Ibrahim Al Omran

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Education

McMaster University   *Expected 2027*
B.Eng, Software Engineering   Hamilton, ON

Technical Skills

Languages: HIP/CUDA, C/C++, Java, JavaScript, Python, Verilog, Bash, HTML/CSS, TypeScript
Technologies: PyTorch, React, Node.js, Firebase, Prisma, Supabase, Tailwind CSS, Git, FastAPI, Next.js

Experience

AMD   *Jan 2026 – Present*
System Architect Intern

– Supported **pre-silicon** development of new chip architecture through performance analysis.
– Wrote kernels using **HIP** and **PyTorch** to microbenchmark architectural behavior and validate performance.
– Built, integrated, and optimized **deep learning** ML models from **ONNX** into microbenchmark workflows to evaluate model executions on-chip.

Team Projects

CDL Career Mode (Next.js, Supabase, FastAPI) - *Team Project*   App

– Developed an esports management simulator modeling Call of Duty League team dynamics, player ratings, and contract markets.
– Implemented Elo-based progression and **mode-specific telemetry** (Hardpoint, Control, S&D) to generate realistic player stats.
– Engineered Supabase schema for real-time simulation storage, reducing cold-start latency by 75% and enabling thousands of dynamic stat updates per run.

Resume Matcher (Next.js, FastAPI, LLaMA 3) - *Team Project*   App — Repo

– Created an AI-powered resume optimizer that matches resume to job postings and auto-generates tailored **LaTeX** edits.
– Utilized **Groq LLaMA 3 + FastAPI** for contextual analysis, improving match quality by 40%.
– Integrated PDF parsing and **LaTeX** compilation for seamless resume regeneration.

Rescue Drone Mission (Java) - *McMaster University*   Repo

– Created a simulated drone exploration system for islands with safe navigation and return-home logic.
– Applied robust **OOP design patterns** and error handling; contributed 30% of code in 3-member team.
– Practiced **Agile methodologies** using Kanban boards to coordinate tasks and ensure iterative progress.

Personal Projects

Schedules (TypeScript, Supabase) - *Personal Project*   App — Repo

– Built an app that parses **XLSX** schedules to display shifts, coworkers, and sync with **Google Calendar**.
– Adopted **Prisma** and **Supabase** for reliable storage; used actively by 15+ coworkers at Crocs Inc.
– Enhanced workplace productivity by delivering accurate, automated shift visualization.

Autonomous Recycling System (Python) - *McMaster University*   Repo

– Programmed a bottle-sorting system using weight/color sensors and robotic arms in **QLabs** simulation.
– Filtered noisy input to achieve 90%+ classification accuracy across 50+ rigorous tests.
– Designed robust sensor-control pipelines that elevated system precision and reliability.

Dynamic Tic Tac Toe (Java) - *McMaster University*   Repo

– Engineered a scalable Tic Tac Toe with variable board sizes and dynamic win conditions.
– Implemented modular **OOP** game logic and a responsive interactive UI.
– Delivered gameplay flexibility through an adaptive rules engine for diverse board configurations.

Awards

McMaster Award of Excellence
Highest Average in Grade 11 and 12 Mathematics