PATRICK MALONEY

Biomedical Engineering University of Waterloo

SUMMARY OF QUALIFICATIONS

- Languages: C++, C#, C, Java, JavaScript, HTML, SQL, Python, MATLAB
- **Tools:** Linux, QNX, Agile Development, React, Vue.js, Unity, VS Code, Momentics, MySQL, gtest, gmock, Git, SonarQube, SolidWorks
- Strong time management, communication, and problem-solving skills

EXPERIENCE

Power Management Software Developer

Ford Motor Company of Canada

Jan. 2020 - April 2020

- Produced large-scale, thread-safe and performance-oriented software using C++ to manage data from Controller Area Networks (CAN) across three Electronic Control Units (ECUs)
- Used **VS Code** and **Momentics** to developed cross-platform code to run on **Linux** and **QNX** embedded systems
- Delivered debugging tool which enabled CAN messaging, resource state querying, and power states requests during testing

Sept. 2020 - Dec. 2020

- As the person second-most experienced with the code base, I brought forward major design decisions and implemented critical new features while increasing code stability and maintainability
 - Expanded unit test coverage by 25% using gtest and gmock frameworks in first two weeks
 - Completely redesigned the team's API to allow for request status callbacks and a simplified use case based requesting interface

Software Developer

Big River Technologies Inc.

May 2019 - Aug. 2019

- Designed and built a MySQL database to improve tracking of employee provisioning and access management
- Wrote clean code in **JavaScript**, **HTML**, and **CSS** for the company's internal and external websites
- Developed coding best practice and company standards documentation

Cancer Radiotherapy Research Assistant

Grand River Regional Cancer Centre

Sept. 2019 - Mar. 2020

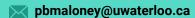
- Worked with doctors and professors in a study to analyze retrospective radiation therapy data for the optimization of brain cancer treatment
- Wrote **Python** scripts to extract and visualize treatment plan data from radiation modelling system

Vice-President of Finance

UWaterloo Residence Council

Sept. 2018 - April 2019

 Managed spending of \$7200 account to ensure all events could be successfully run and efficiently co-lead general council meetings



(705) 768-3535

in /PatrickBMaloney

/PatrickBMaloney



PROJECTS

Augmented Reality Android App

Best VR/AR Hack, BrickHack 5

Feb. 2019

 Developed a facial recognition and information display app for the Vuzix Blade smart glasses in under 24 hours with the use of **Unity**, Vysor, and Vuforia

Biomechatronics Design Team

Robotic Prostheses Design Sept. 2018-Present

- Used biomechanics principles to design, CAD, and 3D print a robotic hand prosthesis
- Developed BLE protocol using C++ for the Myo Armband and ESP32 to send EMG data

Grocery/Meal Prep. Web App

BrickHack 6,

Feb. 2020

 Built a dynamic grocery list application using Vue.js, Spring and MySQL that monitors the user's pantry and determines what products need purchasing for selected recipes

EDUCATION

Candidate for BASc. in Biomedical Engineering, Computing Option

University of Waterloo Dean's Honours List

2018 - exp. 2023 89% Avg, 3.82 GPA

Relevant Courses:

- Software Design
- Data Structures and Algorithms (C++)
- Digital Computation (C#)
- · Circuits and Instrumentation
- Statistics
- Image Processing

ACTIVITIES/INTERESTS

- University orientation organizer/leader
- Competing in hackathons
- Engineering Society Council
- Hockey, Skiing, Volleyball, Ultimate Frisbee