

Flynn Cruse

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Education:

North Carolina State University, Raleigh, NC
B.S Mechanical Engineering

August 2018 – June 2022

Engineering Work Experience:

Collier Aerospace, Raleigh NC

May 2022 – July 2022

Lead Aerospace Structures Engineer on Blue Origin Contract

- Performed structural numerous trade studies on commercial spaceflight vehicles for multiple contracts. However, an NDA prevents me from listing the projects by name.
- Lead contracting Structural Engineer for a Blue Origin project. My efforts resulted in a 60% weight reduction in the project's structural components: while meeting frequency, buckling, stress, strain, and compression after impact analysis criteria.

Engineering Lead for the following Projects and Competitions

StairBa Robot – Senior Design & Entrepreneurial Project

August 2021 – May 2022

- Conceptualized, designed, and built, a robot capable of climbing and vacuuming stairs.
- Utilized laser cutters, 3D-printers, CNC mills, and a lathe to create all the robot's parts.
- Presented 6th iteration prototype to NC State University Faculty.

Thermocycle - Heat Recycling Project for Desktop Computers

January 2021 – May 2021

- Designed, manufactured, tested, and iteratively improved three successive prototypes.
- Performed FEA, current-density, stress, and thermodynamic analyses on self-made CAD models within SOLIDWORKS and ANSYS.
- Proposed design changes that resulted in a 700% boost in performance of prototype.
- Final prototype successfully reclaimed 7% of thermal energy output from the CPU, and 5% from the GPU.

Flipper Bot - In House Battle Bots Competition

May 2021

- Placed first in a battle-bots competition hosted by NC State University's student chapter of the American Society of Mechanical Engineers.
- Utilized SOLIDWORKS to conceptualize robot design, then 3-D printed and assembled robot.
- Devised, soldered, and assembled circuitry of robot.

Non-Engineering Management Work Experience

Northbrook Country Club, Raleigh NC

April 2020 – August 2020

Manager

- Supervised over 30 employees in day-to-day operations and coordinated employee work schedules.

Meadowbrook Swim Club, Baltimore, MD

May 2018 – August 2019

Head Manager

- Coordinated all aspects of a multi-faceted fitness center with more than 40 employees.
- Oversaw two lifesaving rescues: a cardiopulmonary resuscitation, and a severe cranial hemorrhaging incident.

Technical Skills/Coding Proficiency

SOLIDWORKS, ANSYS, Creo, Fusion 360, HyperX, HyperMesh, Inventor, AutoDesk, FEA, Git, Java, C++, Python, and MATLAB.

Honors Awarded by NC State University

Dr. David P Harris Scholar, Entrepreneurship Scholar, Deans List, Order of the Engineer, Entrepreneurship Ambassador.