Ali Raza

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Education

McMaster University **Apr 2026**
Bachelor of Computer Engineering & Management (CO-OP)
- Recipient of the 2020 McMaster Entrance Honor Scholar Award

Skills

Languages: TypeScript, JavaScript, Python, C++, C, Verilog, Java, SQL
Frameworks & Libraries: React, React Native, Expo, Next.js, Tailwind CSS, Zustand, Zod, NumPy, Pandas
Infrastructure & Tools: PostgreSQL, Supabase, AWS S3, Upstash Redis, GitHub Actions, Vercel, Docker, Sentry, PostHog, Git
AI & ML: OpenAI API, Anthropic API, PyTorch, Agent Orchestration

Work Experience

Technical Founder | *Famzy Inc.* | Mississauga, ON **Nov 2025 – Present**
- Built a TypeScript-based family management superapp with an Expo/React Native mobile app backed by a Next.js backend.
- Developed a feature suite spanning shared calendars, live location sharing, chat, tasks, lists, media galleries, and documents, engineering recurring scheduling, background geofencing alerts, realtime/offline sync, and signed upload pipelines with Google and Outlook integrations.
- Designed and deployed Ruby, an in-app AI agent powered by the Anthropic API, handling natural language family queries and contextual responses through custom native tooling with CRUD capabilities across every feature in Famzy.
- Led a team of 4 while owning product direction, UI/UX, feature design, programming, and go-to-market work, executing on priorities.

B2C Solar Sales Consultant | *Freedom Solar Pros* | Houston, TX **May 2025 – Aug 2025**
- Closed 13 high-ticket residential solar agreements in 45 days through door-to-door outreach, territory planning, and consistent follow-up.
- Owned the full sales cycle from prospecting, discovery, and utility-bill analysis through proposal presentation, objection handling, contract execution, and handoff to site survey and operations while averaging 100 doors per day across Houston neighborhoods.
- Partnered with operations teams to guide signed deals into install scheduling and permitting, helping keep post-sale execution clean.

Data Analyst Intern | *Vanguard Financial* | Mississauga, ON **May 2023 – Aug 2023**
- Led development of a full-stack payroll processing system standardizing data inflow and export pipelines, eliminating manual entry, reducing processing time, and accelerating reconciliation across 30+ business client accounts.
- Automated bank statement reconciliation via Python, processing ~1,000 transactions/week at >99% accuracy; contributed to a SQL database overhaul including full schema redesign, query optimization, and data migration.

Projects

Franky - Autonomous RL Agent | *Python, PyTorch, RLGym, NumPy* **Feb 2024 – Jun 2024**
- Built an autonomous Rocket League bot using RLGym, engineering precise behaviors for positioning, velocity management, and aerial mechanics, drawing on strategic patterns developed through top-0.1% competitive gameplay experience.
- Applied deep reinforcement learning via PyTorch using a custom reward shaping function and state-action logic, enabling real-time adaptive decision making and consistent bot performance across varied and unpredictable in-game scenarios.

Ivy - AI Study Platform | *Next.js, TypeScript, React, OpenAI API, Tailwind CSS* **Sep 2025 – Apr 2026**
- Built an AI ingestion pipeline that converts uploaded PDF/TXT course material into structured courses, tasks, deadlines, flashcards, and quizzes, feeding a unified study workspace for dashboard, calendar, task, and Pomodoro planning.
- Engineered authenticated Next.js and Supabase flows for bootstrap data loading, typed persistence, and bring-your-own-key OpenAI support, plus resume analysis and cover-letter generation features for student career workflows.

Software Defined Radio | *Linux, C++, Python, Gnuplot* **Feb 2024 – Apr 2024**
- Developed DSP algorithms for mono/stereo FM demodulation and RDS data processing as part of a four-person team, implemented in C++ on a Raspberry Pi and validated against Python reference implementations using Gnuplot visualizations.
- Improved pipeline data throughput through multithreading and stage-level profiling to satisfy strict real-time latency constraints, optimizing each processing stage within the Linux ecosystem to meet system performance requirements.

Hardware-based Image Decompressor | *Verilog, Quartus Prime, ModelSim* **Oct 2023 – Dec 2023**
- Designed a real-time Verilog FSM decompression pipeline performing YUV-to-RGB color space conversion within tight hardware resource and timing budgets, functionally verified through ModelSim simulation on an Altera DE2-115 FPGA.
- Managed end-to-end UART data flow for SRAM decoding and storage, directing the decoded output stream to a VGA controller for real-time monitor display while resolving memory addressing, bandwidth, and pipeline timing constraints.