

Karina Moffat

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EDUCATION

Queen's University

2025

Bachelor of Applied Science in Computer Engineering (AI Stream)

Kingston, Canada

- Queen's University Excellence Scholarship (94%+ average), 3x Dean's Honours, Rewrite the Code
- Courses (A+): Artificial Intelligence, Machine Learning, Data Analytics & AI, Data Structures & Algorithms

PROFESSIONAL EXPERIENCE

Software Engineer (AI/ML)

Jan. 2026 – Present

Ernst & Young

Toronto, Canada

- Building an AI video analytics product with **multi-modal models**, reducing manual video review time by **65%**
- Orchestrated **5 agents** with **LangGraph** to coordinate summarization, alerts, search, output validation, and report generation to improve video analysis accuracy by **85%**, integrating with **OpenTelemetry** for observability
- Designed cost-optimization logic for the video ingestion pipeline using **FastAPI** and **OpenCV** object detection to filter out irrelevant video segments before **LLM inference**, lowering token costs by **\$46,000/year**
- Developed **model evaluation benchmarks**, using **human review** and **LLM-as-a-judge** scoring to select domain-specific models, improving output quality by **30%**

Software Engineer (AI/ML)

June – Dec. 2025

OpenJustice – Legal AI

Remote

- Engineered a full-stack, no-code AI platform using **React**, **TypeScript**, and **Next.js**, orchestrating **multi-LLM** workflows and **REST APIs** to mimic lawyer reasoning, cutting lawyer analysis time by **75%**
- Constructed the **RAG** system using **Python**, **Selenium**, and a **vector database (Qdrant)**, scraping **200+** documents and improving embedding accuracy by **40%** through a custom chunking and extraction framework
- Implemented **RLHF** for model fine-tuning, using scoring **heuristics** to refine outputs, resulting in responses that were **80%** more aligned to lawyer tone and language

Software Engineer

May – Aug. 2023

Bell Canada

Toronto, Canada

- Built production-ready features with **Golang** for Bell's **WAF** to protect **20M** daily users from cyberattacks
- Increased detection accuracy by **20%** by creating a geolocation filter, using **MongoDB** and **Postman** to extract **70+** IP addresses from incoming requests and mapping them to corresponding cities
- Refactored the monolithic WAF into microservices, containerizing components and orchestrating them using **Docker**, **Kubernetes**, **Elasticsearch**, and **Kafka**, reducing system-wide failures by **30%**

Quality Assurance Tester

May – Aug. 2022

- Automated a **120+** regression test suite using **Apache Groovy**, saving **3+ hours/week** of engineering time

EXTRACURRICULAR EXPERIENCE

Software Lead

Mar. 2023 – May 2025

CREO Solutions – Canada's Top Student Consultancy

Kingston, Canada

- Created a chatbot using **webhooks**, **OCR**, and **RAG**, reducing hallucinations by **60%** with grounded responses
- Enabled multilingual input using **speech-to-text models** in English and Spanish, serving **200+** more customers

Computer Vision Model

Dec. 2024

Semantic Segmentation, Knowledge Distillation

Kingston, Canada

- Engineered a pixel-wise image classification model using **PyTorch**, trained on a **GPU** to save **6 hours/day**, and applied knowledge distillation for model compression, achieving **87%** mIoU on image classification tasks

TECHNICAL SKILLS

Languages: Python, Go, SQL, CUDA, C/C++, JavaScript/TypeScript, Bash, Java, HTML/CSS, Assembly, Verilog

Frameworks: LangGraph/LangChain, PyTorch, TensorFlow, OpenTelemetry, OpenCV, FastAPI, Scikit-Learn

Tools: Kubernetes, Docker, Kafka, Redis, Qdrant, Pinecone, Azure Cloud, Prometheus, Terraform, Claude Code