**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 –** NationalAerospaceHonorSociety

**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 Systèms 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.
* 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%.