

Feras Mahmood

Software Engineer — Applied AI & Backend

Oakville, ON | technocratz979@gmail.com
linkedin.com/in/feras-mahmood | github.com/Ferasman979 | ferasmahmood.com

EXPERIENCE

Research Software Engineer Sheridan College

Oct 2025 - Present
Oakville, ON

- Built an LLM agent for a clinical documentation workflow using **LangGraph** and **Amazon Bedrock**, with **PostgreSQL** checkpointing so runs can pause for review and resume; with a human review step, end-to-end extraction accuracy exceeded **95%**.
- Developed a RAG-based search tool for **10k+ users**: a **React/TypeScript** frontend with streaming answers and source citations, backed by a Python retrieval service on **pgvector**.
- Fine-tuned **PyTorch** NLP models on an **NVIDIA DGX Station** and deployed them to **SageMaker** for real-time inference.
- Set up **Langfuse** tracing with **Presidio** PII redaction, and **RAGAS** checks to compare accuracy, latency, and hallucination rates across **3** model upgrades.
- Wrote **pytest** unit and integration tests for PII handling, and added lint and **tfsec** checks to the **Terraform** deployment pipeline, catching **2** issues before release.

Data Analyst Co-op Paradigm Electronics Inc.

May 2024 - Aug 2025
Mississauga, ON

- Built **Power BI** KPI dashboards for Finance and Sales with automated anomaly detection that surfaced **\$15,000 CAD** in misplaced costs, which were recovered.
- Built **Airflow** ETL pipelines and SQL transformations to automate daily, MTD, and YTD sales reports, replacing manual spreadsheet consolidation across regional teams.
- Developed an internal **Node.js/Express** REST API with JWT authentication, role-based access, and rate limiting, using AWS RDS **PostgreSQL** and **CloudFront**.
- Set up **GitHub Actions** CI/CD with Docker builds so the team could release consistently.

TECHNICAL SKILLS

Languages: Python, SQL, TypeScript, JavaScript
AI / ML: LangGraph, Amazon Bedrock, RAG, pgvector, PyTorch, SageMaker, Langfuse
Backend & Data: PostgreSQL, Node.js/Express, React, Airflow, Power BI, Databricks
Cloud & DevOps: AWS, GCP (Cloud Run), Docker, Terraform, GitHub Actions

EDUCATION

Bachelor of Computer Science (Data Analytics) Sheridan College

Apr 2026
Oakville, ON

- 1st Place**, Capstone Showcase: built a Python (**PyTorch**, **OpenCV**) pipeline for classification and anomaly detection on biometric time-series data, deployed on Cloud Run.

CERTIFICATIONS

CKA (Certified Kubernetes Administrator) — In Progress