REX CALABRESE | *Recent BSME grad actively seeking a position within the aerospace industry.*

San Francisco, CA | Calabrese.Rex@Gmail.com | https://www.linkedin.com/in/rfcal/

PERSONAL GOALS

I am an engaged, initiative-taker offering a growing set of skills based on a foundation of idea synthesis, spatial awareness, engineering methods, analytical methods, numerical methods, and exceptional manual dexterity. I embody a "by-any-means" approach and am dedicated to getting the job done right. I have the capability to comprehend and follow complex sets of instructions using exactness as a science, at the same time having the mental flexibility to thoughtfully generate creative and 'purposefully disruptive' ideas—all forged through the basis of engineering.

EDUCATION

University of Vermont, Burlington, VT
Bachelor of Science in Mechanical Engineering (BSME), May 2020

CERTIFICATIONS

- FE Exam issued by NCEES, passed May 2020   See credential
- STK MASTER Certification issued by AGI, May 2019   See credential
- STK Certification issued by AGI, November 2018   See credential

SKILLS

Technical: Python, C++, SolidWorks, Ansys Fluent, Inventor, AutoCAD, MATLAB, WordPress, Adobe Suite
Engineering: Analytical Methods, Computational Fluid Dynamics (CFD), Finite Element Analysis (FEA)
Hands-on: Prototyping, Geometric Dimensioning & Tolerancing, Machining, Hardware Testing

EXPERIENCE

Vermont Space Grant Consortium, Burlington, VT
Design Lead, Satellite Testbed Development Project
2018-2019

- Developed a small satellite testbed (3 DOF) from conception to implementation, for the purpose of testing propulsion systems with thrust on the order of micronewtons
- Modelled the geometry of the system in SolidWorks, modelled the dynamics with Python
- Designed a modular framework for the component attachment system to ensure utility for future use
- Helped manage project milestones in order to maximize system resolution while keeping to the budget of $10,000

University of Vermont, Burlington, VT
Design Lead, Spherical Air Bearing Research and Prototyping
2017-2018

- Utilized CFD methods alongside 3d-printing software to develop prototype air bearings, in an effort to optimize performance due to limitations in manufacturing methods
- Produced three functional spherical air bearing prototypes and characterized their performance
- Developed a standardized system to quickly test different orifice-array patterns from a common base, reducing production time
- Modelled the air-gap with CFD methods in an effort to characterize friction in the bearing system
- Developed image progressing software to track position of air bearing using OpenCV and printed QR codes