Ansh Raj Suryavanshi

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Summary

Software Engineer / AI Engineer with hands-on industry experience building production machine learning and LLM-based systems. Specialized in agentic RAG, edge AI, and computer vision, with experience deploying real-time, in-vehicle systems in automotive environments.

Education

Kettering University **Flint, MI**

B.S. in Computer Science, Concentration in AI, Minor in Applied Mathematics *October 2021 - September 2025*

- **GPA:** 3.94
- **Activities:** Facility Manager at Rec Center, Volleyball Club, VP at International Club
- **Honors:** Dean's List 2021-2025, UPE CS & KME Math Honor Societies, Hack Dearborn 2023/2025 Winner(ZF's Automotive & Amazon's Financial Firewall Tracks), $10,000 MEDC Michigan Scholar Award

Experience

Hyundai Mobis **Plymouth, MI**

AI/ML Engineer (Rotational Co-op, 12 months FTE) *October 2022 - June 2025*

- Optimized a local LLM with agentic RAG for in-vehicle edge deployment, reducing inference latency by 35% and enabling a real-time, voice-based assistance system that delivers contextual cues during detected drowsiness, improving driver alertness and engagement by 20%.
- Developed an ML-based hand gesture recognition system for in-cabin controls, enabling real-time fan speed and temperature adjustments; showcased at CES 2023 and planned for deployment across 5M+ vehicles by 2025.
- Built company-wide reusable backend libraries for core math, vector, and matrix operations, eliminating 30% of redundant implementations and accelerating development across simulation and ML teams; added OpenCV, OpenGL, and Vulkan-based frameworks for image and video workloads.
- Designed and automated CI/CD pipelines for builds and simulation testing, reducing manual setup effort by 40% while improving test reliability and iteration speed.

Projects

Undergraduate Co-op Thesis

Kettering University & Hyundai Mobis *April 2025 - Present*

- Built a local LLM-based reasoning system using agentic RAG and multi-modal sensor data to enable low-latency, on-device in-cabin comfort and entertainment recommendations on a Cruden Simulator.

Givvy - Encrypted Gift Cards

Winner of Hack Dearborn 2025 (Amazon's Financial Firewall Track) *October 2025*

- Built an AES-encrypted NFC e-ink gift card platform using TypeScript and Supabase with web and POS apps, winning Hack Dearborn 2025 among 240+ participants.

Recreation Center App

Personal Project *July 2025 - September 2025*

- Built REC-IT, a full-stack React and TypeScript web app using Supabase and Google Firebase to replace manual recreation center workflows.

Gigs for Pi

Personal Project *June 2024 - December 2024*

- Built a Web3 freelancing platform using TypeScript and Supabase, reaching 20,000+ likes, a 4.78/5 rating across 37,000+ reviews, and a feature on the official Pi Network GitHub.

Road Entertainment System

Winner of Hack Dearborn 2023 (Automotive Track & ZF Challenge) *October 2023*

- Built an ML-powered in-cabin entertainment recommendation system using trip ETA and user preferences, achieving 89% accuracy and integrating Google Maps API with hand-gesture controls for in-vehicle interaction.

Skills

Programming Languages: C, C++, Python, Java, SQL, TypeScript, JavaScript, R, MATLAB
Machine Learning & AI: Machine Learning, Computer Vision, LLMs, Agentic AI, Retrieval-Augmented Generation (RAG), Model Fine-Tuning, LLM Distillation, PyTorch, TensorFlow, Scikit-Learn
Systems & Backend:Flask, REST APIs, CI/CD, Jenkins, Git, Distributed Systems, Edge AI, Agile, SDLC, Jira
Data & Databases: SQL, MongoDB, Vector Databases (ChromaDB, FAISS), Supabase, Pandas, NumPy
Cloud & Platforms: AWS, Google Cloud(GCP), Oracle, Google Firebase
Tools & Frameworks: LangChain, LangGraph, Agno, OpenCV, OpenGL, Vulkan, Streamlit