

# Feras Mahmood

## AI Engineer

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### EXPERIENCE

#### Sheridan College

Oct 2025 – PRESENT

#### AI Software Developer — Contract

Oakville, Ontario

- **Agentic AI & Orchestration:** Developed stateful **LangGraph** ReAct agents for a clinical documentation workflow, **Amazon Bedrock** structured extraction with **Pydantic** validation, and **PostgreSQL** checkpointing for interrupt-and-resume flows; a human-in-the-loop review step raised extraction accuracy above **95%**.
- **RAG & NLP Deployment:** Built a **LlamaIndex** RAG pipeline over **pgvector** for an enterprise search platform used by **10k+** users, and fine-tuned **PyTorch** NLP models deployed to **SageMaker** for real-time inference.
- **LLM Observability & Data Privacy:** Set up self-hosted **Langfuse v3** tracing with **Microsoft Presidio** PII redaction on captured prompts and outputs, plus **RAGAS** regression checks tracking agent accuracy, latency, and hallucination drift across **3 model upgrades**.
- **Cloud Infrastructure & Deployment:** Deployed the AI services on **ECS Fargate** behind an **ALB** with **CloudFront/S3** using **Terraform** and **GitHub Actions**, adding **EventBridge** scale-to-zero that cut infra cost **30%**.

#### Paradigm Electronics Inc.

May 2024 – Aug 2025

#### Data Analyst — Co-op

Mississauga, ON

- **Data Pipeline Optimization & Automation:** Engineered **Airflow** ETL pipelines and complex SQL transformations automating daily, MTD, and YTD reporting for global sales operations, replacing manual spreadsheet consolidation across regional teams.
- **Cloud Application Engineering:** Built and deployed a **Node.js/Express** REST API with **JWT** authentication, **RBAC**, and rate limiting, backed by managed **RDS PostgreSQL** with SSL and served globally through **CloudFront** with Origin Access Control.
- **DevOps & CI/CD:** Containerized services with **Docker** and automated build and deploy through **GitHub Actions**, giving the team repeatable releases instead of manual server updates.
- **Business Intelligence & Financial Impact:** Designed analytics data models and **Power BI** KPI dashboards for Finance and Sales, incorporating automated anomaly detection that directly led to the recovery of **\$15,000 CAD** in misplaced costs.

### TECHNICAL SKILLS

**Languages:** Python, SQL, JavaScript, TypeScript

**AI & MLOps:** LangGraph, LlamaIndex, Amazon Bedrock, RAG, pgvector, Vertex AI, AWS SageMaker, MLflow, PyTorch, HuggingFace, RAGAS, LangSmith

**Cloud & Infrastructure:** AWS, Docker, Terraform, GitHub Actions, Apache Airflow, Databricks, dbt

### EDUCATION

#### Sheridan College

#### Bachelor's Degree in CS (Data Analytics)

Oakville, ON

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

### CERTIFICATIONS

**Databricks Data Engineer Associate** — In Progress