

Magdi Hajjaj

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Education

Carleton University

Bachelor of Engineering (B.Eng.), Software Engineering, 3rd Year, GPA: 3.90 / 4.00

Expected: May 2028

Ottawa, Ontario, Canada

- **Relevant Coursework:** Data Structures & Algorithms, OOP, Embedded Systems, Database Systems, Security, OS

Experience

Wind River (Aptiv)

Software Developer — Distributed Cloud Platform

May 2026 - Present

Ottawa, Ontario, Canada

- Resolved **5+ defects** in **StarlingX**'s central subcloud management system for the **WRCP 26.10** release, improving reliability across remote cloud deployments.
- Developed **Python regression automation pipelines** for WRCP 26.10 features, achieving **90% test coverage**.
- Built **CI/CD automation** that provisions test labs in 1–2 hours instead of a multi-step manual setup process, accelerating test readiness across the team.
- Conducting **end-to-end feature validation** by developing **Python automation** for KPI collection, storing metrics in **PostgreSQL**, and building **Grafana dashboards** to monitor feature performance and reliability.

Global Cleantech Directory

AI Full-Stack Developer (Contract)

April 2026 - July 2026

Toronto, Ontario, Canada

- Built a **RAG-based AI backend** integrating **GPT-4o** with **MongoDB retrieval**, grounding responses in company data for **500+ cleantech companies** through directory-wide and company-specific modes.
- Designed data models with **MongoDB indexing** and **aggregation pipelines**, supporting **quotas** for **1k+ users**.
- Developed **REST APIs** with **Node.js/Express** for authentication, AI chat, and messaging with **rate limiting**.
- Developed **React interfaces** for **AI chat**, company profiles, and saved conversations, integrating with backend APIs.

Wind River (Aptiv)

Software Test Developer — Cloud Platform

Jan 2026 - April 2026

Ottawa, Ontario, Canada

- Developed **Python automation** achieving **90%+ automated coverage** of system tests across StarlingX.
- Automated **Jenkins CI/CD** system tests and built **Python tools** to parse **1,000+ logs** and generate reports, accelerating validation.
- Migrated **10+ test suites** to a modern **Python framework** and delivered production-ready changes through **Gerrit**, improving test maintainability.
- Provisioned and validated **multi-node Kubernetes environments** for distributed cloud testing, diagnosing **application, pod, networking, and infrastructure failures**.

Carleton University

Undergraduate Teaching Assistant

September 2025 - December 2025

Ottawa, Ontario, Canada

- Supported **200+ students** via 1-on-1 tutoring, labs, and assignment grading in **C** and memory management
- Increased debugging accuracy by teaching **pointers**, **dynamic memory**, and **stack/heap** layout using visual diagrams

Projects

GymLens — Hackathon Winner | Python, React, MediaPipe, FastAPI, PostgreSQL

[Website](#) | [Demo](#) | [GitHub](#)

- Built a **real-time computer vision pipeline** using **MediaPipe** and movement state machines to track 33 body landmarks and count reps across **10 exercises**.
- Developed a **FastAPI backend** with **PostgreSQL (Tiger Data)** for workout analytics, integrating **Gemini** for AI insights and **ElevenLabs** for live voice coaching.

TradeLab (In Progress) | C++20, Go, Python, Google Test, Docker

[GitHub](#)

- Building a **quantitative trading platform** with a C++20 matching engine, Go API gateway, and Python strategies.
- Implemented **price-time priority matching**, partial fills, and order cancellation, validated through **Google Test**.

Technical Skills

Languages: Python, JavaScript, Java, C, SQL, Assembly, HTML/CSS

Frameworks & Cloud: Node.js, Express.js, TCP/IP, React, Kubernetes, Docker, OpenStack, Linux, MongoDB

AI & APIs: Claude Code, OpenAI GPT-4o, HTTP, LLM APIs, REST APIs, Prompt Engineering

Testing & Tools: pytest, CI/CD, Git, Gerrit, Jira, Bash, Ansible, VS Code, IntelliJ, UML