

Dan Brogan

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Personal Website: <https://dan-brogan.github.io/Dan-Brogan-Engineering/index.html>

Education:

University of Southern California (USC)

M.S. Astronautical Engineering

University of Rhode Island (URI)

B.S. Mechanical Engineering (Summa Cum Laude)

Robotics Engineering Minor

Mathematics Minor

Expected Dec. 2021

(In Progress)

May 2020

GPA: 3.94

Engineering Experience:

Space Engineering Research Center

Structures Engineer for Lunar Lander Prototype

- Building, integrating, and testing structural systems of vehicle

Aug. 2020-Present

NASA RI Space Grant

2019-2020

Rhode Island Space Grant Researcher for *Artificially Intelligent Satellite Servicing*

- Worked with Dr. Jouaneh and Dr. DiFilippo to create an optimized “You Only Look Once” (YOLO) based deep learning fastener detection system with Python

Lockheed Martin

2019-Present

Mechanical Engineering Intern (Secret Security Clearance)

- Technical Lead and Small Business Coordinator for a hydrostatic composite overwrapped pressure vessel (COPV). Used ANSYS for COPV FEA simulation and MATLAB for wall thickness trade study. Presented solution to NUWC.
- Supported the following SBIR projects: AF181-032: *Direct Injection Systems for Small UAV Engines*, N00024-16-C-4537: *Wideband Acoustic Signature Capability for Next Generation Mobile Anti-Submarine Warfare (ASW) Training Target*
- Prepared and conducted a presentation for Lockheed Martin Newport on Deep Learning for Computer Vision
- Attended SBIR Conference at Lockheed Martin Skunk Works in Palmdale, CA

URI Capstone Project: 5-Axis 3D Printer

2019-2020

Lead Mechanical Design Engineer

- Ground up design, fabrication, and testing of a 5-axis 3D printer
- Continued to work on project individually post-graduation

URI Artificial Intelligence Laboratory

2018-2019

Robotician

- Responsible for constructing robots, hosting Arduino workshops, and facilitating URI’s new public AI lab

Raytheon

2018

Mechanical Engineering Intern

- Used CREO Parametric for modelling complex solids for several Internal Research & Development (IRAD) projects
- Supported development of sonar transducer and electronics packaging systems on Zumwalt-Class Destroyer Ship 3
- Presented work to Bill Dawson, Sr. Director of Mechanical Engineering

Engineering Projects:

NASA Venus Rover Mechanical Sensors

2020

- Worked with Mitch Brogan to design mechanical obstacle avoidance sensors for the public NASA HeroX challenge

Mechatronics Projects

2019

- Used Visual Basic, Arduino and Python to create control code for DC motors, heating elements, stepper motors, etc.

Turbo Jet Engine

2019

- Fabrication and testing of a turbo jet engine comprised of a turbocharger and oil system with pump controller

Pulse Jet Engine

2018

- Fabrication and testing of a valveless pulse jet engine that operates without moving parts

Professional Skills:

Mechatronics, Propulsion, Python, MATLAB, Arduino, Visual Basic for Forms Applications, CREO Parametric, ANSYS Workbench, Microsoft Excel, Composite Lamination, TIG Welding, Metal Shaping

Associations:

USC Rocket Propulsion Laboratory (USCRPL)

Sept. 2020-Present

Simulations Engineer

- Using ANSYS to simulate performance of physical systems for new liquid rocket engine project

URI Astroneering

2018-2020

President and Founder of URI Astroneering Club

- Started Aerospace Engineering Club for Students interested in rocket design and interplanetary colonization

American Society of Mechanical Engineers (ASME)

2017-2019

President of ASME URI Chapter

- Restarted previously defunct ASME URI Chapter. Organized & facilitated build projects, field trips and club meetings