Sean Byungyoon **Kim**

Mechatronics Engineering

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Qualifications

Programming Languages: C++, C#, C, Java, Python, MATLAB, LabVIEW
Software Tools: Data Structures and Algorithms, Windows, OS X, Linux, I2C, TCP/IP, PuTTY, PLCs
Mechanical: 3D printing, laser cutting, soldering, mechanical assembly, machining, GD&T
Hardware Tools: AutoCAD, SolidWorks, Arduino, FPGA, Xilinx ISE PLCs, MSP 430

Experience

Flex
Markham, Ontario

Test Sytems Engineering
May 2016 - August 2016

- Developed program (LabVIEW) to communicate with automotive displays via LVDS and I2C
- Designed program (LabVIEW) to automate the analysis of 13 000 images and reduce the duration by 107 hours
- Created software driver (C) to control electronic loads of EOL (end of line) testers
- Soldered components onto custom PCBs for the construction of automotive testers

Synaptive Medical Inc.
Toronto, Ontario

Systems Tester
Sept. 2015 - Dec. 2015

- Programmed a test jig (C++, Arduino) to automate an accelerated life-cycle test of an internal switch in neurological robots, reducing the time spent on manual testing by 72 hours
- Designed GUI (Java) to control test jig, log test data and create custom log entries
- Optimized existing test protocols to reduce the duration of test protocols by 50%
- Machined various components for the construction of neurological robot testers

Ericsson Canada Inc.
Ottawa, Ontario

Test Automation Software Designer Co-op
Jan. 2015 - Apr. 2015

- Observed and reported on nightly test runs of automation software in Erlang regarding LTE features
- Worked with developers to identify and resolve various hardware and software issues as a team

Projects

Ultrasonic Sensor Caliper
Waterloo, Ontario

Mechatronics Engineering
Mar. 2016 - Apr. 2016

- Recreated a caliper using an ultrasonic sensor and Arduino to measure distance
- Designed (AutoCAD), laser cut and assembled fixture that emulated a caliper and encased the circuit
- Developed program (C++, Arduino) to interpret and convert data from the ultrasonic sensor

Balsa Wood Truss
Waterloo, Ontario

Mechatronics Engineering
Mar. 2016 - Apr. 2016

- Designed (AutoCAD, SolidWorks) and built a truss out of balsa wood for an academic competition
- Performed stress analysis to create the most efficient design based on criteria of cost and mass

Automated Change Machine
Waterloo, Ontario

Mechatronics Engineering
Nov. 2014 - Dec. 2014

- Designed machine that automatically outputs change dependent on amount of money inputted
- Developed algorithms (C, RobotC) to control machine's movement and interpret its input

Rube Goldberg Machine
Richmond Hill, Ontario

Western Science Olympics
Apr. 2014 - May 2014

- Designed machine that makes a ball hit a gong as inefficiently as possible with a limited budget

Education

University of Waterloo
Waterloo, Ontario

Candidate for Bachelor of Applied Sciences, Mechatronics Engineering
Sept. 2014 - Present