

Aahil Shaikh

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Education

Texas A&M University, College Station, TX
Sophomore, **GPA: 4.0**
Dublin High School, Dublin CA
GPA: 3.53

August 2025 – Present

August 2021 – June 2025

Experience

TwelveLabs, Software Engineering Intern — Agent Security & Internal Tools

February 2026 – June 2026

- Returned for a second internship term with a dedicated focus on agent security and applied AI architecture.
- Led development of Electra, an internal AI application extending the company's existing IT ticketing system, owning the majority of implementation in partnership with a manager while proposing and delivering additional features beyond the original scope.
- Architected Electra's agent memory system by linking every conversation, interaction, and thought into a graph-based knowledge network, first prototyped in Obsidian and later migrated to an internal graph-based memory system (GBrain), enabling persistent context and traceable reasoning across sessions.
- Designed the foundational architecture for a Hermes-style self-learning agent structure, aimed at continuous, autonomous improvement of agent behavior over time.
- Hardened the application against prompt injection, jailbreak attempts, and token-bomb exploits, implementing rate limiting, input sanitization and validation, RBAC-style auth and permissions, and anomaly detection and logging at the forefront of applied agent security.
- Shipped Electra to beta testing ahead of internship completion.

TwelveLabs, Software Engineering (DevEx) Intern

June 2025 – December 2025

- Completed a one-week pre-internship technical project (Sentinel) and presented results, leading to a formal internship offer.
- Contributed bug fixes and feature improvements to Jockey, a conversational video agent built on Marengo and Pegasus.
- Built Bastion, a real-time security dashboard for monitoring live HTTPS video streams, extending workflows beyond fixed-length video analysis.
- Designed and implemented SAGE, a full-stack tool for comparing video assets using Marengo embeddings and cosine similarity over 2-second segments, working with 1024-dimensional embedding spaces.
- Proposed and shipped Recursor, an iterative system to improve AI-generated video by analyzing outputs and refining prompts.
- Led live demos, made product design and UX decisions, and wrote technical documentation and blogs to communicate complex systems clearly.
- Extended internship from 3 to 6 months based on performance and project impact.

Blinn Propulsion Laboratory, Avionics Lead

March 15-16, 2025

- Owned avionics development end-to-end, working closely with directors to streamline workflows and improve system efficiency.
- Led design, integration, and troubleshooting of avionics systems with minimal oversight.

Chinatown Hacks, Participant

March 15-16, 2025

- Designed a real-time population density tracker using YOLO object detection and custom rasterization techniques; implemented vector-to-bitmap conversions to avoid PII leakage, ensuring ethical data handling.
- Collaborated with a partner to present to a judging panel with varied backgrounds and to sponsors from TwelveLabs, receiving an invitation for a site visit to TwelveLabs.
- Prototyped Sentinel, an AI-powered security application built on the TwelveLabs API, which was later developed into a formal internship project.

Circuit Bakers FRC, Manager and Co-Lead

August 2024 – March 2025

- Helped bring a rookie FRC team up to competition standards.
- Managed a sub-team of 10 people to work on multiple initiatives of our VEX competition bot.
- Co-lead on team finances, manager on mechanical team, programmer for software team.
- Helped my team set up and volunteer at an outreach event; effectively gathered sponsors for the team.

8 Week Summer Pre-College Studies at University of California Berkeley, Student

June 2024 – August 2024

- Completed CS61A (Structure and Interpretation of Computer Programs) on the UC Berkeley campus, building a foundation in data structures and programming fundamentals for further coursework such as CS61B.
- Studied core computer science concepts including inheritance, abstraction, and recursion alongside advanced programming techniques.
- Explored real-world applications and implications of AI and machine learning in technology through coursework and group discussion.

Volunteer Work

Maryam Library Foundation

February 2024 - Present

- Volunteered to find, pack, and donate books to a charitable cause for better education and book availability for underprivileged school children in Ghana.

Skills

- **Programming Languages:** Python, TypeScript, JavaScript, HTML, CSS
- **AI/ML:** Computer vision, object detection (YOLO), video embeddings, vector/similarity search, prompt engineering, agent memory architecture, knowledge graphs
- **Agent Security:** Prompt-injection & jailbreak defense, rate limiting, RBAC/auth, input sanitization, anomaly detection & logging
- **Systems:** Linux, macOS, Windows, Git, RESTful APIs, real-time video streams
- **Hardware:** Microcontrollers, avionics systems, soldering
- **Leadership & Communication:** Cross-functional collaboration, technical documentation, live product demos, team management