

MOEEN BAGHERI

AI Engineer — Toronto, Canada

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SUMMARY

AI Engineer with a **Master of Science in Data Science and Analytics** and 7+ years of experience building AI-driven software systems. Lead engineer of **FOX Talk2Data**, an AI data assistant used by over **3000** users, recognized with **BASF's 2025 Digital Award**. Skilled in **LLM agent design**, **prompt engineering**, and **cloud deployment**, with a strong background in **data science** and **machine learning**. Passionate about leveraging AI to drive business impact and innovation.

TECHNICAL SKILLS

AI & ML: LLM agent & tool design — Prompt engineering & chaining — Retrieval-Augmented Generation (RAG) — Deep learning (PyTorch, TensorFlow) — NLP, computer vision, time series — Finetuning & transfer learning

MLOps & Cloud: Databricks, MLflow — Azure, Azure DevOps — Docker, Kubernetes — CI/CD — SQL & data engineering

Programming: Python — JavaScript — SQL — Java — C# — R — Git — Bash

Core Competencies: LLM Agent Design & Development — Technical leadership & mentorship — Fullstack & API development — Evaluation frameworks & testing — Stakeholder communication

EXPERIENCE

Senior AI Engineer

Oct 2024 — Present

BASF Canada — Toronto, ON, Canada

- **LLM Agent for Data Analytics:** Led the development of *FOX Talk2Data*, BASF's flagship AI data assistant used by over **3000** users. Winner of **BASF's 2025 Digital Award** for its innovation, impact, and enterprise-wide adoption.
- **Natural Language to SQL:** Designed an agent using *LangChain/LangGraph* that generates and executes *Databricks* SQL queries from a natural language question, and analyzes the results using *RAG* on market trends and management report documentations, while enforcing custom business rules, and resolving ambiguities with tools.
- **Dynamic Data and Knowledge:** Implemented configurable data sources, custom business rules, and *RAG* knowledge bases, enabling easy and quick onboarding of new operating divisions.
- **Evaluation:** Built a custom evaluation framework with automated tests to track SQL correctness, latency, and regression-free releases, ensuring stable production behavior.

Generative AI Engineer

Sep 2023 — Oct 2024

YT Copilot — Toronto, ON, Canada

- **YouTube LLM Agent:** Developed a Chrome extension that skips promotional segments, summarizes videos, and enables semantic search over YouTube content using Generative AI.
- **Context Window Management:** Used a *MapReduce*-style chunking and aggregation pipeline to efficiently handle LLM context limitations for long YouTube videos.
- **System Design & Deployment:** Built a JavaScript-based frontend integrated with YouTube's UI and deployed a Flask / PostgreSQL backend on *Azure Kubernetes Service (AKS)* with *Docker*, plus *Ory Kratos* authentication and *Stripe* billing.

Machine Learning Engineer

Oct 2021 — Jul 2023

Super GeoAI Technology Inc. — Toronto, ON, Canada

- **Computer Vision:** Managed a team of 7+ engineers to develop object detection models in *PyTorch* and *TensorFlow* for seed grading and crop yield estimation, improving partner efficiency by over **80%** compared to manual operations.
- **Modeling & Team Leadership:** Applied transfer learning and hyperparameter optimization (COCO, Pascal VOC, Ray Tune) and guided the team through code reviews, hiring, and technical standards.

Machine Learning Engineer

Jul 2021 — Jan 2022

IBM — Toronto, ON, Canada

- **NLP:** Built and optimized *BERT*-based models in *PyTorch* and *HuggingFace* to detect conflicting and duplicate requirements in software specification documents, improving F1-score by **20%**.

Quantitative Data Scientist

Jun 2014 — Aug 2019

Electronica AI — Toronto, ON, Canada

- **Trading Algorithms:** Collaborated with engineers to design and implement high-frequency trading algorithms handling daily order flows of **\$10M+**, using machine learning models in Python, R, C#, and SQL.

EDUCATION

Master of Science: Data Science and Analytics

2020

Ryerson University — Toronto, ON, Canada

GPA: 4.33/4.33

Honours Bachelor of Science: Bioinformatics Specialist; Computer Science Major

2017

University of Toronto — Toronto, ON, Canada