

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 3.69/4.00

Bachelor of Science in Engineering

Graduated *Magna Cum Laude* 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, Static Structural Testing, 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

- Owned and completed a 2-year stagnant powertrain cooling system flow test rig 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 controller 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 numerous powertrain CAD models, repairing surfaces and creating efficient meshes for thermal simulations via ANSA.

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.
- Spearheaded static testing of prototyped fin surface, compared results with FEA, and ensured error stayed below 20%.
- 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.
- Optimized team design cycles; accelerated design duration by 70%.