Luc F. Bouchard

Education
California Polytechnic State University, San Luis Obispo

Bachelor of Science in **Physics**, June 2019   Class Level: Sophomore

Minor: **Computer Science**   Overall GPA: **3.9**

President's List

Relevant Coursework: Computer Programming Series, Computer Organization, Physics Series, Calculus Series, Linear Algebra and Differntial Equations

Skills
Programming Languages: C, C++, Java, Pyhton, Bash, Assembly, JavaScript

Skills: Linux, Vim, Git, Subversion, GDB, Valgrind, Buildroot, GNU Make, HTML, CSS, Microsoft Office

Project Highlights
- *PolySat Bootstrap* – improved PolySat's robust bootloader which validates Linux images to protect against radiation upsets. Refactored it to support a new triple redundant memory architecture. Set to launch on DAVE in 2016 and on all following satellites.
- *Memory Scrubbing* – Wrote a program in C to repeatedly validate a CubeSat's non-voltatile memory while in orbit to protect against radiation upsets. Set to launch on ISX in 2017 and on all following satellites.
- *PPS Device Driver* – Created a Linux kernel module that handles interrupts from a GPS's pulse-per-second line to synchronize a system clock. Set to launch on ISX in 2017 and on all following satellites.
- *GPS* – Wrote a userspace driver in C to receive and parse GPS data on a CubeSat. Helped electrical engineers debug GPS boards, and worked with Aerospace Corp to test the orbital performance of a COTS GPS module. Set to launch on ISX in 2017 and on all following satellites.
- *SRR* – Presented a C&DH subsystem at a Northrop Grumman system requirements review.

Experience
PolySat

Cal Poly's CubSat Program   San Luis Obispo, CA

Software Team Member   *September 2016 – June 2016*

Software Team Lead   *June 2016 – Present*

- Led a team of developers to create flexible, fault tolerant, and reusable software for CubeSats.
- Worked with a multidisciplinary team of engineers to fund, design, and build multiple satellites including PolySat's ISX, Exocube 2, DAVE, and LEO.
- Tested and integrated flight hardware in a cleanroom, and helped with vibration and TVAC tests.
- Worked with large organizations like NASA and Northrop Grumman.

Fullpower Technologies

IOT Software Company   Santa Cruz, CA

Summer Intern   *Summer 2014 & 2015*

- Assisted engineers is developing prototypes for a project with a short timeline.
- Wrote test scripts in Python to streamline testing and development.
- Created a web interface for BeagleBone Blacks running an HTTP server to allow for quick diagnostics and testing.

Joby Aviation

Innovative Aviation Company   Santa Cruz, CA

Intern   *Winter 2015*

- Wrote sensor drivers for a BeagleBone Black.

Honors
- William L. Frost Scholarship – Cal Poly
- AP Scholar with Distinction, 10th Grade Student of the Year, 11th and 12th Grade Science Student of the Year

Outside Interests
- Cal Poly Distance Running Club