Fletcher Porter

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I'm a jack-of-all-trades engineer with particular skill in software development and mechanical design. I love to get my hands dirty in every piece of a system. I find joy in having a broad understanding of everything and intimate knowledge of a few things I get to own. I've also found enourmous utility in meticulous documentation and reporting on my work.

Education

University of California, Santa Barbara (UCSB) · BS Mechanical Engineering · Sept. 2019
- Exchange study from 2017-08 to 2018-06 at Lunds Tekniska Högskola (LTH) in Lund, Sweden
- Courses in robotics, design with polymer composite materials, batteries, and fuel cells

Certified SolidWorks Associate (CSWA) · Jan. 2020

Experience

Oblong Inc. · Software Developer · Dec. 2020 – March 2022
- Qualified new hardware for a complex, embedded, multimedia, hardware/software device
- Collaborated on a hybrid remote/in-person team in the midst of the COVID-19 pandemic
- Improved logging on products to quicken Oblong's response to customer issues
- Debugged audio issue involving Linux, PulseAudio, Cisco hardware, and Oblong's hardware
- Took on maintainance and development of Oblong's legacy products and software tools
- Developed polyglot software in Python, Go, Bash, C++, C, Ruby, JavaScript, and TypeScript

Tetra Bio Distributed · Engineer, Board Secretary · April 2020 – Jan. 2021
- Developed a software display to show respiration descriptors of COVID-19 patients to doctors
- Designed a web server to send patient data to a browser front end using Python and Go
- Developed a Continuous Integration system to automatically test the software as it's checked in
- Wrote drivers for a pressure and a flow sensor for an embedded Linux system
- Made signal processing tools to turn sensor data into patient state descriptors useful to doctors

NASA Jet Propulsion Laboratory · Robotics Intern · Summers 2018, 2016, and 2014
- Developed a system to study robotic mobility for missions to icy moons
- Designed in CAD a mechanical system to offload gravity with minimal lateral forces
- Prepared engineering drawings of mechanical components to send to vendors to machine
- Designed an electrical system to distribute power to microprocessors that control the system
- Wrote automatic control programs and documentation in Python and Arduino C
- Developed a proposal for a probe to bore ~20 km into Europa's icy crust
- Designed and executed a test to demonstrate the feasibility of the proposed system
- Co-authored "A deep subsurface ice probe for Europa" in IEEE Aerospace Conference 2017

Hawkes Group, UCSB · Undergraduate Researcher · March 2019 – Sept. 2019
- Iteratively designed in CAD a fixture to hold tools on the end of a soft, vine-like robot
- Built these fixtures by making them on a 3D printer and assembling them
- Developed models for jump height of a carbon fiber-bow jumping robot

Capstone Course Design Project (UCSB) · Student Engineer · Sept. 2018 – June 2019
- Designed in SolidWorks from requirements a stair-climbing dolly that carries heavy payloads
- Machined most custom components by hand on a mill and lathe from drawings I made

A portfolio of my work can be found at http://portfolium.com/fporter/portfolio