

# Muradil Udun

3A COMPUTER ENGINEERING · UNIVERSITY OF WATERLOO

☎ (587)-889-3785 | ✉ muudun@uwaterloo.ca | 🏠 muradil.com | 📺 MuradilU | 🌐 muradil-udun

## Skills

### Languages

C/C++ , Python , JavaScript , Clojure/ClojureScript, HTML/CSS , Kotlin , MySQL, MATLAB , VHDL

### Frameworks & Libraries

React, Vue.js, Node.js, Express, Flask, Android, OpenCV

### Tools & Technologies

AWS, GCP, Terraform, Docker, Git

### Interfaces

Raspberry Pi, Arduino Uno, FPGAs

## Work Experience

### Oxilight

Toronto, ON

#### SOFTWARE DEVELOPER

Sept. 2020 - Dec. 2020

- Single-handedly developed a dashboard web app with data analytic tools to analyze medical measurements using **React**
- Built and tested several features for the company's **Android** apps including a daily routine feature using **Kotlin**
- Implemented video conferencing and logging capabilities for the main client interface with **Jitsi** and **Google Cloud Platform**
- Created and deployed new **API Gateway** endpoints with **AWS Lambda** handlers using **Node.js** to perform CRUD tasks
- Designed **DynamoDB** tables with **DynamoDB Streams** and **AWS Lambda** to create an event-driven architecture

### eSentire

Waterloo, ON

#### SOFTWARE DEVELOPER

Jan. 2020 - Apr. 2020

- Developed the next iteration of company's main client interface using **React**, **Clojure**, **EQL**, and a **PostgreSQL** database
- Constructed data rich widgets by analyzing client security data using a graph API built with **Clojure** and **Pathom**
- Implemented a resource server to authenticate users and API calls using **Flask**, **Okta**, and **OpenIDConnect**
- Built a tool to generate tailored powerpoints by manipulating data from a **PostgreSQL** database using **Python** and **Flask**
- Significantly improved deployment process for an internal API by refactoring the project to use **AWS** and **Terraform**

### Conrad School of Entrepreneurship and Business

Waterloo, ON

#### ENTREPRENEUR IN TRAINING

May. 2019 - Aug. 2019

- Specialized entrepreneurship co-op work program consisting of a 1-week intense **entrepreneurship** bootcamp followed by 2 micro-placements at early-stage start-ups **JUGELO** and **PFERA** for 10 and 5 weeks respectively
- Developed features for company's mobile and web platforms using **Vue.js**, **PHP/Laravel**, **MySQL**, and **Ionic**
- Built a REST API with **Express** to allow clients to efficiently and securely store shipment data in a **NoSQL** database
- Implemented a web application using a **Vue.js** front-end, **Firebase** database, and **Node.js/Express** backend

## Projects

### Sorting Visualizer

#### VUE.JS

Aug. 2019 – Sept. 2019

- Developed and deployed a static single page application to allow users to visualize various sorting algorithms using **Vue.js**
- Implemented sorting algorithms such as **bubble sort**, **merge sort**, and **insertion sort** to compare algorithm running times
- Built features to control sorted array size and speed to provide multiple scenarios to visualize the various algorithms

### Real-time Hand Gesture Detection

#### PYTHON, OPENCV, KERAS, TENSORFLOW

Aug. 2019 – Sept. 2019

- Applied binary image thresholding and morphological transformations on live video using **OpenCV** to allow a neural network to predict various trained hand signs and numbers in real-time
- Built and trained a **convolutional neural network** using **Keras** and a **Tensorflow** backend with up to **99.1% accuracy**
- Produced a dataset of approximately 10,000 grayscale images for neural network training containing unique hand signs

### Object Detection System

#### RASPBERRY PI, C

Nov. 2018 – Dec. 2018

- Constructed a motion detection device using **C** and a **Raspberry Pi** to track objects entering and leaving a finite space
- Implemented a watchdog timer to automatically detect any software anomalies and prevent system failure

## Education

### University of Waterloo

Waterloo, ON

#### CANDIDATE FOR BACHELOR OF APPLIED SCIENCE IN COMPUTER ENGINEERING

Sept. 2018 - Present