

AKHILESH REDDY MALLU

(904) 910-3559 Akhilesh.rdd@icloud.com akhileshrm.dev github.com/Akhileshreddym linkedin.com/in/akhilesh-reddy-mallu

Education

Georgia Institute of Technology

Bachelor of Science in Computer Science - GPA: 4.00

Atlanta, GA

May 2028

- **Honors:** Tau Beta Pi (Engineering Honor Society, top 1/8 of class), Faculty Honors, Dean's List.
- **Awards:** 1st Place HackUSF Google Cloud Challenge, 3rd Overall ShellHacks, Best use of Elevenlabs, Best AI Hack.

Experience

Software Engineering Intern

Sharp Hue Inc

Atlanta, GA

August 2026 - Present

- Building and shipping features across client-facing microapps in Python and .NET, collaborating with senior engineers.
- Contributing reusable code patterns and internal documentation to Sharp Hue's engineering practices, reducing setup time for future client engagements.

Research Collaborator & Co-Author

ADAPT Framework Research

Remote

April 2026 - Present

- Co-authoring a working paper on the ADAPT framework for cross-surface prompt engineering in AI ecosystems, in collaboration with a Principal Architect at Microsoft.
- Designing and running evaluations to test prompt portability across OpenAI, Google, and Anthropic model ecosystems, comparing output quality across API, document, and chat surfaces using a custom scoring rubric.

Secretary & Projects Director

AI @ UCF

Orlando, FL

October 2025 - May 2026

- Overhauled club operations for a **450+ member organization** as the Secretary, revamping club structure to drive a **400% increase (10 to 50)** in member attendance.
- Coordinated and executed a Microsoft speaker series, managing outreach, logistics, and operations for **50+ attendees**.
- Oversaw 5+ concurrent student projects as Projects Director, including an on-campus visual location finder (image to location via CV); tracked milestones and led teams through full development cycles to final presentation.

Projects

Bowser - Autonomous Pediatric Physical Therapy Robot

HackUSF, Google Cloud 1st Place

- Built real-time on-device CV pipeline (YOLOv8n + MediaPipe) achieving **68ms avg end-to-end** latency with async depth estimation for distance-aware robot movement.
- Engineered hysteresis based per rep counting achieving **84.6% recall and 95.7% precision** across 52 scripted squat and arm-raise repetitions.
- Orchestrated 4 coordinated agents via Google ADK: patient record retrieval, per rep counting, per rep Gemini coaching, and autonomous Roomba navigation from spatial data.

Paradise

ShellHacks, 3rd Best Overall out of 1400+ attendees

- Built a touch-only navigation wearable for **DeafBlind users**, steering the wearer through dual wrist-worn Joy-Con haptics via a **20 Hz sensor-fusion loop** over live WebRTC video, compass, GPS, and OpenStreetMap walking routes.
- Engineered a multi-process on-device vision pipeline (YOLOv10s, YOLOv8n, Depth Anything V2) with **70 ms median detection latency** while all models run concurrently, dropping stale frames under load via backpressure.
- Converted monocular depth into metric obstacle distances by fitting the floor plane with **RANSAC**, at **88 ms per frame**.

Apex

- Built real-time F1 pit-wall simulator with Next.js frontend, FastAPI backend, and WebSocket driven live race state.
- Engineered two-stage Ridge + XGBoost pipeline predicting lap-time residuals (**0.35s MAE, 0.996 R², 5-fold CV**).
- Built vectorized Monte Carlo engine running **10,000 race simulations in under 0.2 seconds**.

Tarmac

- Led a **5-person team** building an iOS SwiftUI app turning flight delays into city itineraries using MapKit routing data.
- Built a two-stage AI planning pipeline (LLM generation + deterministic safety layer) with TSA wait and boarding buffer risk scoring, catching **100% of boarding-constraint violations (0% false positives)** across 100 simulated scenarios, where **66% of raw model plans violated timing constraints**.

Skills

Languages: Python, Java, C, JavaScript/TypeScript, Swift, SQL.

Frameworks & ML: React, Next.js, FastAPI, SwiftUI, TailwindCSS, scikit-learn, XGBoost, OpenCV, MediaPipe, YOLO.

Infrastructure & APIs: AWS, GCP, Docker, Vercel, Firebase, WebSockets, Google ADK, Twilio, MapKit, ElevenLabs.

Core CS & DevOps: OOP, Data Structures & Algorithms, Git, JIRA, Agile/Scrum, Excel, CI/CD.