

Karina Moffat

karinamoffat.com | karina.moffat@queensu.ca | linkedin.com/in/karinamoffat | github.com/karinamoffat

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+): Data Structures & Algorithms, Artificial Intelligence, Machine Learning, Data Analytics & AI

PROFESSIONAL EXPERIENCE

Software Engineer (AI/ML)

Jan. 2026 – Present

Ernst & Young

Toronto, Canada

- Engineering an AI video analytics product with **Python** in production, cutting manual video review time by **65%**
- Programmed an **event-driven** video analysis pipeline for real time processing, using **Kafka**, **Redis**, and **Elasticsearch** to improve video analysis accuracy by **85%**, and added **Prometheus** and **Grafana** for telemetry
- Designed cost-optimization logic for the video ingestion pipeline using **FastAPI** and **OpenCV** object detection to filter out irrelevant video segments before **LLM** and **VLM inference**, lowering token costs by **\$46,000/year**
- Provisioned **Azure cloud infrastructure** for containerized backend services using **Docker**, **Kubernetes**, **Terraform**, and **CI/CD** pipelines, automating deployments and reducing manual release effort by **70%**

Software Engineer (AI/ML)

June – Dec. 2025

OpenJustice – Legal AI

Remote

- Built a full-stack, no-code AI platform using **React**, **TypeScript**, and **Node.js**, orchestrating multi-step **LLM** workflows and **REST APIs** to mimic lawyer reasoning, cutting lawyer analysis time by **75%**
- Created **PostgreSQL** schemas and workflow state management with **Drizzle ORM**, storing user queries and intermediate results of up to **100-step** legal workflows for accurate step-by-step generation
- Implemented enterprise authentication and role-based access control with **4** permission levels, using **Keycloak** and **SAML** to secure client data and sensitive workflows for **5** organizations

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

Competitor, 3rd Place

Jan. 2023

Queen's Engineering Competition – Programming

Kingston, Canada

- Developed a sports analytics platform using the **Spotify API** to suggest games based on behavioural patterns
- Integrated real-time sports data and friend activity using **REST APIs** and **Firebase**, retaining **10%** more users

TECHNICAL SKILLS

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

Frameworks: React, Node.js, FastAPI, OpenCV, Azure Cloud Services, Scikit-Learn

Tools: Redis, Kafka, Git, MongoDB, PostgreSQL, Cassandra, Kubernetes, Terraform, Docker, Claude Code