

Elias Mahdi

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EDUCATION

• University of Guelph

*Honours Bachelor of Computing - Software Engineering Co-op
Cybersecurity Specialization
Cumulative Average: 85%*

Guelph, ON, Canada

Sep 2025 - Apr 2030 (Expected)

TECHNICAL SKILLS

- **Languages:** Python, C, Java, JavaScript, TypeScript, HTML, CSS
- **Frameworks/Libraries:** React, Next.js, FastAPI, Node.js, Vite, SQLAlchemy
- **Tools/Platforms:** Git, GitHub, Linux, Docker, Vercel, Render, Pinecone, OpenSSL
- **AI/Data:** RAG, Vector Search, Semantic Search, Embeddings, Gemini API, Tavily API

EXPERIENCE

Kampy Designs

Web Developer & Technical Operations | kampydesigns.com

Ontario, Canada

Feb 2021 - Jun 2025

- Built and launched a responsive e-commerce website using HTML, CSS, and JavaScript from February 2023 to August 2024, improving product discovery across desktop and mobile devices.
- Contributed to a 40% increase in online customer inquiries and supported more than two years of sustained website operation for the jewelry business.
- Managed technical operations, client accounts, and customer support while streamlining service workflows and reducing ticket-resolution time by 40%.

PROJECTS

• Verivance - Explainable RAG Search Engine | Jul 2026 - Present | [GitHub](#) | [Live](#)

- Built and deployed a full-stack RAG search engine that retrieves and ranks evidence before generating grounded answers with source citations, inspectable passages, retrieval telemetry, persistent sessions, and refusal handling.
- Designed a two-stage retrieval pipeline using Pinecone for indexed semantic search and Tavily for live-web fallback; developed a FastAPI backend and Next.js/React/TypeScript frontend deployed through Render and Vercel.
- Built retrieval and end-to-end evaluation tooling for ranking quality, refusals, latency, and adversarial prompts; achieved the expected source at Rank 1 for all 10 curated benchmark queries.

• Lattix - Post-Quantum Cryptography Migration Lab | Aug 2026 - Present | [GitHub](#) | [Live](#)

- Building an OpenSSL 3.5+ C backend that runs ML-KEM-768 key encapsulation, ML-DSA-65 digital signatures, and AES-256-GCM authenticated encryption for hands-on post-quantum migration testing.
- Exposes cryptographic operations through a Node.js/TypeScript API so users can compare classical and post-quantum workflows while inspecting key generation, encapsulation, signing, verification, and encryption behavior.
- Prototyped a React/TypeScript/Vite dashboard with Classical, Post-Quantum, and Hybrid modes plus dedicated key-exchange, signing, encryption, and benchmark workflows backed by a configurable API endpoint.

• Flowestra - Gamified Academic Planner - Google Developer Groups Hacks 2026 | May 2026 | [GitHub](#) | [Video Demo](#)

- Built a gamified academic planner that synchronizes assignments, grades, and calendar events from Brightspace, converts coursework into prioritized quests, and rewards completed work with XP, levels, and streaks.
- Developed a React/TypeScript dashboard, a Chrome Manifest V3 extension for supported Brightspace pages, and a FastAPI/SQLAlchemy backend for academic state, progress calculations, and application APIs.
- Integrated Google OAuth and JWT-based sessions with deduplicated Chrome local storage and periodic backend synchronization for assignments, grades, completion status, XP, and streak data.

AWARDS & ACHIEVEMENTS

- **Dean's List - University of Guelph, 2025-2026**
- **Google Developer Groups Hacks 2026 - 4th Place out of 49 Teams, 24-hour Hackathon | [GitHub](#)**