Dan Brogan

1286 West Adams Blvd. Apt. #23, Los Angeles CA 90007 Mobile: (401) 575-2652 dbrogan@usc.edu
Personal Website: *https://dan-brogan.github.io/Dan-Brogan-Engineering/index.html*

Education:

University of Southern California (USC) Expected Dec. 2021
M.S. Astronautical Engineering **(In Progress)**
University of Rhode Island (URI) May 2020
B.S. Mechanical Engineering (Summa Cum Laude) **GPA: 3.94**
Robotics Engineering Minor
Mathematics Minor

Engineering Experience:

Space Engineering Research Center Aug. 2020-Present
Structures Engineer for Lunar Lander Prototype
- Building, integrating, and testing structural systems of vehicle

USC Rocket Propulsion Laboratory Sept. 2020-Present
Simulations Engineer
- Using ANSYS to simulate performance of physical systems for new liquid rocket engine project

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
Roboticist
- 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:

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