Ansh Raj Suryavanshi

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Education

Kettering University **Flint, MI**

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

- **Courses:** AI, Machine Learning, Operating Systems, Cloud Computing, Data Structures & Algorithms, Data Science, Theory of Computation, Object Oriented Programming, Statistics and Data Analysis, Information Retrieval & Data Mining, UI/UX, Cryptography, Digital Systems, Microcomputers, Cybersecurity
- **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**

Co-op / AI Engineering Intern *October 2022 - June 2025*

- Optimized a local LLM with agentic RAG for real-time drowsiness detection warning system, integrated into the Cruden simulator to enable reasoning-based alerts and efficient edge deployment using Agno, LangChain, Ollama, and Hugging Face.
- Developed an ML-based Hand Gesture Detection Model for Hyundai's in-cabin system that controls fan speed and cabin temperature, showcased at CES 2023 and set for deployment in 5M+ vehicles by 2025.
- Developed company-wide reusable backend libraries for Math, Vector and Matrix operations, along with OpenCV, OpenGL, and Vulkan-based implementations.
- Designed CI/CD automation workflow pipeline for streamlining builds and running simulation tests efficiently.

Projects

Undergraduate Co-op Thesis

Kettering University & Hyundai Mobis *April 2025 - Present*

- Designed a scalable local LLM-based reasoning system for real-time in-cabin comfort prediction and entertainment suggestions using multi-modal sensor data.
- Integrated agentic Retrieval-Augmented Generation (RAG) techniques to enable on-device inference and generate actionable, context-aware recommendations.
- Deployed on Cruden Simulator using Python and Ollama, integrating context-aware memory and vector databases for scalable backend performance.

SongChat

Personal Project *October 2025*

- Implemented a real-time chat application using TypeScript, Google Firebase Authentication, LiveKit and Spotify API that connects random users listening to the same song into shared video chatrooms for spontaneous music-based interaction.

Givvy - Encrypted Gift Cards

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

- Created Givvy, an AES-encrypted NFC e-ink gift-card solution with TypeScript and Supabase with desktop POS and web application, winning Hack Dearborn 2025 among 70 projects and 240+ participants, tackling $217M+ in annual gift-card fraud.

Recreation Center App

Personal Project *July 2025 - September 2025*

- Built REC-IT, a full-stack web app for Kettering University's Rec Center, adding in app check-in, swipe-card equipment checkouts, and events scheduling with TypeScript/React + Supabase/Firebase, replacing manual Google Sheets workflows.

Gigs for Pi

Personal Project *June 2024 - December 2024*

- Developed a Web3 freelancing platform using TypeScript and Supabase, powered by Pi cryptocurrency, enabling secure and decentralized transactions where clients post gigs and freelancers submit bids to earn and complete tasks.
- Achieved 20,000+ likes, 4.78/5 star rating, 37,000+ rating reviews and featured on the official Pi Network GitHub.

Skills

Languages: C, C++, Python, Java, SQL, TypeScript/JavaScript, React, R/R-Studio, MATLAB
Technologies: Git, OpenCV, OpenGL, Vulkan, Numpy, MongoDB, Pandas, Scikit-Learn, PyTorch, TensorFlow, Flask, Jenkins, Weka, Expo Go, LiveKit, Streamlit, Fine-tune LLMs, LLM Distillation, Generative AI, Google Gemini/ChatGPT/DeepSeek API, Agno, LangChain, LangGraph, AWS, Azure, GCP, Supabase, Fetch.ai