

ANDI ZHOU

Canadian Citizen

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(734)-881-4192

Education

University of Michigan Ann Arbor

Ann Arbor, MI

M.S.E Aerospace Engineering – Computation & Aerodynamic

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 System Design, CFD, Numerical Optimization, Heat Transfer, Multi-Phase Flow, Data Inferencing

CAE Software: Star CCM+, Fluent, CATIA, IPEMotion, 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 L5 vehicle cooling system.
- Made P&ID design recommendations that increased system 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.
- Collaborated 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 CFD Lead

January 2021 – June 2021

- Led a team of 12 in designing, simulating, and manufacturing rocket fins able to take on supersonic flight loads.
- Led low and high-fidelity 3D CFD using ANSYS Fluent and Star CCM+ 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.
- Investigated dynamic roll behaviors using a 5' by 7' wind tunnel, and quantified moment and angular acceleration due to aerodynamic effects.

Personal Projects

Custom CFD Solver

Ann Arbor, MI

Programmer

January 2021 – May 2023

- Implemented a CFD solver for compressible Euler's Equation using C++ and MATLAB; incorporated 1st and 2nd order Finite Volume Method as well as advanced Discontinuous Galerkin methods.