Dan Brogan

146 Sunrise Dr. Bristol RI 02809 Mobile: (401) 575-2652 dbrogan@usc.edu

Education:

University of Southern California (USC) Expected May 2022
M.S. Astronautical Engineering (Incoming Graduate Student for Fall 2020)

University of Rhode Island (URI) May 2020
B.S. Mechanical Engineering (Summa Cum Laude) **GPA: 3.94**
Robotics Engineering Minor
Mathematics Minor

Professional Statement: I aim to help advance space exploration technology to accelerate our timeline for sending humans to Mars.

Engineering Experience:

NASA RI Space Grant 2019-2020
Rhode Island Space Grant Researcher for *Artificially Intelligent Satellite Servicing*

- Worked with Dr. Jouaneh and Dr. DiFilippo at the University of Rhode Island 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
Team Leader

- Ground up design, fabrication, and testing of a 5-axis 3D printer
- Project sponsored by NUWC of Newport RI

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 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

- Design, fabrication, and testing of a turbo jet engine comprised of a turbocharger and oil system with pump controller

Pulse Jet Engine 2018

- Drafting, fabrication, and testing of a valveless pulse jet engine that operates without moving parts

Trimaran Raft 2018

- Supported Design and Fabrication of a large 20'x12' trimaran raft with removable hulls

Professional Skills:

Mechatronics, 3D Printing, 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 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

URI Engineering Council 2018-2019
Co-Chair of URI E-Council, ASME URI Chapter Representative

- Hosted and helped organize "Evening With Industry," a networking event for students and the following companies: General Dynamics Electric Boat, Sensata, FM Global, Pare Corp., BETA, Bay Computer Associates, Commissioning Agents Inc.