

Education

- MSE Mechanical Engineering**, University of Michigan Ann Arbor (GPA: 4.00) *Jan 2024 - Dec 2024*
 - Digital Control Systems, Finite Element Methods in MEAM, Adv Batteries, Experimental Design Microelectromechanical Systems, Design Optimization, Robotic Kinematics & Dynamics
- BSE Mechanical Engineering**, University of Michigan Ann Arbor (GPA: 3.97) *Aug 2021 - Dec 2023*
- BS Aerospace Engineering (transfer)**, University of Illinois Urbana-Champaign (GPA: 3.80) *Jun 2019 - May 2021*
 - Discrete Structures, Data Structures, Flight Mechanics, Mechanics of Aerospace Structures, Incompressible Flow, Computer Architecture, Numerical Methods, Algorithms

Experience

- Relativity Space** / Thermal Engineering Intern - Long Beach, CA *May 2024 - July 2024*
 - Developed convection tool and GUI for various input parameters and geometry *May 2023 - Aug 2023*
 - Implemented post processing tool for heat flow between subgroups, transient calcs for frost buildup
 - Created and analyzed thermal models of Terran R throttle valve actuator, cables, thermal protection system
- University of Michigan** / Graduate Student Instructor - Ann Arbor, MI *Jan 2024 - May 2024*
 - Instructed ME395 (Lab I) sections; taught and guided students to run/troubleshoot vibration, vapor compression cycle, aluminum tensile/fracture, DC motor, wind tunnel equipment/experiments
- Rivian** / Aerothermal Systems Engineering Intern - Irvine, CA *May 2022 - Aug 2022*
 - Evaluated heat management with composite materials and potential range improvements for EDV and R1S
 - Automated StarCCM+ simulation workflow, reducing number of steps by 66%
 - Developed long term insulation pack by optimizing insulation location and R-value, and determined evaporator cooling power required for varying ambient conditions, for human comfort/safety in EDV cargo compartment
 - Conducted material stack configuration, fan characterization testing; quantified benefits of different EDV roof colors
- Tesla** / Manufacturing Engineering Intern - Austin, TX *Jan 2022 - May 2022*
 - Streamlined Model Y fascia assembly line and reduced cycle time using process flow layouts and time studies
 - Designed and assembled 2QPC buffer storage method to accommodate urgent process needs
 - Established standard work procedures for fascia assembly process, trained operators, supported production team
 - Presented and coordinated design change review for assembly line, reducing finished goods transfer time by 70%
- H.A. Automotive Systems** / Design Engineering Intern - Troy, MI *Jun 2021 - Jan 2022*
 - Conducted Design Failure Mode and Effect Analysis (DFMEA) on headlamps, taillamps
 - Employed CAD (CATIA) to model products, improved structural stiffness of proposed products
 - Designed, assembled, and validated a green filter headlamp prototype which was adopted by GM as a benchmark/proof of concept, resulting in \$100,000 additional market value revenue

Activities

- Michigan Aeronautical Science Association** / Member *Aug 2021 - Dec 2022*
 - Analyzed liquid propellant propulsion chamber pressure using FEA, injector design using CFD
- Illinois Space Society** / Subteam Lead *Aug 2019 - May 2021*
 - Competed in NASA's Revolutionary Aerospace Systems Concepts - Academic Linkage (RASC-AL)
 - Led group for radiation/MMOD protection, design, FEA for structure of reusable lunar habitat (finalist team)
 - Researched nuclear thermal propulsion and zero boil-off, defined specifications for Mars mission (finalist team)

Organizations

- American Society of Mechanical Engineers (ASME) / Member *Aug 2021 - Present*
- American Institute of Aeronautics and Astronautics (AIAA) / Member *Aug 2019 - May 2021*

Skills

- C++, Java, Python, JavaScript, MATLAB, TensorFlow; NX, CATIA, SolidWorks, Fusion 360, AutoCad, ANSA
- Thermal Desktop, Ansys, TaiTherm, StarCCM+, Adams, COMSOL, STK (Level 1 Certified), EAGLE
- Mill, Lathe, Laser cut, Water jet, 3D printing

Honors & Awards

- University of Michigan: Dean's List, University Honors, James B. Angell Scholar, Budd Scholarship
- University of Illinois Grainger College of Engineering: James Scholar, Dean's List