

Akash Sarode

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Education

Georgia Institute of Technology

May 2028

BS in Computer Science | Threads: Intelligence, Systems & Architecture | GPA: 3.91/4.00

Atlanta, GA

- Core Courses: Machine Learning, Data Structures & Algorithms, Object Oriented Programming, Artificial Intelligence, Low Level Programming, Design & Analysis of Algorithms, Systems & Networks

Experience

Vanguard

Sep. 2026 – Apr. 2027

Incoming Software Engineering Co-op

Charlotte, NC

- Will develop Fullstack & AI workflow solutions for investors in the Advice and Wealth Management Technology division

Applied Optoelectronics

May 2026 – Aug. 2026

Software Engineering Intern

Duluth, GA

- Built backend system in **Redis** & **PostgreSQL** polling engine for automatic config changes, cutting device failures ~**20%**
- Managed virtual gateway deployments on **GKE (Kubernetes)** to run e2e remote download tests for ~3k virtual devices
- Developed anomaly detection **self healing pipeline**; improved macro accuracy ~**5%** on 10k spectrum captures

Bits of Good: Juno

Jan. 2026 – May 2026

Software Developer

Atlanta, GA

- Engineered e2e file deletion feature across API gateway, S3, & Azure Blob handlers used by **5 active** org project teams
- Authored a **TypeScript gRPC SDK** and React dashboard to streamline account approval workflows for 50+ engineers
- Built a **Next.js** integration for Juno file storage using **Backblaze B2** & **Azure Blob** for simplified project onboarding

AI Makerspace Nexus

Aug. 2025 – Dec 2025

Software Engineer

Atlanta, GA

- Developed a **RAG** study tool using **FastAPI** and **LangChain** to generate quizzes from course PDFs
- Implemented RAG features including **ChromaDB** vectorization for semantic search across document embeddings
- Engineered a **Python FastAPI** and **SQLite** backend to validate and store unstructured JSON model outputs

Urban Audio Sensing Lab

Dec. 2024 – May 2026

Undergraduate Research Assistant

Atlanta, GA

- Architected a **PyTorch** pedestrian classifier w/ 71.7% balanced acc using & mel-spectrogram feature extraction (STFT)
- Generated pedestrian labels by running Mask2Former model on 2.9M frames & compiled detections into **CSV data**
- Analyzed pedestrian time-series data w/ **Pandas** and **NumPy** to extract insights for ML model development

Projects

Cipher Arena | SvelteKit, Socket.IO, MongoDB, Node.js, AWS S3

Mar. 2025 – Jun. 2025

- Built a real-time multiplayer cryptogram web app for 900+ users, featuring public & private cipher battles, detailed public profiles, a leaderboard w/ Elo rankings, & a practice mode w/ infinite drills for 10+ cipher types
- Developed a WebSocket server using Node.js & Socket.IO to manage games & ensure low-latency communication
- Built REST API for game logic, leaderboard queries, profile updates, & cipher generation/validation
- Implemented secure authentication using JSON Web Tokens for session management & nodemailer for email verification

Gesture Control | JavaScript, TensorFlow.js

Jun. 2025 – Jul. 2025

- Built a Computer Vision Chrome extension for gesture based browsing, featuring customizable action mappings
- Trained a TensorFlow model on a proprietary dataset of 67k samples to classify 10 gestures w/ 93.7% accuracy

SustainaView | Gemini API, React Native, Express.js, MongoDB, Google Shopping API

Sep. 2025

- Developed an AI mobile app using React Native, Expo, & Gemini API for eco-friendly room makeover suggestions
- Engineered a full-stack solution w/ an Express.js backend, JWT auth, MongoDB Atlas, & AWS S3 for storage
- Integrated SerpAPI & Google Shopping API for real-time price comparisons & multi-retailer product listings
- Implemented a two-stage Gemini AI pipeline for room analysis, recommendations, & before/after visualizations

Technical Skills

Languages: Python, C++, JavaScript, TypeScript, Java, HTML/CSS

Frameworks/Tools: Kubernetes, MongoDB, AWS, GCP, Git, Docker, LangChain, FastAPI, PyTorch, Pandas, NumPy

Certifications: AWS Certified Cloud Practitioner

Publication: Audio-Based Pedestrian Detection in the Presence of Vehicular Noise (arXiv:2509.19295)

Awards: FTC Robotics State Control/Software Award, 2nd at RoboTech Hackathon, REU Research Award