ANDREW XU

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(226) 500-2709
2B 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

Lead Hardware Designer, Oxilight Inc
May 2018 - Aug 2018

- Improved medical diagnostics device by adding fluorescent emittance circuitry, maintaining device size and longevity.
- Developed custom drivers for hemoglobin and fluorescence flash sequences, improving accuracy of measurements.
- 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.

Android Developer, Rave Media Inc
Jan 2017 - Apr 2017

- Developed floating video player to improve user experience which increased app usage time by up to 5%.

Projects & Initiatives

Electrical Lead, Waterloo Autonomous Sailboat Team
April 2018 - Present

- Populated and debugged custom power delivery board including a 20A switching regulator.
- 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 ATMega Microcontrollers and Odroid.

Research Associate, Students on Ice Foundation
Nov 2017 - Present

- Designed custom syringe extruders for Prusa printers allowing printing using gelatin based materials and biopolymers.

Interests

Landscape Design
Snowboarding
Hiking
Aviation
Cycling

Education

Candidate for Bachelor of Applied Science, 2B Mechatronics Engineering, University of Waterloo
Sept 2016 - Present

- Relevant courses include Microprocessors and Digital Logic (MTE 262), Sensors and Instrumentations (MTE 220), Real Time Operating Systems (MTE 241).