

Education

University of Michigan, College of Engineering | Ann Arbor, MI, USA

Sept. 2018 - present

BSE Aerospace Engineering, May 2022

Overall GPA: 3.9/4.0

Honors: Engineering Honors student (2020 - present), Dean's Honor List (2018 - present), University Honors (2018 - present)

Relevant Courses (May 2020): Structures courses (AE215, AE315, ME240), Materials courses (MSE220), Calculus & Diff. Eq. (Math215, Math216), Gas dynamics (AE225), Propulsion (AE335), Aerospace Systems (AE201)

Formal Research/Design Experience

Structures Engineer @ Michigan Aeronautical Science Association (MASA)

Sept. 2018 - present

- Team lead for design, production, and testing of LOx/RP-1 flight tank endcaps for suborbital, 1100-lb liquid bipropellant rocket
- Awarded first place and \$25K at CalTech New Frontier event for best preliminary rocket design
- Lead engineer on intertank plumbing bay, collaborating closely with aerodynamics and propulsion. Process involves mass optimization through CAD, theoretical calculations, finite element analysis, and CFD simulations
- Also designing short-duration liquid oxygen run tank systems for liquid bipropellant engine static fire tests

Undergraduate Research Assistant @ Michigan Composite Structures Laboratory (CSL)

Jan. 2019 - present

- Worked on preparation and tensile testing of carbon fiber layup specimens to model the impact of these defects on strength
- Analyzed visual & ultrasound data from tensile tests of specimens to calculate change in strain throughout specimen in testing

Radio-Controlled Blimp: Design, Testing, and Construction

Sept. 2018 - Dec. 2018

- Designed, built, and tested flying radio-controlled airship designed for optimal speed and maneuverability. Process involved MATLAB simulations to achieve design optimization, subsystem development, vehicle integration, and piloting
- Won first place in airship speed trials at the Fall 2018 U-M Aerospace Day with final airship design
- Awarded 2nd place in college-wide Landes Prize for Technical Communication for final report

Students Modelling a Research Topic Program - MSOE Center for Biomolecular Modeling

Sept. 2014 - May 2018

- Collaborated with a team of students and professors from the University of Ottawa and the National Research Council of Canada to model protein-folding interactions in *Clostridium difficile* toxins A and B as well as the lamin A D192G mutant
- Made and presented posters at the Experimental Biology Conferences in Chicago (2017) and San Diego (2018), and published research abstracts in The FASEB Journal:

Wall S., et al. *The use of single-domain antibodies from Camelidae for the inhibition of Clostridium difficile toxins A and B*. The FASEB Journal 2018, 32, 1_supplement

Wall S., et al. *Comparison of the structure between the wild type lamin A/C protein and the cardiac disease causing variant D192G*. The FASEB Journal 2017, 31, 1_supplement

Further Leadership Experience

Michigan Aeronautical Science Association (MASA) - Business Development Director & Board Member

May 2019 - present

- Currently leading the business team to coordinate sponsor and industry relationships and secure funding for MASA. Also in charge of MASA's branding and external image. Have secured financial/material sponsorships. Visit masa.engin.umich.edu

Selected Activities and Honors

Engineering Honors Program Participant

2019 - present

James B. Angell Scholar Recipient

Feb. 2020

AIAA Space Transportation Scholarship Recipient

2019 - 2020

William J. Branstrom Freshman Prize Recipient

2019

University of Michigan AIAA Student Chapter Member

2018 - present

Hugh Penton Senior History Essay Prize Recipient

2018

Students Teaching Students Math & Science Tutor

2018

Software: SOLIDWORKS, CATIA, StarCCM, Autodesk Fusion 360, ANSYS FEA & CFD (Fluent, CFX)

Programming Languages: MATLAB, Python, PHP, Java, C++, JavaScript, HTML/CSS

Languages: English, French, Polish