

ANDREW XU

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3A Mechatronics Engineering

Key Qualifications

Electrical: Schematic Capture, PCB Layout, Analog & Digital Circuit Design, Power Supplies, Motor Controllers

Tools: Eagle, KiCAD, OrCAD, Oscilloscope, DMM, Soldering Iron, Signal Generator, Reflow Soldering

Software: C, C++, Python, PLC/FPGA, Java, Javascript, Arduino, MATLAB, RTOS

Tools: Microcontrollers, Linux OS, Windows, Version Control System (Git)

Mechanical: Detailed Craftsmanship, Part Design, Material Properties, Actuator Design

Tools: AutoCAD, SolidWorks, 3D Printing, Laser Cutting, Milling Machine, Lathe, Hand Tools

Work Experience

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%.

PCB Designer, DA-Integrated

Sept 2017 - Dec 2017

- Designed and evaluated an I²C operated differential voltage monitor module for cost effective IC testing.
- Repaired thermosensors and pneumatics of IC testing systems to maintain continuous testing of customers' ICs.

Projects & Initiatives

Electrical 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 various bioplastic recipes to explore opportunities for Inuit to recycle waste through 3D printing.

Interests

Landscape Design
Snowboarding
Hiking
Aviation
Cycling

Education

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

- Relevant courses include Microprocessors Systems and Interfacing (MTE 325), Actuators & Power Electronics (MTE 320), Sensors and Instrumentations (MTE 220), Real Time Operating Systems (MTE 241).