

# Feras Mahmood

## AI/ML Developer

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### EXPERIENCE

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#### Sheridan College, Centre of Applied AI AI/ML Developer – Research Assistantship

Oct 2025 – PRESENT  
*Oakville, Ontario*

- **AI Agents & RAG:** Built multi-step agentic workflows (CrewAI, LangGraph, LlamaIndex) with tool-use (web scraping, PDF parsing) and RAG retrieval; enforced output guardrails (schema validation, confidence thresholding) to block hallucinated responses, serving 10k+ users.
- **LLM Evaluation & Vector Search:** Shipped FastAPI microservices for end-to-end LLM features; migrated to pgvector, cutting p95 retrieval latency by 78%; integrated DeepEval for continuous production evaluation of LLM faithfulness and answer relevancy.
- **Kubernetes Security & Data Pipelines:** Architected scalable data schemas, ingestion pipelines, and automated validation workflows to detect misconfigurations and vulnerabilities in Helm charts prior to Kubernetes cluster deployment.
- **Multimodal AI Infrastructure:** Led a cross-functional team to deliver v2 of the multimodal platform, integrating AWS SageMaker and SQS for resilient model chaining behind a unified GPU endpoint to guarantee reliable inference at scale.
- **On-Prem AI & Observability:** Built an on-prem AI agent with a custom MCP server replacing physical remote controls for optometric devices; enforced safety guardrails and end-to-end observability for clinical use.

#### Paradigm Electronics Inc. Data Analyst/Developer – Co-op

May 2024 – Aug 2025  
*Mississauga, ON*

- **Data Pipeline Engineering:** Optimized Airflow ETL/ELT ingestion DAGs, achieving a runtime reduction from **9 minutes to 3 minutes** through parallel processing for automated daily, monthly, and yearly reporting for Global Sales Operations.
- **Business Intelligence & Financial Impact:** Developed and deployed Key Performance Indicator (KPI) dashboards using PowerBI for Production and Engineering teams, highlighting products with the highest quality risks to drive operational efficiency and reduce defect-related costs.
- **Analytics Data Modelling:** Modelled and documented production-grade dbt pipelines on BigQuery, enforcing schema tests and data quality checks that reduced data incidents by 35% and improved stakeholder confidence in KPI reporting for Sales and Engineering teams.
- **Cloud Infrastructure & Automation:** Deployed Node.js/EJS apps on AWS ECS with an Nginx reverse proxy, achieving **99.5% uptime**; implemented parallel Docker builds in GitHub Actions CI/CD, significantly reducing pipeline execution time compared to sequential builds.

### TECHNICAL SKILLS

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**Languages & Frameworks:** Python, Java, SQL, C++, JavaScript, Scala, PyTorch, TensorFlow, HuggingFace Transformers, LangChain, CrewAI, LlamaIndex, FastAPI

**Cloud & ML Infra:** AWS (SageMaker, EKS, ECS), GCP (BigQuery, Cloud Composer), Azure (Data Factory)

**DevOps & Infra:** Kubernetes, OpenShift, Helm, Argo Workflows, Terraform, Jenkins, GitHub Actions

**Observability:** Prometheus, Grafana, Tempo, Datadog, CloudWatch, Azure Monitor

**Databases & Big Data:** PostgreSQL, Redis, BigQuery, Databricks, Kafka Streams, Pub/Sub, DynamoDB

### EDUCATION

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

Sep 2021 – Apr 2026  
*Oakville, ON*

- **Achievements:** Secured First Place in Capstone Showcase, recognized for innovation, technical excellence, and real-world impact in AI-powered sports analytics