Josh Blatt

2B MECHATRONICS ENGINEERING

Personal Profile

I am a US/Canadian citizen studying Mechatronics Engineering at the University of Waterloo with strong interests in embedded systems, robotics and AI. I am extremely excited to apply my skills and continue to improve upon them.

Skills

- C/C++
- Python
- Git
- Linux
- Agile
- JIRA
- Vim
- Soldering
- Java
- SolidWorks
- AutoCAD
- Strong programming fundamentals
- Can pick up new languages quickly

Contact Me!

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Achievements

- High school valedictorian
- Recipient of Ontario Principles Award for outstanding leadership
- Recipient of Teacher's Life Bursary
- Recipient of the University of Waterloo's President's Scholarship with Distinction for having a grade 12 average >= 95%
- Placed 5th / 72 teams in the Don Mills Programming Gala

Interests

- Electronics
- Rock Climbing
- Speed Solving Rubik's Cubes
- Guitar
- Chess
- Video Games
- Listening to Music
- Working Out

Experience

EMBEDDED DEVELOPER

ecobee | January 2020 - April 2020

- Improved firmware for thermostat temperature slider to allow for greater degree of parameter customization, including slider sensitivity, scroll speed, and inactivity distance
- Designed and facilitated user tests with new thermostat firmware to determine most preferred combination of temperature slider parameters
- Developed solution to customer issues with slider sensitivity by designing and prototyping buttons to be used with the thermostat slider to allow for more precision when adjusting the temperature
- Programmed new QA PCB added to existing thermostat HVAC simulators using Python
- Developed numerous UI screens for new thermostat installation flow using C++ and created automated tests with Python to ensure functionality
- Created new thermostat pop-up alerts using C++ to address user experience concerns

EMBEDDED TEST DEVELOPER

ecobee | May 2019 - August 2019

- Independently designed and programmed a Sensor Simulator using C++ to test the functionality of the SmartSensor and the SmartSensor for Doors and Windows, enabling the automation of 50+ test cases which previously took one week of manual testing
- Used principles of Object Oriented Programming to create a virtual sensor base class which allows integration of the ecobee's different sensors into one sensor array
- Programmed Python script to parse and analyze sensor packet data to make product decisions, including how often and how far apart retry packets should be sent
- Automated 15+ thermostat integration tests using Python
- Designed integration test plan to verify functionality of production units of the SmartSensor, which was used for all customer-facing releases
- Assembled and tested the hardware for HVAC simulator circuit boards used for QA

CAPTAIN OF FIRST ROBOTICS TEAM

Robo Sapiens - Team 5699 | September 2014 - June 2018

- Designed, built, coded, and tested a robot each year for FIRST Robotics regional competitions
- Programmed autonomous code to interface with sensors and driver controls for robot using Java
- Worked with motors, gears, pneumatics, and conveyor belts to create systems capable of grabbing, lifting, and outputting objects
- Organized and led meetings for the team of 24 members
- Reached out to companies and obtained sponsorships totalling $3000 for the team

Education

UNIVERSITY OF WATERLOO

Candidate for Bachelor's in Applied Science in Honours Mechatronics Engineering
September 2018 - Present

Relevant Courses
- Real Time Operating Systems (C/C++)
- Sensors and Instrumentation
- Microprocessors and Digital Logic
- Data Structures and Algorithms (C++)