



JOHN WEBSTER

BASC MECHATRONICS ENGINEERING
UNIVERSITY OF WATERLOO CLASS OF 2020

WHAT SETS ME APART

I have an intrinsic drive to use my career to better the world in big ways. When I go to work, I want to know that what I do each day will benefit all of humanity. I believe that I can bring change to the world.

TECHNICAL SKILLS

HARDWARE SKILLS

STM32 MICROCONTROLLERS
PADS SCHEMATIC CAPTURE
ARDUINO, RASPBERRY PI
SOLDERING
LTSPIICE

MECHANICAL SKILLS

RAPID PROTOTYPING
SOLIDWORKS
AUTOCAD
POWER TOOLS
CNC MACHINING
THERMAL DESIGN

SOFTWARE SKILLS

C/C++, PYTHON
SIMULINK, MODELICA
FREERTOS
PLC LADDER LOGIC
ECLIPSE
GIT

EDUCATION

UNIVERSITY OF WATERLOO
SEP 2015 - APR 2020

UNIVERSITY OF QUEENSLAND
STUDY ABROAD
FEB 2018 - JUN 2018

ACTIVITIES

BOARD SPORTS, CONSTRUCTION
MUSIC - PIANO, SAXOPHONE
PHOTOGRAPHY
FILMMAKING
TRAVEL
SOCCER
ICE HOCKEY

PROFESSIONAL EXPERIENCE

Research Assistant at Technische Universität Hamburg-Harburg
Hamburg, Germany | Jul 2018 - Present

- Created a multi-physics model of an industrial electrolyzer in Modelica

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
- Conducted HALT tests on ECU's to replace lengthy end-of-life tests
- Updated I2C firmware in C++ for a faster and larger driver HMI

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 time of footpad components by 40% by optimizing Makerbot 3D printing and made design changes to ease installation

R&D Engineer at Displaypoint Manufacturing Inc.
Thornhill, Canada | May 2016 - Aug 2016

- Using a soundmeter, thermal measurement equipment, and AutoCAD, analyzed factory noise and implemented a factory-wide noise reduction system 65% less costly than a third party's solution
- Built teamwork skills leading small assembly lines, working with clients

PROJECTS

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 map the plotter path with a servo-mounted laser, status LEDs, IR remote control, and SPI communication with nRF24L01

Wireless Telescope Team Project | University of Queensland

- Developed a ground control command line interface in Python and communications via USB-serial to HC06 Bluetooth transceivers
- Assembled and repaired SMDs on our team-designed onboard PCB
- Adopted a leadership role, particularly during system integration

High Capacity Backup Battery Timing Circuit | Bendix

- Designed a passive logic circuit to automatically switch power from main to backup and stay on for predefined time before shutting off
- Schematic capture in DxDesigner; test and simulation in LTSpice

Electric Skateboard Dynamometer | ZBoard

- Designed and built an Arduino operated electric skateboard dynamometer to generate speed and power curves of electric skateboard motors
- Modelled in Solidworks and created an Excel template for analysis