

# ANDI ZHOU

Canadian Citizen

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## Education

**University of Michigan Ann Arbor**

**Ann Arbor, MI**

**M.S.E Aerospace Engineering**

**GPA 3.86/4.00**

*Master of Science in Engineering*

Graduating December 2023

**B.S.E Aerospace Engineering**

**GPA 3.7/4.00**

*Bachelor of Science in Engineering*

Graduated May 2022

**Clubs/Programs** – Michigan Aeronautical and Science Association (MASA), Sigma Gamma Tau, Michigan Active Aeroelasticity and Research Laboratory, AIAA, **Private Pilot License (PPL)**

## Skills

**Engineering Skills:** Fluid Measurement/Testing, Heat Transfer, Compressible Flow, Multi-Phase Flow, Thermodynamics

**CAE Software:** CATIA, IPEMotion, Star CCM+, PowerFLOW, ANSA, Solidworks, ANSYS, NASTRAN, Linux OS

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

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

## Work Experience

**Zoox Inc.**

Foster City, CA

*Thermal System Intern*

May 2023 – August 2023

- Took charge of a stagnant flow-mapping test rig; Developed timelines, procured components, and constructed the test rig in just 9 weeks, providing the team with essential flow data and design insights within the L5 cooling system.
- Designed instrumentation diagram; connected and troubleshooted thermocouples, pressure sensors and flowmeters; devised an automation script in VBS that cut the testing time from 3 hours to 30 minutes.
- Analyzed system flow by mapping 175 combinations of pump duty cycles and valve positions; obtained repeatable results. Made design recommendations that could potentially increase system flowrate by 7.5%.
- Managed the entire project from end to end, from conceptualization to completion; collaborated closely with the battery, compute, and powertrain team to obtain updated component data and specialized hardware.

**Solar Ship Inc.**

Toronto, ON

*Mechanical, Test Engineer Intern, and Drone Test Pilot*

May 2022 – August 2022

- Worked tightly with a team of 6 engineers, designed the gondola for an 11-m diameter, human piloted, solar-electric tso-rocopter airship used for disaster relief in remote areas.
- Designed and prototyped a light, ergonomic, 11-G crash-resilient extendable controller mount for an 11-m diameter airship, allowing a 2-m tall pilot to fly the aircraft comfortably and safely.
- Modeled and integrated all avionic components within the avionics bay, reduced the size of avionics bay by 40% while lowering the entire vehicle mass by 5%.
- Designed and conducted flight tests of a 3-m diameter tso-rocopter at highly irregular hours, while maintaining the safety of other operators in addition to the equipment.

**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.
- Cleaned 100s of powertrain CAD models and generated for them fine and efficient meshes for thermal simulations using ANSA.
- Gained extensive experience working in an Agile team and a large company of 100,000 people.

## Project Team Experience

**MASA (University Rocketry Team)**

Ann Arbor, MI

*Aerostructure Lead*

September 2019 – December 2021

- 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.