**Aman Zaveri**

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SKILLS

**Languages & Frameworks:** Python, Rust, JavaScript, TypeScript, React, C/C#/C++, Kotlin, Java  
**Tools & Technologies:** SQL (PostgreSQL, MySQL), MongoDB, Supabase, Redis, Prisma  
**DevOps & Cloud:** AWS (DynamoDB, Lambda, EC2, S3), Docker, Kubernetes, Git, Jenkins, Vercel

EXPERIENCES

**Software Engineering Intern May 2025 – Aug 2025**

*Ford Motor Company Waterloo, ON*

* Led end-to-end development of a route-aware fuel optimization Android widget (**Kotlin** + **Java**) for the infotainment system, with a graph-ranking algorithm that yielded 30% more fuel-optimal routes.
* Owned, design, and deployed a tire-pressure alert system in **C++** using HAL + AIDL, delivering sub-second alerts with 700ms latency in offline and edge-connectivity conditions for the Phoenix infotainment system.
* Built a **Docker** CI/CD pipeline integrating LLM-based AST analysis (GitHub Actions + sentence-transformers) to detect unit test gaps and auto-route PRs, reducing deployment reviews by 20 min per PR.
* Refactored 30+ in-vehicle data handlers using async queues and lock-free buffers to eliminate contention during CAN message bursts, sustaining stable throughput under 5K+ signal updates per second.

**Python Software Engineering Intern Sep 2024 – Dec 2024**

*Ford Motor Company Oakville, ON*

* Developed an ML proof-of-concept (**TensorFlow** + **Scikit-learn**) trained on 50K+ connectivity samples to classify network anomalies, outperforming baseline rule-based detection.
* Created Jenkins pipelines (**Docker** + **MQTT**) for automated infotainment fault validation, running 100+ tests per nightly build and eliminating manual QA loops.
* Built a Linux-based Slash test suite covering 250+ regression cases across multiple firmware releases, improving reliability in pre-production environments.
* Analyzed IPv6 connectivity logs via **Pandas**/**NumPy** to identify gaps and improve signal accuracy by 32%.

**AI Full Stack Engineering Intern Jan 2024 – Apr 2024**

*Transpire Technologies (Startup) Toronto, ON*

* Optimized **AppSync** subscription schema and **Supabase** triggers to avoid redundant payloads, trimming ~1.8 KB per message and dropping subscription traffic from 120 KB/s → 65 KB/s during peak streams.
* Delivered a real-time **React** analytics platform with **Flask**, **PostgreSQL**, and **Kubernetes**-based microservices, serving 1,000 enterprise users with auto-scaled deployment and minimal downtime.
* Automated event anomaly-detection pipelines using **Selenium** + **Vector**, enabling 3x more outreach.

PROJECTS

**Course Availability Notifier** <courseclutch.com>

* Built a fully serverless course notification platform (**FastAPI** + **AWS Lambda** + **DynamoDB**) with event-driven pipelines and **Redis** caching, achieving 99.8% uptime across 12K+ monitored courses.
* Automated course ingestion pipelines via **Selenium** and REST APIs and prototyped semantic matching via **NeuralKG** embeddings for better topic relationships.

**LLM-Powered Job Application Assistant** <github.com/amanzav/reva>

* Developed a full-stack platform in **Next.js** + **TypeScript** + **Prisma** with multi-profile management.
* Engineered an MCP-based multi-agent system with **Zod**-validated feedbackand **LangChain** workflows with **OpenAI** embeddings for context-aware resume–job matching, achieving 94% accuracy on job matches.

EDUCATION

**University of Waterloo** Sep 2023 – Apr 2028

*BASc in Mechatronics Engineering, AI Specialization (GPA: 85%)*

Relevant Courses: Data Structures & Algorithms, Digital Logic and Microcontrollers, Operating Systems