

Karan Gupta

519-589-9063 | k79gupta@uwaterloo.ca | [linkedin.com/in/Karan](https://www.linkedin.com/in/Karan) | github.com/Karan-Gupta07

EDUCATION

University of Waterloo

Bachelor of Applied Science in Computer Engineering

Sep. 2025 – Present

GPA: 90

EXPERIENCE

Software Engineering Intern

Manulife Financial Corporation

January 2026 – Present

Waterloo, ON

- Developing automated test suites in Copado to improve Salesforce reliability by increasing organizational test coverage toward an **87%** target
- Migrating legacy Salesforce workflows to Flow based processes to **reduce technical debt** and support updates
- Supporting **GenAI driven initiatives** to improve **internal automation** and decision making across sales team
- Implementing new Salesforce features by translating business needs into **backend logic** and platform capabilities

Autonomy Software Developer

Waterloo Aerial Robotics Group

Sep. 2025 – Present

Waterloo, ON

- Implemented computer vision algorithms using OpenCV2 for **real-time signal detection**, improving recognition accuracy through iterative parameter tuning and validation.
- Built multi-process telemetry and command systems in Python (PyMAVLink) to simulate UAV communication, enhancing reliability and throughput across distributed processes.

Computer Support Specialist

C2C. Development Holdings INC

May 2022 – Sep. 2025

Kitchener, ON

- Engineered a Python-based automation bot that auto-responded to Facebook Marketplace messages, improving response time by over **70%** and automating **700+ customer interactions**.
- Provided technical support in database management, hardware setup, and network troubleshooting.

Founder & Operator

Custom Gaming Keyboards

Sep. 2022 – Present

Cambridge, ON

- Designed and sold **35+** custom keyboards, generating **\$5,500+** in revenue, while building and maintaining an e-commerce platform for orders, client communication, and margin optimization

PROJECTS

DeliriumWatch | *Raspberry Pi, Arduino, Python, OpenCV, HTML, CSS, Flask, C/C++*

Sep. 2025 – Nov. 2025

- Built a real time Python monitoring pipeline with secure login for Grand River Hospital staff and role based access control, resulting in over **90% reduction** in manual environmental monitoring during simulated testing.
- Implemented OpenCV based eye detection and live Flask powered web visualization with automatic alert flagging, resulting in automated sleep and blink classification and faster abnormal condition response during validation.
- Engineered serial data ingestion and threshold validation, resulting in stable multi sensor tracking with **0 dropped readings**.

AI Admissions Similarity Tool | *Python, PRAW, MongoDB*

June 2025 – Present

- Built an **AI-driven tool** to scrape admissions data and compute similarity scores across GPA, tests, and interests
- Created applicant benchmarking with reach, target, and safety school classification

Silhouette | *Python, PRAW, MongoDB*

June 2025 – Present

- Built an **Silhouette** to scrape admissions data and compute similarity scores across GPA, tests, and interests
- Created applicant benchmarking with reach, target, and safety school classification

TECHNICAL SKILLS

Languages: Python, C, C++, Java, SQL, Apex, HTML, CSS

Frameworks & Libraries: Flask, FastAPI, REST API, OpenCV2, Raylib, PyMavLink, NumPy, PRAW, Arduino, Node.js

Developer Tools: Visual Studio, Git, VS Code, GitHub, Salesforce, Postman, Bruno, Docker

Awards: First Place, Amazon Robotics Hackathon; Governor General's Academic Award; Bronze Medal, Chess AI Bot Tournament