SWAYAM MEHTA

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EDUCATION

MS Computer Science	Expected May 2026
Arizona State University	4.0 GPA
BTech Computer Science and Engineering	2020 - 2024
Vellore Institute of Technology	8.65 CGPA

SKILLS

Programming	Java, Kotlin, Python, C++, JavaScript, HTML, CSS, SQL
Frameworks/Libraries	Flask, React, Next.js, D3.js, REST, Pandas, Numpy
Tools/Technologies	Linux, Git, Supabase, MongoDB, AWS, Kubernetes, Prometheus, Grafana, Falco

EXPERIENCE

Vellore Institute of Technology: *Research Intern* 01/2024 - 05/2024
- Enhanced **GAN**-based stock price prediction models by integrating additional market indices and technical indicators, achieving a **40.21%** reduction in RMSE over previous research baselines.
- Built a **Flask** app featuring **Prophet** forecasting, sentiment analysis, and a **Gemini**-powered chatbot. Demonstrated through COVID-19 market analysis that LSTM/GRU outperform GANs in highly volatile conditions.

Hewlett Packard Enterprise: *CTY Intern - High Performance Computing* 01/2023 - 06/2023
- Integrated **5** modular **Kubernetes** security tools (static analysis, compliance, threat detection, runtime security), automating vulnerability management and improving cluster security posture by **30%**.
- Deployed **Falco** with **Prometheus** and **Grafana** to simulate **150+** malicious events, building a real-time monitoring dashboard that reduced incident detection and response times by **40%**.

PROJECTS

Donna [FastAPI, LangGraph, Twilio, Livekit, Groq] Fall 2025
- Built a **multilingual AI voice agent** capable of accessing Gmail, Calendar, Slack and Zoom to autonomously manage schedules, deliver reminders via phone calls, and place calls on users' behalf using real-time speech synthesis and Twilio APIs; developed in 24 hours at Sunhacks'25.

Quizzi [Next.js, TypeScript, Supabase, D3.js, Tailwind] Summer 2025
- Developed a full-stack multiplayer trivia platform with social features, optimized for performance, security, and scalability. Reduced database egress by **70%** and eliminated **228s** of query latency by implementing Redis-style caching, request batching, and client-side data assembly.
- Hardened API infrastructure with server-side validation, rate limiting, and middleware-based request handling. Reduced session-based authentication calls from **6,187 to 50** via caching and access control mechanisms.

LLM-Assisted FMEA in SMT [Python, Langchain, HuggingFace, ChromaDB] Spring 2025
- Built a Retrieval-Augmented Generation **(RAG)** pipeline using **Gemini 2.0 Flash** and real semiconductor manufacturing (Surface Mount Technology, SMT) data to auto-generate Failure Mode and Effects Analysis (FMEA) tables, achieving **0.78–0.93** semantic similarity and **90%+** field coverage, exceeding GPT-4 academic benchmarks, and reducing manual effort by **80%+**.
- Integrated dense retrieval (bge-small-en embeddings) with **BM25** hybrid search to ground LLM outputs in IPC/JEDEC standards, boosting BLEU/ROUGE scores by **15–20%** vs baseline LLMs and enabling production-ready FMEA generation with context attribution and minimal expert edits.

cmd Play [ReactJS, Vite, TypeScript, Shell] Spring 2025
- Engineered and deployed a gamified educational platform within **24 hours** to enhance middle-schoolers' understanding of basic programming, cybersecurity and SQL; awarded **1st place at Innovation Hacks'25**.

LEADERSHIP

IEEE Computer Society - VIT: *Secretary* 01/2023 - 12/2023
- Led a cross-functional team to launch **Chota Dhobi**, a laundry service tracking app that has **24000+** active users. Streamlined user onboarding and drove **15%** month-over-month user growth through campaigns.
- Organized **HackBattle**, a 36-hour hackathon with **1,000+** participants, managing logistics, workshops, and sponsorships, resulting in a **30%** increase in engagement and funding.