

# ANDI ZHOU

Canadian Citizen

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## 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: 3.67/4.00**

Starting January 2023

**GPA: N/A**

## Skills

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

**CAE Software:** CATIA, ANSA, PowerFLOW, Microsoft Access, Solidworks, ANSYS, STAR CCM+, NASTRAN, Linux

**Coding Language:** MATLAB, C++

**Awards:** Dean's Honor List (2018 – 2021) | Sigma Gamma Tau – National Aerospace Honor Society

## Work Experience

### Volvo Group Truck Technology

Greensboro, NC

*Powertrain Simulation Intern*

January 2022 – Present

- 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 static and aerodynamic testing the largest fin assembly (3-ft wide, 4-ft tall) that MASA has ever built
- Designed and built a light, modular test stands capable of withstanding 600 lbs for static stress analysis and a wind speed of 120 miles per hour for aerodynamic testing
- Placed 300 lbs onto one fin, analyzed its deformation data and verified with those given in ANSYS FEA
- Optimized team design cycles; accelerated design duration by at least 70% while maintaining the same build quality

### Remote Controlled Propeller Driven Hovercraft

Ann Arbor, MI

*Electrical Engineer (Team of 4)*

January 2020 – May 2020

- Managed power distribution for a remote-controlled hovercraft, ensuring enough voltage and current is provided to flight-critical hardware such as the motor controller and the flight computer
- Designed, soldered and organized hovercraft electrical harnessing, allowed for easy replacement of batteries, motors and Arduino controllers while maintaining overall vehicle weight distribution

## Research Experience

### 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