

# 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:** Mechanical Design, FEA, CFD, Heat Transfer, Multi-Phase Flow, Thermodynamics, Data Inferencing

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

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

**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 2-year stagnating cooling system flow test rig; finished it in 9 weeks, yielding key flow data for the L5 vehicle cooling system.
- Devised an automation script in VBS that cuts the testing time from 3 hours to 30 minutes.
- Designed flow testing instrumentation diagram; worked extensively with thermocouples, pressure sensors and flowmeters.
- Made P&ID design recommendations that increased system flowrate by 7.5%.
- Managed the entire project from end to end; collaborated 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

- Designed an 11-G crash-resilient extendable yoke mount for an airship cockpit, ensuring safe, reliable and ergonomic control for all pilots.
- Collaborated with 6 engineers to design a gondola for an 11-m solar-electric tsorocopter airship for remote area disaster relief.
- Optimized avionics integration using Solidworks CAD, shrinking avionics bay size by 40% and reducing vehicle weight by 5%.
- Conducted and drafted irregular-hour flight tests for a scaled down 3-m tsorocopter, ensuring safety for both operators and equipment.

**Volvo Group Truck Technology**

Greensboro, NC

*Powertrain Simulation Intern*

January 2022 – May 2022

- Optimized a swirl air-coolant separation tank using Star CCM+, achieving 99% separation efficiency and reducing its mass by 40%.
- Partnered with Dassault Systèmes to enhance truck air intake water drainage, meeting SAE J554 standards using PowerFLOW.
- Refined 100s of powertrain CAD models, repairing surfaces and creating efficient meshes for thermal simulations via ANSA.
- Gained extensive experience working in an Agile team and a large organization.

## Leadership Experience

**MASA (University Rocketry Team)**

Ann Arbor, MI

*Rocket Fin Lead*

September 2019 – December 2021

- Led a team of 12 in designing, simulating, and manufacturing rocket fins able to take on supersonic flight loads.
- Achieved a thermal-structural SF of 2 at Max-Q via aero-thermal-structural optimization using ANSYS Suite.
- Analyzed rocket aerothermodynamics at Mach 4.49 leveraging ANSYS Fluent and STAR-CCM+.
- Elevated rocket apogee from 40,000 to 60,000 feet via aero-structural optimization.
- Led static testing of prototyped assembly, compared results with Finite Element Analysis, and ensured error stayed below 20%.
- Optimized team design cycles; accelerated design duration by 70%.