ETHAN ANZIA

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Master of Science (M.S.), Aeronautics and Astronautics
Stanford University, September 2023 – March 2025

Bachelor of Science (B.S.), Mechanical Engineering
Minor, Aerospace Engineering
Colorado School of Mines, August 2019 – May 2023
GPA: 3.955 | Dean's List Semesters: 1,2,3,4,5,6,7,8

First year Masters student studying Aeronautics and Astronautics at Stanford University with experience in many programs such as Python, MATLAB, EES, NX, Abaqus, SolidWorks Simulation, Arduino, Microsoft Office, LabView, and Mathcad. Possesses a CSWP (Certified SolidWorks Professional) License and proficient in all mechanical engineering subjects including Thermodynamics, Solid Mechanics, Fluid Mechanics, Dynamics, Finite Element Analysis, Heat Transfer, Aerodynamics, and Orbital Mechanics. Currently seeking an internship or co-op experience in an Aerospace Engineering position.

PROJECT EXPERIENCE

Thermodynamics – Engineering Equation Solver Combined Brayton/Rankine Cycle

- Plotted the effect of individual component efficiencies in a Brayton and Rankine Cycles compared to the overall combined cycle efficiency to discover which component within the entire cycle could we replace to increase overall efficiency the most and also to determine if waste heat could be used efficiently for another use.

Heat Transfer – Window Pane Analysis Project and Fin Array Analysis Project

- Analysing heat loss through 1, 2, and 3 window pane configurations to determine most cost efficient option based on time period and outdoor convection coefficient. Analysing fin array configurations to evaluate which most effectively reduces the temperature of a computer chip using MATLAB and SolidWorks CFD.

Fluid Mechanics – SolidWorks Computational Fluid Dynamics Projects

- Evaluation of a simple electronics enclosure to predict temperature of different components and analyse the effect of flow rate on cooling of the CPU and RAM chips and evaluation of pressure drop through a pipe with differential area using varying types of liquids and wall temperatures by inspection of velocity and pressure.

Finite Element Analysis – Space Shuttle Challenger Joint Analysis Project

- Performed Finite Element Analysis of the original joint used in the Challenger Space Shuttle booster rockets before the capture feature redesign in order to assess the performance of the O-rings and joints.

Aerodynamics – Airfoil Performance Characterization

- Four part project including design of airfoil, performing CFD simulations, fabricating the airfoil, and performing wind tunnel testing to compare with CFD predictions to characterize performance at various angles of attack

WORK EXPERIENCE

Northrop Grumman Space Systems – Structural Engineering Intern, June 2022 - August 2022

- Part of the Metal Structures/Seals Design & Analysis group within Propulsion Systems in Promontory, Utah. Completed joint volume calculations for thermal analysis, generated manufacturing review dispositions and modelled forward skirt components on multiple programs such as SLS for the Artemis program.

Mines Center For Academic Services and Advising – Peer Tutor, August 2020 - May 2023

- Peer tutoring in the subjects of Thermodynamics, Statics, Solid Mechanics, Fluid Mechanics, Dynamics, Finite Element Analysis, Feedback Systems, and Machine Design.

ORGANIZATIONS

Mines Blue Key Honor Society – Vice President, 22-23
Tau Beta Pi Engineering Honor Society - Member
ASME Student Chapter - Member
AIAA Student Chapter - Member

CERTIFICATIONS

CSWP
Machine Shop Certified
Open Water Scuba Diver