

Fletcher Porter

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Education

University of California, Santa Barbara (UCSB) • Graduation June 2019

- B.S. in Mechanical Engineering
- Exchange studies from Aug. 2017 to June 2018 at Lunds Tekniska Högskola (LTH) in Lund, Sweden
- Courses in robotics at UCSB
- Courses in design with polymer composite materials and in hydrogen fuel cells at LTH

Experience

NASA/JPL Internship Robotic Mobility on Icy Moons • 11 June 2018–7 Aug. 2018

- Designed the mechanical, electrical, and control systems for a gravity-offload system that will be used to study robotic mobility for future missions to icy moons like Enceladus
- Worked extensively with the disaster recovery robot RoboSimian to conduct tests
- Generated concepts for a sampling system to take to study soil in Death Valley, California

NASA/JPL Internship Ocean Worlds Mobility and Sensing • 14 June 2016–26 Aug. 2016

- B. H. Wilcox, J. A. Carlton, J. M. Jenkins and F. Porter, “A deep subsurface ice probe for Europa,” in *2017 IEEE Aerospace Conference*, pp. 1–13, March 2017.
- Created an original concept for a level wind for the Deep Subsurface Access (DSA) probe
- Performed testing on DSA drivetrain to verify the design for the larger assembly
- Generated creative ideas for a sample transfer mechanism on the DSA probe
- Designed, built, and tested the actuation mechanism for an extensible arm for sampling on Europa

NASA/JPL and UCSB Robotics Lab Internship RoboSimian • June–Aug. 2014, Oct. 2015–May 2016

- Designed components for a novel robotic manipulator for RoboSimian
- Rapid prototyped components using a laser cutter and 3-D printer to aid iterative design
- Developed roller skates for the robot to increase locomotive speed from 0.1 m s^{-1} to at least 5 m s^{-1}

Projects

Northrup Grumman and UCSB Sensitive Electronics Carrying Case • Sept. 2018–In Progress

- Will be designing a container for sensitive electronics that will isolate vibrations from a person carrying it or being transported in a car

Applied Mechatronics Course Design Project Camera Window Cleaning System • Aug. 2017–Present

- Designed and built a compressed-air security cameras window cleaning for Axis Communications

FIRST Tech Challenge Student Robotics Mentor • June 2015–Present

- Teach high school students engineering design process, including ideation, CAD, iteration, and testing

Publications

B. H. Wilcox, J. A. Carlton, J. M. Jenkins, and F. Porter, “A deep subsurface ice probe for Europa,” in *2017 IEEE Aerospace Conference*, pp. 1–13, March 2017.

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