

AADI UMRANI

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Second year **Biomedical Engineering** student studying at the **University of Waterloo** looking for co-op opportunity in the **Winter 2024 Term (January – April)**

Work Experience

Software Developer | Escape (Canada)

Jun 2023 – Aug 2023

- Developed a **social media application** through which users can **share their schedules, create posts, and plan out events**.
- Used **Dart** with the **Flutter framework** to develop the frontend of the application. Also, used **Flutter Riverpod** for state management.
- Used **AWS AppSync** for developing the backend of the application. Used **VTL for mapping templates**, and **JavaScript for the lambda functions**.
- Used **AWS DynamoDB** as the database.

Project Experience

Temperature and Humidity Monitoring | Jul 2023 – Aug 2023

- Developed an **IoT application** that uploaded simulated sensor data to an **InfluxDB 2.0** database stored on an **AWS EC2 instance**.
- Used **Python** to **simulate and upload** sensor data. Created a **shell script** and used it with a **cron job** to automate the data upload from the EC2 instance.
- Used **Grafana** to create a **dashboard** to visualize the data.

Object Detection using Machine Learning | Jun 2023 – Jul 2023

- Developed a **Python** program to **detect and draw a bounding box** around the object to be detected in a **live camera feed**.
- Trained and used 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%**.

Employee Management System | Jul 2023

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

Wheelchair Exercise Tracker | Sep 2022 - Dec 2022

- Designed a solution that **enabled wheelchair users** to get an **improved quality of exercise**.
- Applied **different aspects of biomedical design** in the entire design process, from the problem definition till the prototype presentation. Also applied technical skills, like **SolidWorks** and **C++**, for making the prototype design and data encryption, **machine shop skills** for fabrication of the prototype, and **MS Office** for Presentations and Reports and designed a visual abstract using **Canva**.

B-Mode | Nov 2022 - Dec 2022

- Developed **C++** code to generate a **2D image** from input data received from an ultrasound scanner.
- Applied various concepts, **mainly classes, functions, OOP, and linked lists**.

Core Software Skills

- Languages**
Python, HTML, CSS, C++, Java, Dart, VTL, JavaScript
- Tools**
MS Office, VS Code, Android Studio, SolidWorks, InfluxDB 2.0, Grafana, AWS DynamoDB, AppSync, Lambda, EC2

Certifications

- PCEP:** OpenEDG Python Institute
- Introduction to Python:** CEPYT1IN, provided by IBMCEP.
- Full Stack Development** (*In progress*)
- TCPS 2: CORE 2022:** University of Waterloo
- WHMIS 2015:** University of Waterloo
- Engineering Machine Shop Certification:** University of Waterloo
- Competent Communicator:** Toastmasters International

Education

University of Waterloo (Sep 2022 – May 2027)

BASc Biomedical Engineering