Sean Byungyoon **Kim**

Mechatronics Engineering

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Qualifications

Programming Languages: C++, C#, C, Java, Python, MATLAB, LabVIEW, HTML, CSS

Software Tools: Data Structures and Algorithms, Windows, OS X, Linux, I2C, TCP/IP, PuTTY, PLCs

Mechanical: AutoCAD, SolidWorks, MicroStation, Arduino, 3D printing, laser cutting, soldering, GD&T

Experience

Flex
Markham, Ontario

Test Systems 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
September 2015 - December 2015

- Programmed a test jig (C++, Arduino) to automate an accelerated life-cycle test, reducing testing time 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%

Ericsson Canada Inc.
Ottawa, Ontario

Test Automation Software Designer Co-op
January 2015 - April 2015

- Observed, reported and fixed issues on nightly test runs of automation software in Erlang regarding LTE features

Toronto Transit Commission
Toronto, Ontario

Overhead Engineering Assistant
January 2017 - April 2017

- Updated various engineering drawings of streetcar routes and tools using MicroStation

Projects

Frogger Game
Waterloo, Ontario

Mechatronics Engineering
November 2016 - December 2016

- Developed a game (C) similar to Frogger to run on a Keil MCB 1700 evaluation board
- Implemented multiple peripherals (potentiometer, joystick, buttons) as ISRs to control the game

Ultrasonic Sensor Caliper
Waterloo, Ontario

Mechatronics Engineering
March 2016 - April 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
March 2016 - April 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

Rube Goldberg Machine
Richmond Hill, Ontario

Western Science Olympics
April 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

Bachelor of Applied Sciences, Mechatronics Engineering
September 2014 - Present