

Pooria Roy

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EDUCATION

Queen's University

Kingston, Canada

BSc Computer Science, Minors in Economics & Mathematics (GPA: 4.1/4.3)

Sep. 2024 – Apr. 2028

- Awarded the 2024 Schulich Leader Scholarship, a **\$100,000** STEM award for entrepreneurial high school graduates in Canada, given to **100 of 300,000** applicants.

WORK EXPERIENCE

Department of National Defence

Ottawa, Canada

Junior AI Policy Analyst (Contract, Full-time)

Jun. 2026 – Aug. 2026

- Designed a **local RAG** dashboard tracking current AI initiatives in defense, using on-device lightweight embeddings and vector database inference to process sensitive documents.
- Developed an interactive data-entry platform with **Power Apps** and sovereign LLMs, improving submission rates by **20%** over standard forms.
- Presented on LLM infrastructure and embedding models to inform internal and external policy decisions; assessed LLM safety developments and the viability of cyber-focused models, separating capability from marketing claims.
- Documented large codebases, mapped implemented code to requirements documents, and reported security vulnerabilities.

Université du Québec

Remote

Researcher (Part-time)

Jun. 2025 – Apr. 2026

- Second author of WildCode: An Empirical Analysis of Code Generated by ChatGPT, published at the **FPS25** security conference in France.
- Ran static analysis on LLM-generated code with **CodeQL** and **OpenGrep** to detect vulnerabilities.

(NSERC) Royal Military College of Canada

Kingston, Canada

Researcher (Full-time)

May 2025 – Aug. 2025

- Built BLADE, an **LLM-free bug localization pipeline** using AST chunking and embedding similarity, reaching **84% Top-10 accuracy** across 463 bugs, within 3% of state-of-the-art.
- Raised automated bug repair accuracy to **72%** by extracting targeted function call trees from error tracebacks, reducing irrelevant LLM context.

PROJECTS

- Qflow:** Course scheduling platform for Queen's University used by **4,900 students (about 1 in 4 undergraduates)**. Generates conflict-free timetables, checks prerequisites and corequisites, and accounts for travel time between main and West Campus. Featured in The Queen's Journal.
- TinyNav:** Authored an autonomous ESP32 navigation system running a lightweight CNN within **1MB of RAM**.
- Mechanistic Interpretability:** Helped develop a method that tunes SAE features to improve harmful-prompt refusal rates by **50%** without the utility loss seen with SFT.
- Battlebots:** Designed, built, and tested a 1lb combat robot ("Stability") using 3D printing and CNC milling; won "Best Death" at a regional tournament.

HACKATHONS

- 3rd place, QHacks 2026:** Willow, a voice-activated browser for elderly users, delivered on a USB Rubber Ducky device.
- 2nd place, QHacks 2025:** TLDR.AI, an LLM-powered Chrome extension that analyzes Terms of Service for risk.

SKILLS

LLMs, Research, **Python**, NodeJS, PHP, Java, **Frontend**, **Backend**, TypeScript, React, NextJS, Reinforcement learning, Debugging, Teaching, Computer networking, **Linux**, **Server management**.