

Skills

Programming Languages: C++, Python, Javascript, Java, C, SQL, Go, Ruby, VHDL, LaTeX, ActionScript, MATLAB

Frameworks and Libraries: ReactJS, Node.js, Rails, PostgreSQL, Vue.js, Swing, Qt

Software Tools: Data Structures, Git VCS, Command Line, MVC, REST, OOP, Eclipse, Visual Studio IDE/Code, Jira, Gitlab

Hardware Tools: FPGAs, Arduino, Raspberry Pi, Embedded Sensors and Microchip Interfacing

Work Experience

Full-Stack Web Developer

April 2019 - Aug 2019

Ctrl V | Virtual Reality

Waterloo, ON

- Created a Qt Script that launches OBS and records a customer's Steam VR game session. Used Google Drive API to store videos in Google drive, eliminating need of enterprise cloud storage options, **saving hundreds of dollars yearly**
- Created a developer portal that compiles user statistics and displays them in various charts and tables for simple analysis
- Developed stunning, intuitive user interfaces and displays using React including a configurable game menu, video viewing client, birthday invitation form and card

Teams

Technical Teams Software Lead - C++, C, Go, JavaScript, Arduino

June 2019 - Present

Waterloop

Waterloop

- Manages team of 15 members over 3 subteams, controlling tasks, objectives and helping in all projects to ensure all tasks are completed effectively and according to organization standards
- Implemented various embedded sensors using COSA framework, including digital and thermocouple temperature sensors, hall-effect magnetometer and piezoelectric sensors in **real-time** for dynamic data analysis on pod performance
- Used I2C protocol between sensors and Arduino, and CAN to relay messages from Arduinos to Raspberry Pi, creating an effective master-slave architecture. Using watchdogs, created protocol to allow backup Arduinos for each sensor
- Developed desktop server dashboard in Qt that concisely displays sensor data and pod performance. Implemented websockets to send and receive data between desktop and pod server, allowing for **remote access** of the pod

Software Specialist - C++

Oct 2017 - June 2018

FIRST Robotics Competition

Elmira Sir Lancerbots

- Optimized code for autonomous functions, allowing robot to complete tasks with minimal range of motion, resulting in robot to perform faster than competitors during autonomous phases
- Integrated hazard controls and limits to ensure components operate within their bounds, resulting in consistent performance and minimal breakdowns during competition
- **Team Awards:** Darwin Division World Champions, Ontario Provincial Silver Medalists, North Bay and Waterloo Champions

Projects

100m Race Simulator - Java

May 2018 - June 2018

- Using Swing library, designed an intuitive UI with robust error checking to ensure first-time users can easily use the app
- Implemented dynamic memory allocation techniques for UI and program to support an uncapped number of players

Green Arm - Arduino

Oct 2017 - Jan 2018

- Reduced project cost by 20% by designing and implementing colour sensor using RGB diode and CdS photoresistor, eliminating need of prebuilt colour sensor.

Education

University of Waterloo

Sept 2018 - Present

Candidate for Bachelors of Software Engineering, Honours

Waterloo, ON

GPA: 3.97 | Dean's Honour List

Relevant Courses: Algorithms and Data Structures, Digital Circuits and Systems, Digital Computers, Digital Computation, Foundations of Sequential Programs (Enriched)

Awards

Governor General's Academic Medal - Bronze Level

June 2018

Waterloo Oxford D.S.S.

Wilmot, ON

Awarded for achieving the highest academic standing throughout high school. Graduated with a cumulative average of 95.7%