# Luc Bouchard

#### Education

Cal Poly, San Luis Obispo

BS in Physics, Minor in Computer Science

Graduated June 2019 GPA: 3.7

Oregon State University

Graduated June 2021

MS in Computer Science

GPA: 3.7

Interests: Statistics, Data Science, Stochastic Systems, Information Theory, Programming Languages

## Skills

Languages TypeScript JavaScript C/C++ Python Java Bash SQL HTML CSS MatLab Haskell Tools React GCP AWS Node Webpack Redux Flask Firebase Express.js Pandas Matplotlib Jinja Other Statistics Embedded Systems Data Analysis Controls Linux U-Boot git Github Jira CI/CD Jupyter

## Experience

SpaceX November 2021 - Present

Firmware Engineer

- Parallelized initialization sequence on next-generation Starlink satellite phased array antennas to reduce boot time and increase developer productivity.
- Developed software to control Starlink satellite actuators and relay telemetry to the flight computer.
- Wrote a low-power demonstration application for an STM32 microcontroller to send GPS location over LoRA.
- Worked remotely on a complex project with a large team of engineers.

#### Oregon State University

September 2019 - June 2021

Graduate Research Assistant

- Applied statistical algorithms to develop a novel free space optical communication system.
- Measured digital transmission metrics like SNR and BER in lab and analyzed data for publication.

Graduate Teaching Assistant

• Taught and graded introductory courses for online data science MS program.

Joby Aviation Summer 2019

Embedded Software Intern

- Developed embedded software for an innovative electric passenger airplane.
- Refactored core libraries to improve reusability and safety.

#### Fullpower Technologies

Summer 2018

Embedded Software Intern

- Brought-up newer U-Boot bootloader to improve boot times of a consumer embedded system.
- Met strict deadlines in advance of a mass-manufacturing run.

### Project Jupyter

April 2017 - November 2017

Frontend Software Engineering Intern

- Did frontend web development for JupyterLab, an open-source data science platform with millions of users.
- Used Electron to create a native version of JupyterLab. Added native UI features using React.
- Worked directly with design team to create a compelling user experience.

#### Cal Poly Satellite Research Lab

September 2015 - June 2019

Software Team Lead

- Led developers to create flexible, fault tolerant, and reusable systems software for CubeSats.
- Worked with multidisciplinary team of engineers to fund, design, and assemble multiple satellites including PolySat's ISX, Exocube 2, DAVE, and LEO.
- Developed and tested an attitude determination and control system for CubeSats.
- Wrote Linux kernel module to handle interrupts from a GPS's pulse-per-second line and synchronize the clock.

#### Other

- Cal Poly William L. Frost Scholarship recipient.
- Hobbies: Running, Basketball, Music, Reading