

ANDI ZHOU

Canadian Citizen

1929 Plymouth Rd, Ann Arbor, MI 48105

andi.zhou1324@gmail.com

(734)-881-4192

Education

University of Michigan Ann Arbor

Bachelor of Science in Engineering

Major: Aerospace Engineering

Master of Science in Engineering

Major: Aerospace Engineering

Clubs/Programs – Michigan Aeronautical and Science Association (MASA), Sigma Gamma Tau, AIAA

Ann Arbor, MI

Graduated May 2022

GPA: 3.7/4.00

Graduating May 2023

GPA: N/A

Skills

Engineering Skills: CAD, FEA, CFD, Thermodynamics, Thermal Structure, Thermal Management

CAE Software: CATIA v5, ANSYS, STAR CCM+, Solidworks, ANSA, PowerFLOW, NASTRAN, Linux

Coding Language: MATLAB, C++

Awards: Dean's Honor List (2018 – 2022) | Sigma Gamma Tau – National Aerospace Honor Society

Work Experience

Volvo Group Truck Technology

Greensboro, NC

Powertrain Simulation Intern

January 2022 – May 2022

- Designed, investigated, and optimized a swirl air-water separation tank which maintained a separation efficiency of 99% while decreased its mass from the original concept by 40%
- Collaborated with Dassault Systèmes, optimized water draining in truck air intake using PowerFLOW multi-phase flow, ensuring the system is up to standards as per SAE J554
- Using ANSA, cleaned 100s of powertrain CAD models and generated for them fine and efficient meshes for thermal and airflow simulations
- Wrote engineering reports and gave regular team presentation, gained extensive experience working in an Agile team and a large company of 10,000 people

Project Team Experience

MASA (University Rocketry Team)

Ann Arbor, MI

Aerostructure Lead – Rocket fins

September 2019 – Present

- Led a team of 12 in designing, simulating, and manufacturing rocket fins able to take on supersonic flight loads
- Led aero-thermal-structure interaction studies and optimized thermal-structural SF to 2
- Investigated transient rocket aerothermodynamic behavior at Mach 4.49 by performing high-fidelity CFD simulation leveraging ANSYS Fluent and STAR-CCM+
- Increased the apogee of our rocket from 40,000 to 60,000 feet through aero-structural optimization
- Coordinated with out-of-house manufacturers; in 3 months, fabricated and assembled the largest rocket fin assembly (3-ft wide, 4-ft tall) that MASA has ever built

Testing Engineer Lead

September 2021 – December 2021

- Led a team of 6 in testing the largest fin assembly (3-ft wide, 4-ft tall) that MASA has ever built
- Investigated dynamic roll behaviors using a 5' by 7' wind tunnel; quantified moment and angular acceleration due to aerodynamic effects and explored the possibility of inertial roll coupling
- Conducted static testing of the fin surface, analyzed data and compared with those given in Finite Element Analysis; confirming that the error range stayed within 20%
- Optimized team design cycles; accelerated design duration by 70%

Personal Projects

Active Aeroelasticity and Research Laboratory

Ann Arbor, MI

Undergraduate Research Assistant

September 2020 – May 2021

- Evaluated BWB type aircraft with NASTRAN using SOL 101, 103, 144, 145 and 400 to study its structural, modal and aeroelastic behaviors under subsonic speed with varying angle of attack and compressibility factor
- Wrote finite element codes with MATLAB, allowing for NASTRAN to iteratively solve for varying loading conditions and automatically provide the most optimized structure for the load case given

Berlin Institute of Technology

Berlin, Germany

International Research Intern

April 2019 – July 2019

- Verified drag coefficients and forces of experimental vehicles using wind tunnels measurements and compared with ANSYS Fluent results
- Optimized vehicle aerodynamic based on geometry changes guided by wind tunnel experiments