

Anna Boese

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EDUCATION

Cornell University, College of Engineering, Ithaca, NY
Bachelor of Science, Mechanical Engineering • GPA 3.9 • Magna Cum Laude
Master of Engineering, Aerospace Engineering

Dec 2023
Expected Dec 2024

Technical University of Denmark, Lyngby, Denmark
International Exchange Program

Spring Semester 2023

Selected Coursework: Intro to Aeronautics • Intro to Spaceflight Mechanics • CAM • Internal Combustion Engines • Space Systems Engineering • Dimensional Tolerancing • Spacecraft Technology and Systems Architecture • DFMA

RESEARCH

Space Imaging and Optical Systems Lab, Ithaca, NY, *Starlift Member*

Jan 2024 - Present

- Explored metrics and concepts that may optimize the performance of a theoretical network of spacecraft that provide intercept, servicing, and provisioning capabilities throughout cislunar space.
- Analyzed the visibility of potential orbits around the moon from a spacecraft in an Earth-Moon L2 halo orbit using Python.
- Propagates and animates various orbits using both a circular restricted three-body model and a full force model.
- Verifies the dynamics by comparing results with models generated using NASA's General Mission Analysis Tool.

TECHNICAL EXPERIENCE

DanSTAR, Lyngby, Denmark, *Mechanical Team Member*

Jan 2023 - July 2023

- Modeled the subassemblies of a fluid system for a bi-liquid rocket in SolidWorks, including the oxidizer system, fuel system, and pressure system, to use as reference when assembling a test stand for the engine.
- Assembled valves, fittings, and pressurized tanks for the fluid system in preparation for a hot fire test.

Combat Robotics @ Cornell, Ithaca, NY, *Kinetic Subteam Member*

Oct 2021 - Present

- Collaborates with 8 other team members to design and build the chassis of a 12lb combat robot with a high kinetic energy weapon to compete in the National Havoc Robot League competition.
- Utilizes Fusion360 to model the chassis, weapon, and power subsystems of the robot to align with fabrication limits and weight constraints.
- Troubleshoots and tests the robot upon assembly by recording each driving and weapon test and documenting findings and possible solutions to optimize the robot's functionality and probability of success.

Integrated Packaging Systems Inc., Denville, NJ, *Engineer Intern*

Aug 2020 - June 2021

- Utilized SOLIDWORKS to create and edit parts, assemblies, and blueprints to manufacture packaging-related machinery.
- Operated a manual milling machine to adjust the size of 42 slat washer sections to fit into a slat counter machine.
- Assisted in field work by assembling conveyors and rotary tables on site.

LEADERSHIP EXPERIENCE

Combat Robotics @ Cornell, Ithaca, NY, *Kinetic Subteam Lead*

May 2022 - December 2023

- Developed a timeline for the entire academic year that outlines goals and deadlines on a meeting-to-meeting basis organized into 6 sprints for the fall semester and 5 sprints for the spring semester.
- Provided tasks and challenges to 5 subteam members and oversaw progress across the subteam.
- Collaborated with fellow subteam leads and team leads to create an inclusive, fun, and supportive environment for team members that functioned smoothly and overcame presented obstacles.
- Coordinated machining schedules for all machine trained members and supervises the shop to ensure safety and confidence among members using the manual mill and lathe.

SKILLS, CERTIFICATIONS, AND ACTIVITIES

Software: MATLAB • SolidWorks • Fusion360 • Python • GMAT

Certifications: Certified PADI Open Water Diver

Fabrication Training: Haas TM-2P • Manual mill • Manual lathe

Activities: Cornell Symphony Orchestra • Cornell Piano Studio • Cornell Raptor Program • Intramural Volleyball