MIRAN QARACHATANI

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Mississauga, ON — LinkedIn — GitHub — Portfolio
Canadian Citizen

EDUCATION

Honors Bachelor of Science in Computer Science – *Lakehead University*   **Sep. 2022 – May 2026**
*Orillia, ON – **Major GPA: 95%** – President's List (All Semesters)*

PROFESSIONAL EXPERIENCE

Junior Developer – Cybersecurity & AI – *White Tuque*   **May 2025 – Present**
Barrie, ON (part-time)

- Building a RAG pipeline using **FastAPI** and **Azure AI**, implementing an event-driven **ETL sync mechanism** to generate embeddings from SQL to **MongoDB Atlas**.
- Developed and deployed **serverless Azure Functions** for **Monday.com CRM** integration, automating deal validation, field verification, and multi-year renewal deal creation, reducing manual entry times by **60%**
- Rebuilt authentication layer migrating from ASP.NET Identity to **Auth0 OAuth** within a multi-tenant architecture, ensuring zero data loss and enhanced security compliance for enterprise clients.

AI/Security Research Intern – *Polytechnique Montréal*   **May 2025 – Aug. 2025**
Montréal, QC

- Developed an automated vulnerability repair framework for C/C++ using **LLMs** and **RAG**, achieving a 95% successful patch rate by designing a novel **Tree-sitter** parsing pipeline for function embeddings.
- Created a multi-agent architecture (Detector, Critic, Repair agents) and validated results using an LLM-as-judge methodology improving patch quality by 20+ points over baseline models.

Software Developer (Research & Innovation) – *Georgian College*   **Jan. 2024 – Apr. 2025**
Barrie, ON (part-time)

- Developed a full-stack client portal using ASP.NET MVC with a complex 40+ entity SQL schema, following Agile development practices and full SDLC from requirements gathering through deployment.

Data & Analytics Technician – *Regional Municipality of York*   **Apr. 2023 – Sep. 2023**
Newmarket, ON

- Automated KPI reporting pipelines using **SQL** and Power BI, reducing report preparation times by 50% for community & health services.

TECHNICAL SKILLS

Languages: C#, Python, Java, JavaScript/TypeScript, SQL, GraphQL, Bash
Frameworks & Libraries: .NET Core, ASP.NET, React, Node.js, FastAPI, PyTorch, LangChain
Cloud & Tools: Azure (Functions, AI), Docker, MongoDB, Git, CI/CD, Auth0, Power BI

PROJECTS & HACKATHONS

Arctic Overwatch: SAR Satellite AI | *2nd Place, Icebreaker Defence Hackathon*   Oct. 2025
- Secured **2nd Place** by creating an **CNN pipeline** to detect vessel wakes in Synthetic Aperture Radar (SAR) imagery, overcoming high-noise data constraints in Arctic environments.

NASA Space Apps Challenge | *2x Global Nominee (Top Tier of 80k+ Participants)*   2024 – 2025
- Selected as a Global Nominee in consecutive years for developing **Project Impact** and **Project Orbit**—interactive space education apps built with **React, Three.js,** and **NASA APIs**.

LLM Agent-Based Zombie Simulation – *Python, PyTorch, Phi-4*   Oct. 2024
- Simulated emergent behaviors (planning, coordination) in a multi-agent grid world by fine-tuning **Microsoft Phi-4** prompts and optimizing inference speeds with **PyTorch**.

ML Darknet Traffic Detection – *Python, Scikit-learn*   Dec. 2024
- Achieved **98% classification accuracy** on encrypted traffic (Tor/VPN) by implementing a **SMOTE-balanced pipeline** and reducing feature dimensionality (89 to 10) for real-time inference.

Additional Wins: 3rd Place Acoustic Drone Detection | 2nd Place AutoHack | 1st Place AI Hack 2.0 | 1st Place VR Hack