

# Andrew J. Whitaker

Electrical Engineer in the Greater Boston, MA Area

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## Work Experience

### **Lockheed Martin Advanced Energy Storage**

Electrical Engineer Asc., Andover MA

June 2020 - Present

- Owner of new hardware development efforts for a custom battery health monitoring solution used on a grid-scale battery system
- Regular contributor to development and implementation of battery design, test software, lab procedure, and commissioning initiatives

Controls Engineering Contractor, Andover MA

July - November 2019

- Created an internal Python-based engineering platform for testing system controls by emulating various sensor scenarios
- Began development on a custom hardware solution to expand upon functionalities provided by off-the-shelf test hardware

Energy Storage Electrical Engineer (Co-op), Waltham MA

January - June 2018

- Created test procedures, system specifications, and product timelines in a Systems Engineering role for large energy storage solutions
- Developed programs using Python, LabVIEW, Modbus TCP/IP, and CANBus to interact with sensors and PLCs

### **Lutron Electronics**

Analog Hardware Electrical Engineer (Co-op), Cambridge MA

January - June 2019

- Developed line noise filters for an upcoming Lutron product to meet FCC, UL, and California Title 20 efficiency standards
- Began development on custom test hardware components for end-of-line product verification assemblies

### **Generate Build Studio**

Build Studio Engineer, Boston MA

September - December 2019

- Development of a schematic and PCB for a climate control device with humanitarian applications

Build Studio Engineer, Boston MA

September 2017 - May 2018

- Schematic capture, PCB design, and firmware integration for an ATtiny-based sleep aid's alarm system
- Schematic capture and PCB design for a STM32-based Bluetooth to LED driver for an advertising display

### **Desktop Metal**

Electrical Engineer (Co-op), Burlington MA

January - June 2017

- Designed, integrated, and tested parts for the DM Studio System using Altium Designer and LTSpice
- Developed and interfaced with test fixtures using Arduino, Python, LabVIEW, OnShape, SolidWorks, and MATLAB

## Skills and Interests

**Software and Languages:** Altium Designer • KiCAD • Spice • Python • Java • C++ • LabVIEW • MATLAB • Bash • Arduino • Modbus TCP/IP  
CANBus and PCAN • SolidWorks • OnShape • AutoCAD

**Hardware:** Electronics Lab (Oscilloscope, Waveform Generator, Multimeter) • Soldering • Programmable Logic Controllers • Machine Shop  
(Drill Press, CNC, DIN Rail, 80/20, 3D Printing) • Musical Instruments & Amplifiers

**Interests:** Renewable Energy • Transportation • Analog Radio (General Class HAM Operator License) • Music Circuitry • Auto and Bicycle  
Mechanics • Cycling • Musical Performance (Guitar and Saxophone) • Bikes Not Bombs Volunteer

## Education & Leadership Experience

### **Northeastern University College of Engineering, Boston MA**

Bachelor of Science in Electrical and Computer Engineering

May 2020

**Summa Cum Laude**, University Honors Program, 3.9/4.0 GPA

**Capstone Project:** *Wireless Audio Control Interface (WACI)*, a system comprised of a high-sampling analog-digital audio interface and a collection of wireless modules to allow musician-specific effects controls for live performances – *Winner, 2019 Capstone Competition*

**Other Projects:** Hand-built Electric Guitar, Wiimote Robot Arm, Arduino Video Game Controller, Oscilloscope-based EKG

**Relevant Coursework:** Power Electronics, Control Systems, Electronics 1 & 2, Sustainable Energy, Analog Integrated Circuit Design, Linear Systems, Electromagnetics, Embedded Design, Circuits and Signals, Algorithms, Networks, Discrete Structures, Noise and Stochastic Processes, Digital Logic Design

**Dialogue of Civilizations – Netherlands:** Spent the Summer 2018 term abroad studying European sustainability and transportation

**Awards and Societies:** Eta Kappa Nu (Apr 2018), Tau Beta Pi (Apr 2019), IEEE Power and Energy Society Scholar ('16-'17, '17-'18, '18-'19)

### **Boy Scouts of America, Troop 8 – Pittsfield MA**

Eagle Scout; Bronze, Gold, and Silver Palms

November 2014

- Led fellow scouts as Senior Patrol Leader, Patrol Leader, and Junior Assistant Scoutmaster
- Organized and led the construction and distribution of 25 bluebird houses to preserve local populations