ANDREW XU

andrewxu.ca
(781) 518-3051
contact@andrewxu.ca
3B Mechatronics Engineering

Key Qualifications

Electrical: Schematic Capture, PCB Layout, Analog & Digital Circuit Design, Power Electronics, Control Systems, DFM, DFA

Tools: Altium, KiCAD, Eagle, OrCAD, RapidHarness, Oscilloscope, DMM, Signal Generator, Hand & Reflow Soldering

Software: C, C++, Python, PLC/FPGA, Java, Javascript; SPI, UART, USB, I2C, CAN Protocols

Tools: Arduino, MATLAB, Linux OS, Windows, Version Control (Git), Atmel & STM32 Microcontrollers

Mechanical: Detailed Craftsmanship, Material Properties, Actuator Design, Electromechanical Machine Design

Tools: SolidWorks, Fusion 360, AutoCAD, Laser Cutting, Milling Machine, Lathe, Hand Tools, SLA, SLS & FDM Printing

Work Experience

Electrical Engineering Intern, Formlabs
Sept 2019 - Present

- Simulated, designed and tested wireless interlock system to disable lasers on Form 3L to achieve UL certification
- Characterized thermal behaviour of ultrasonic sensors and heater systems to increase Form 3L system consistency

Electronics Development Intern, Structur3D Printing
Jan 2019 - Apr 2019

- Designed and tested entire AVR based embedded system for Structur3D's new advanced manufacturing product.
- Facilitated industrial design of product and supply chain setup to support manufacturing ahead of 2019 product launch.

Lead Hardware Designer, Oxilight Inc
May 2018 - Aug 2018

- Improved medical diagnostics device by adding fluorescent emittance circuitry, maintaining device size and longevity.
- Designed and implemented battery wake up circuitry and load sharing, increasing single charge product life by 15%.

Projects & Initiatives

Electrical Team Lead, Waterloo Autonomous Sailboat Team
April 2018 - Present

- Designed and tested new AVR based controls system to reduce system's overall footprint and increase reliability
- Recruited and trained active members in PCB design for custom sensor boards and power electronics.
- Led the design of a SPI to CAN interface system between AVR Microcontrollers and Odroid.

Research Associate, Students on Ice Foundation
Nov 2017 - Present

- Experimented with bioplastic materials to explore recycling opportunities for Inuit communities using 3D printing.

Interests

Landscape Design
Snowboarding
Hiking
Aviation
Rock Climbing

Education

Candidate for Bachelor of Applied Science, 3B Mechatronics Engineering, University of Waterloo
Sept 2016 - Present

- Automatic Control Systems, Electromechanical Machine Design, Microprocessors Systems and Interfacing, Actuators & Power Electronics, Sensors and Instrumentations, Real Time Operating Systems