

WORK EXPERIENCE

Aeva – Mountain View, CA – *Hardware Engineer* **Feb 2020 – Apr 2020**

- Designed frequency-modulated continuous-wave laser driver circuitry for automotive LiDAR; COVID-19 layoff

Ouster – San Francisco, CA – *Hardware Engineer* **Apr 2019 – Oct 2019**

- Designed, tested, & optimized laser module electronics for high-resolution long-range VCSEL-based flash LiDAR
- Extensive bring-up, debugging, and optimization of high-speed high-power custom silicon ICs and PCBs
- Oversaw electro-mechanical and optical aspects of high-volume automated laser characterization test fixtures
- Significant test automation coding experience working with a large code-reviewed Python repository using git
- Constructed UL-certified laser eye safety Single Fault test program; assessed system-level thermal performance

Analog Devices – Wilmington, MA – *Applications and Product Engineer, Automotive LiDAR* **Aug 2017 – Feb 2019**

- Devised and implemented breakthrough Characterization Plan, hardware, and software from first to final silicon
- Facilitated key opto-electric product and test automation improvements resulting in reduced time to market
- Assessed test coverage gaps and implemented corrective actions including DFT changes for increased quality

MC10 – Lexington, MA – *Senior Electromechanical Intern* **Feb 2015 – Dec 2015**

- Designed and executed verification and validation test procedures for prototype and mass-production PCBs
- Assisted electrical design and firmware with digital communications for low-power wearable embedded systems
- Designed wearable sensor mechanicals, manufacturing workflows & tooling. Implemented SQL tracking database.

Aerodyne Research – Billerica, MA – *Engineering Intern* **June 2012 – Dec 2013**

- Built and upgraded quantum cascade laser trace gas monitors; extensive MCAD and cable assembly DFM

PROJECT EXPERIENCE

Analog Devices – Bioimpedance Hydration Research, Dartmouth College – *EE Technical Lead* **Sept. 2016 – Mar. 2017**

- Performed bioimpedance spectroscopy research for hydration monitoring using ADuCM350
- Led embedded system firmware creation and 4-wire analog measurement circuit design

Thayer Analog Lab – Wearable Cough Monitor, Dartmouth College – *EE Research Intern* **Jun 2016 – Aug 2016**

- Designed flash memory hardware and firmware integration with existing wearable device

BU FIRST Robotics Team – BU Academy – *Electrical Lead; Team Captain (2010-2012)* **September 2008 - June 2012**

- Led mechanical, electrical, and programming aspects of robot design and build; creator/webmaster bu.edu/bufirst

EDUCATION

Dartmouth College – Hanover, NH – Bachelor of Arts in Engineering Sciences **2017**

- Coursework includes: Analog Circuits I & II, Embedded Systems & Firmware, Solid Mechanics, Thermodynamics, Systems Analysis, Computer Science. Extracurriculars include: walk-on coxswain, society House Manager

SKILLS

- Apps: Cadence Design Entry & PCB Layout, OrCAD Capture, Altium, PSpice, Eagle; SolidWorks and SurfCAM.
- Languages: LabVIEW, Python, C, Assembly, MATLAB, SQL, HTML. Use of JMP and Excel for data analysis.
- Tools: EE meters & oscilloscopes. Git, SVN, MS Visio, MS Project, JIRA, JAMA, Confluence. Six-Sigma Yellow Belt.

PERSONAL PROJECTS

WillCloud – Distributed content delivery & compute server network with 3 server nodes totaling 12 cores & 135 TB

- Custom site-specific server builds for optimal data throughput, IoT microservice reliability
- Web server for 20+ unique secured endpoints including WordPress sites, VPN services, and shared file hosting

PiPyOBD-MINI – Real-time Python-based automobile diagnostics on an embedded Raspberry Pi & 3D-printed hardware

- In-vehicle OBD-II data & derived-metric display using the ELM327; utilizes unique vehicle power filtering circuit