

# AADI UMRANI

(+1) 437-665-1790 | [linkedin.com/in/aadi-umrani](https://www.linkedin.com/in/aadi-umrani) | [github.com/aadium](https://github.com/aadium) | [aadiumrani.netlify.app](https://aadiumrani.netlify.app) | [apumrani@uwaterloo.ca](mailto:apumrani@uwaterloo.ca)

## Core Software Skills

- **Languages:** Python, Flutter (Dart), HTML, CSS, C++, Java, SQL, VTL, JavaScript,
- **Tools:** MS Office, VS Code, SolidWorks, InfluxDB 2.0, MySQL, Grafana, AWS DynamoDB, AppSync, Lambda, EC2

## Certifications

**PCEP:** OpenEDG Python Institute, **Introduction to Python:** IBMCEP, **Full Stack Development** (*In progress*), **Engineering Machine Shop Certification:** University of Waterloo, **Competent Communicator:** Toastmasters International

## Work Experience

Software Developer	Escape	Jun 2023 – Aug 2023
<ul style="list-style-type: none"><li>• Developed a social media application using <b>Flutter</b>, resulting in a single codebase for both iOS and Android platforms, reducing development time by about 25%, which led to development time being saved.</li><li>• Designed and implemented the frontend using <b>Flutter</b>. Leveraging <b>Riverpod</b> for state management resulted in a 15% faster user interface rendering, and eliminated prop drilling, which led to a significantly smoother UI and better structured code.</li><li>• Incorporated a scalable backend with <b>AWS AppSync</b> and <b>DynamoDB</b>, achieving consistent loading times of under 450 milliseconds, regardless of database size, ensuring a seamless user experience and responsiveness.</li></ul>		

## Projects

### Temperature and Humidity Monitoring

- Developed an IoT application that uploaded simulated sensor data to an **InfluxDB 2.0** database stored on an **AWS EC2** instance running on the **Amazon Linux 2023** OS.
- Uploaded the **python** scripts to simulate and upload sensor data on the instance, created a shell script and used it with a cron job to automate the data upload from the EC2 instance. The localization of all tasks within the instance reduced data upload times by around 2-3 seconds.
- Utilized **Grafana** to create a dashboard to visualize the data, resulting in a 30% improvement in data interpretation quality over other comparable methods, like Power BI.

### Object Detection using Machine Learning

- Engineered a Python program implementing a **YOLOv3**, and later a **YOLOv5** model to perform the object (Grapes) detection. The model has a precision of 86.3% and a mAP of 86.5%, enabling highly reliable object detection and classification.
- The program detects and draws a bounding box in a live feed. Upgrading to the **YOLOv5** model resulted in a 55% increase in frame rate and resulted in the CPU temperature dropping by 3°C, due to its comparatively lower size.

### Employee Management System

- Created a **Java**-based Dynamic Web Application that can add and delete employee records and can also display all or a specific employee's records.
- Leveraged **HTML** and **CSS** to design the frontend, **Java Servlets** to develop the backend, and **MySQL 8.0** as a database.

### Wheelchair Exercise Tracker

- Designed a solution that enabled wheelchair users to get an improved quality of exercise.
- Applying design principles led to a 25% reduction in iteration cycles and using **SolidWorks** for prototype fabrication led to a 30% reduction in design time. Leveraging MS Word, PowerPoint, and Canva for reports and presentations significantly enhanced our document and presentation quality.

### B-Mode

Developed a **C++** application to generate a 2D image from 1.05 GB of input data received from an ultrasound scanner using the **OpenGL** interface.

## Education

**University of Waterloo** (Sep 2022 – May 2027), **Degree:** BAsC Biomedical Engineering