JOHN WEBSTER

B.A.SC. MECHATRONICS ENGINEERING
UNIVERSITY OF WATERLOO CLASS OF 2020

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WHAT SETS ME APART

I am passionate about using my career to create a more sustainable world. I am not intimidated by a challenge. It is important to me that my work will benefit people worldwide, and I do what it takes to deliver.

EDUCATION

UNIVERSITY OF WATERLOO
BACHELOR OF APPLIED SCIENCE
SEP 2015 - APR 2020

UNIVERSITY OF QUEENSLAND
STUDY ABROAD
FEB 2018 - JUN 2018

TECHNICAL SKILLS

HARDWARE SKILLS

EMBEDDED SYSTEMS DESIGN
LOGIC LEVEL CIRCUITRY
SCHEMATIC CAPTURE
SOLDERING
CABLING
LTSPICE, ALTIUM

MECHANICAL SKILLS

RAPID PROTOTYPING
THERMAL ANALYSIS
SOLIDWORKS, NX
AUTOCAD
ANSYS FLUENT
POWER TOOLS
CNC MACHINING

SOFTWARE SKILLS

C, C++, PYTHON
MATLAB, MODELICA
ECLIPSE, ARDUINO IDES
PLC LADDER LOGIC
FREERTOS
GIT

ACTIVITIES

UW ALTERNATIVE FUELS TEAM
BOARD SPORTS & CONSTRUCTION
ICE HOCKEY, SOCCER, VOLLEYBALL
MUSIC - PIANO, SAXOPHONE
PHOTOGRAPHY & FILM
EVENT PLANNING

PROFESSIONAL EXPERIENCE

System Test Engineering Intern at Tesla, Energy Products
Palo Alto, USA | May 2019 - Aug 2019
- Created a UL-1699 compliant, portable, automated arc fault generator in a compact enclosure with high voltage sensors and safety features
- Independently set up, conducted, and analyzed hardware performance tests to validate various products' fault protection, efficiency, and power
- Designed CAN control GUIs in PCAN Explorer and wrote Python test scripts

Research Assistant at Hamburg University of Technology
Hamburg, Germany | Jul 2018 - Dec 2018
- Created a virtual electrolyzer with variable physics models in Modelica
- Designed a pressure-drop measuring duct, automated with LabVIEW

Hardware Engineer at Bendix Commercial Vehicle Systems LLC.
Elyria, USA | Sep 2017 - Jan 2018
- Implemented manufacturing improvements using SolidWorks and designed circuitry for a temperature controlled camera housing
- Designed a passive logic circuit to switch power supplies in emergencies; used DxDesigner for schematic capture, LTSpice for test and simulation
- Conducted HALT tests on ECU's to replace lengthy end-of-life tests

Manufacturing Engineer at ZBoard, Intuitive Motion Inc.
Modesto, USA | Jan 2017 - Apr 2017
- Played a dynamic rapid-prototyping role assisting in several R&D projects including the development of water-resistant footpads
- Reduced 3D print and installation time of footpad components by 40%
- Designed and built an Arduino operated electric skateboard dynamometer to generate speed and power curves of various electric skateboards

R&D Engineer at Displaypoint Manufacturing Inc.
Thornhill, Canada | May 2016 - Aug 2016
- Analyzed factory noise and engineered an effective, multifaceted noise reduction system for less than 50% of the cost of a third-party's solution
- Built teamwork skills leading small assembly lines, working with clients

PROJECTS

Universal Board Vibration Sensor | Personal
- Developed a tool to compare "board feel" by measuring road vibrations that can be mounted on most longboards, modelled using SolidWorks
- Programmed an Arduino for DAQ with an IMU and one-button operation

HV & LV Automotive Wiring, CAD | UWAFT, University of Waterloo
- Routed wires between hybrid vehicle components accounting for EMI, manufacturability, and safety, using standard NX CAD practices

FreeRTOS Radio Plotter | University of Queensland
- Programmed a Nucleo-F4 series microcontroller to draw shapes on a whiteboard plotter via Hamming-encoded radio signals in C
- Used PWM to control servos and map the plotter path with a laser

Fan Speed PCB Design | UW Midnight Sun Solar Car Team
- Did schematic capture and layout for a rotary switch control board in Altium