\pm 1''$ error); led to quick & accurate autonomous movement
- Mentoring software team & organizing boot camps to teach new members about Android Studio, Java, & OOP

LEADERSHIP

First-Year Leadership Initiative (FLI)

Sep. 2024 – Present

- Collaborating with a diverse group of peers to develop leadership, communication, & teamwork skills while promoting philanthropy & community engagement at Georgia Tech