Sean Byungyoon **Kim**

3A MECHATRONICS ENGINEERING

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Qualifications

Programming Languages: C++, C#, C, Java, Python, MATLAB, LabVIEW, HTML, CSS
Software Tools: Github, I2C, TCP/IP, PuTTY, NI Vision Assistant, FPGAs, PLCs
Mechanical/Electrical: AutoCAD, SolidWorks, MicroStation, Arduino, 3D printing, laser cutting, soldering, circuit design

Experience

Flex *Markham, Ontario*
Test Systems Engineering *May 2016 - August 2016*
- Developed an embedded program (LabVIEW) to display custom colour patterns on automotive displays and interpret signals sent/received from a touchscreen via I2C
- Designed a program (LabVIEW) to automate the visual analysis of 13 000 images using NI Vision Assistant for quality control
- Created software driver (C) to control electronic loads of 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 and assembled a test jig (C++, Arduino) to automate a life-cycle test, reducing testing time by 72 hours
- Designed a user interface (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 and created various engineering drawings of streetcar routes and engineering tools using MicroStation

Projects

Embedded 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 tasks to run simultaneously while the game is running
- Utilized multiple peripherals (potentiometer, joystick) on the Keil board 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 an Arduino to measure the length of objects
- Designed (AutoCAD), laser cut and assembled fixture that emulated a caliper and encased the circuit
- Developed a program (C++) to interpret and convert data from the ultrasonic sensor to metric and imperial measurements

Balsa Wood Truss *Waterloo, Ontario*
Mechatronics Engineering *March 2016 - April 2016*
- Designed (AutoCAD, SolidWorks), laser-cut 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 tambourine as inefficiently as possible with a limited budget

Education

University of Waterloo *Waterloo, Ontario*
Bachelor of Applied Sciences, Mechatronics Engineering *September 2014 - Present*