

# Trevor O'Leary

[www.trevoroleary.com](http://www.trevoroleary.com) | trevor@trevoroleary.com | 415 – 744 – 4027

San Francisco, CA

Bachelor's in Electrical Engineering – McGill University

Electrical & software engineer with expertise designing robust software & hardware solutions that have become deeply integrated in product design cycles and lifetimes. I am seeking an opportunity to apply my diverse skill set, bridging hardware and software.

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## Professional Experience

### Tesla – Senior Software Engineer & People Leader

2021 – present

- Built and lead a team that created the manufacturing testing system used on all Model S/X, 3/Y and Cybertruck vehicle controllers, enabling the testing of millions of units per year.
  - The system includes controller device drivers (SPI, LIN, GPIO), data acquisition hardware, electronic loads, SQL database storage front website results display and dashboards.
  - The system enables engineering teams to perform failure analysis, reliability testing, thermal testing, in-vehicle integration testing, endpoint testing and bench testing.
- Created the Optimus (Tesla Robot) motor encoder calibration system hardware and software.
  - The primary users are technicians and manufacturing associates. The software ships with intuitive controls, a simple go/no-go output and failure root-cause suggestions. All measurements, steps, and results are pushed to a database for visibility.
- Created and own an Altium & Cadence schematic parsing tool that enables firmware SIL testing, PCB pre-design-release checks & manufacturing test coverage analysis.
- Cultivate talent and provide mentorship to team members while communicating milestones and expectations to senior leadership

## Extracurricular Projects

### McGill Formula Electric - Lead Electronics Designer

2018 – 2020

#### Awards

- 1<sup>st</sup> Place Engineering Design for EV class at Formula Lincoln 2019
- 1<sup>st</sup> Place Overall in EV class at Formula Lincoln 2019
- Designed low voltage system for McGill entry in the 2019 FSAE season
- Integrated and packaged PCBs into 3D CAD for effective use of space and harnessing
- Trained new members joining electronics coming from various backgrounds and skill levels
- Contacted and met with company representatives around North America to secure team sponsorships

## Project Experience

### McGill - PCBA Design Research Assistant

2020 – 2021

- Satisfied signal integrity and impedance profiles to ensure effective ASIC testing
- Led communications with PCBA manufacturers to meet fabrication specifications

### McGill - Capstone | Automotive Test Equipment

2020 – 2021

- Designed and manufactured a PCBA designed to assist with bench testing
  - The PCBA includes programmable DC Load, analog inputs, digital I/O, CAN, programmable supply and fixed supplies

## Skills

- **Hardware:** PCB Design & Prototyping, Reflow, Oscilloscope, Signal Generator, Lazer Cutting
- **Software:** Python, Altium, Java Script, React, HTML, MongoDB, SQL, LT Spice React, MATLAB, Siemens NX