Danial Mohazab

+1 (226) 339-6147 | dmohazab@edu.uwaterloo.ca | dmohazab.github.io | dmohazab | dmohazab

Languages

- Python
- Java
- C++
- C
- SQL
- JavaScript
- Bash
- HTML/CSS
- MATLAB

Tools/Frameworks

- Flask
- TensorFlow
- Docker
- Pandas
- Kubernetes
- Keras
- Spring
- Git
- Swagger
- Selenium
- Postman
- SolidWorks
- AutoCAD

Education

University of Waterloo

Candidate for B. ASc. 2017 - 2022

Mechatronics Engineering

Relevant Coursework

- Data Structures & Algorithms
- RTOS & Computer Structures
- Microprocessors & Digital Logic
- Digital Computation
- Human-Computer Systems

Activities

- Basketball
- Provincial level Soccer
- Video Editing
- Hiking

Work Experience

HelloFresh Canada — **Toronto, Ontario**

Software Development Intern — **Sept. 2019 - Dec. 2019**

- Developed a back-end application in Python and Pandas to process and serve distribution data required for package delivery, saving Logistics 30+ hours/week and affecting all Canadian consumers
- Created a REST/GraphQL hybrid API data pipeline using Flask to serve as a centralized gateway for a main MySQL database
- Redesigned back-end architecture by developing worker lambda functions for APIs to promote failure isolation and scalability
- Led operations team DevOps process by dockerizing and deploying applications to GitLab CI/CD pipelines using Kubernetes

OANDA Corporation — **Toronto, Ontario**

Software Development Intern — **Jan. 2019 - Apr. 2019**

- Developed a RESTful microservice in Java using Spring that serves OANDA platforms with Dow Jones news articles in real-time
- Integrated a feature in Java that applies user-triggered threading to update stock units in real-time for OANDA's desktop platform
- Refactored exchange rate chart endpoint query to reduce stock rate data load time on trading platforms by 32%

Home Trust Company — **Toronto, Ontario**

Software Development and QA Intern — **Apr. 2018 - Aug. 2018**

- Developed an ML model using TensorFlow in Python that predicts mortgage funding likelihood at 97% accuracy for loan filtering
- Constructed the server-side processor of an internal attendance tracking application in Python that replaced a paper-based model
- Created automation scripts using Python and Selenium for an agile website redesign project, reducing production launch time by 50%

Projects

Real-Time Operating System

C

- Developed an RTOS from scratch in C using the NXP LPC1768 microcontroller and Cortex-M3 processor
- Created a fixed-priority preemptive scheduling algorithm to control context switching between tasks and threads
- Implemented mutexes with priority inheritance and owner test on release, and semaphores with blocking semaphore capability

RobotC-Major

C++

- Developed the controls of a guitar playing robot with the Lego EV3, TETRIX and NXT systems
- Implemented an earliest deadline first priority scheduling algorithm to control motor tasks
- Multithreaded motor encoder methods to calibrate mechanical mechanisms after song termination