Luc Bouchard

lucbouchard1.github.io

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lucbouchard1

Education

Cal Poly, San Luis Obispo — Graduated June 2019
BS in **Physics**, Minor in **Computer Science** — GPA: **3.7**

Oregon State University — Graduated June 2021
MS in **Computer Science** — Graduate GPA: **3.7**

Skills

Languages	Typescript	JavaScript	C/C++	Python	Java	Bash	MatLab	Haskell	
Web	React	GCP	HTML/CSS	SQL	Webpack	Node	Redux	Flask	Express.js
Other	Statistics	Mathematics	Data Analysis	Controls	Linux	U-Boot	git	CI/CD	Jupyter

Projects

- **PokerTable.app** - Built a web-based poker app with my friends during COVID. Based on React, Redux, and GCP.
- **JupyterLab Native** - Used Electron to create a native version of JupyterLab, a popular data science platform that runs in the browser. Added native UI features using React.
- **CubeSat ADCS** - Developed and tested an attitude determination and control system for CubeSats. Implemeted Extended Kalman Filter in C. Wrote testing framework using Python, zmq, Google Protobufs, and Nasa 42.
- **MT7688 U-Boot** - Added U-Boot bootloader support for MT7688 SoC. Implemented several platform-specific features to improve boot performance of an embedded system.
- **PolySat Bootstrap** - Refactored CubeSat bootloader to support new memory architecture.
- **PPS Device Driver** - Wrote Linux kernel module that handles interrupts from a GPS's pulse-per-second line. Used to synchronize system clock.

Experience

Graduate Research Assistant — 2019 - 2021
Oregon State University

- Developed and implemented algorithms for a novel free space optical communication system.
- Characterized system performance in lab and analyzed data in advance of publication.

Joby Aviation Software Intern — Summer 2019
Electric Airplane Startup

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

Fullpower Technologies Firmware Intern — Summer 2018
IOT Hardware and Software Company

- Extended U-Boot bootloader to improve boot times of a consumer embedded system, the Sleeptracker Monitor.
- Met strict deadlines in anticipation of mass manufacturing runs.
- Improved boot time translated to large reductions in manufacturing cost.

Project Jupyter Frontend Software Engineer — April 2017 - November 2017
Open Source Interactive Computing Project

- Did frontend web development for JupyterLab, an open-source data science platform with millions of users.
- Worked directly with design team to create a compelling user experience.

PolySat Software Team Lead — September 2015 - June 2019
Cal Poly Satellite Research Lab

- 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.

Honors

- Graduated with Honors.
- William L. Frost Scholarship recipient.