

Hamza Ammar

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EDUCATION

University of Waterloo

Bachelor of Software Engineering (BSE)

SE Class Rep & MEF Rep

CERTIFICATIONS

- Machine Learning Specialization - *DeepLearning.ai, Stanford University* Aug 2025
- Algorithmic Toolbox - *UC San Diego* Jan 2025
- Python for Everybody Specialization - *University of Michigan* Jul 2020

SKILLS

- Languages:** Python, C++, C, Swift, JavaScript (React, Next.js, Node.js), SQL
- Frameworks & Libraries:** TensorFlow, PyTorch, NumPy, Pandas, NetworkX, Playwright, Flask, Express.js
- Cloud & Tools:** AWS (EC2, S3), Firebase, Git/GitHub, Linux CLI, Docker, Figma
- Technical Areas:** Full-stack Development, Machine Learning, Web Scraping, Algorithms and Data Structures

EXPERIENCE

WATonomous

Humanoid Simulation Engineer – Software Team

Waterloo, ON
Sep 2025 – Present

- Developing **realistic humanoid agents** in Unity for simulation and testing within the WATonomous framework
- Implementing **motion control and perception systems** to simulate human-like behavior in virtual environments
- Integrating **Isaac Sim and ROS** for real-time humanoid control and system testing

Kuzu Inc

Software Intern

Waterloo, ON
Jun 2024 - Aug 2024

- Built **operator printing** for KuzuDB's query planner, improving plan visualization and cutting debugging time
- Added metadata printing for **40+ operators**, increasing clarity of query plans used in performance benchmarking
- Improved Explorer design by refining node layouts and using Chroma.js for pastel colours, creating a cleaner interface

MapFLOW

Data Manager

Waterloo, ON
Nov 2022 - Mar 2024

- Structured medical research into JSON datasets powering MapFLOW's app, trusted by **3,500+ pharmacists**
- Streamlined data access, reducing consultation time by **~15 minutes** and driving **10× pharmacy revenue**
- Built a Python CLI with OpenAI's API to translate data, expanding access to **500+ French-speaking pharmacies**

PROJECTS

CourseConnect

Sep 2025 – Present

- Built a **Python + Playwright scraper** to collect 2,000+ Waterloo courses and structure data for all degrees
- Modeled course requirements and built **AI tools for course planning** used by **150+ students**

Flourishing Realty

Aug 2025

- Deployed a **Next.js + Node.js** rental platform on **AWS EC2**, enabling 20+ tenants to browse furnished homes
- Designed a responsive interface allowing tenants to filter, view, and request available rental homes

SahilGo

Jul 2025 – Present

- Developing a **Swift + Firebase app** for “Sahil” beach communities to organize interactive games
- Targeting an initial launch with **200+ players** to strengthen community engagement

MentAI

Apr 2023

- Created a **CoHere-powered web app** for mental health support, assisting users in crisis scenarios
- Placed **Top 5 at MetHacks**, pitching to judges including representatives from **CoHere**

UniMap

Jun 2022

- Built a **Python + NetworkX navigation tool** applying **Dijkstra's algorithm** to map campus routes
- Developed a **React-based website** to host UniMap and visualize paths between university buildings