

ANDI ZHOU

Canadian Citizen

1929 Plymouth Rd, Ann Arbor, MI 48105

andi.zhou1324@gmail.com

(734)-881-4192

Education

University of Michigan Ann Arbor

M.S.E Aerospace Engineering – Computation & Thermo-Fluid

Master of Science in Engineering

Ann Arbor, MI

GPA 3.86/4.00

Graduating December 2023

B.S.E Aerospace Engineering

Bachelor of Science in Engineering

GPA 3.7/4.00

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: Thermal System Design and Testing, CFD, FEA, Heat Transfer, Multi-Phase Flow, Data Inferencing

CAE Software: ANSA, CATIA, IPEMotion, Star CCM+, PowerFLOW, 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 2-year stagnating cooling system flow test rig; constructed and finished it in 9 weeks, yielding key flow data for the battery and powertrain cooling system.
- Made P&ID design recommendations that increased system volumetric flowrate by 7.5%.
- Accelerated testing time from 3 hours to 30 minutes using Python/VBS automation script.
- Designed flow testing instrumentation diagram; worked extensively with thermocouples, pressure sensors and flowmeters.

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.
- Optimized avionics integration using Solidworks CAD, shrinking avionics bay size by 40% and reducing vehicle weight by 5%.
- Designed and conducted flight tests of a 3-m diameter tsorocopter at highly irregular hours, while maintaining maximum safety of other operators

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%.
- Refined 100s of powertrain CAD models using ANSA, repairing surfaces, and creating efficient meshes for thermal simulations via ANSA.
- Partnered with Dassault Systèmes to enhance truck air intake water drainage, meeting SAE J554 standards using PowerFLOW.

Leadership Experience

MASA (University Rocketry Team)

Ann Arbor, MI

Aerothermal Lead

January 2021 – June 2021

- Led a team of 12 in designing, simulating, and manufacturing the largest, supersonic-capable rocket fins in organization history.
- Piloted high-fidelity full-body 3D CFD for a 27-ft rocket at Mach 4.49 and converged to 6th order of accuracy.
- Achieved a thermal-structural SF of 2 at Max-Q via aero-thermal-structural optimization using ANSYS Suite.
- Used K-Omega and K-Epsilon turbulence models in ANSYS Fluent and STAR-CCM+ to study rocket aerothermodynamics at Mach 4.49, both steady and transient.

Custom CFD Solver

Ann Arbor, MI

Programmer

January 2021 – May 2023

- Implemented a CFD solver for Euler's Equation using C++ and MATLAB; incorporated 1st and 2nd order Finite Volume Method as well as advanced Discontinuous Galerkin methods.
- Added an adaptive meshing algorithm, refining the computational mesh based on criteria like cell edge length and Mach Number.