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 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
Aero CFD 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.
- 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.
- Dedicated extensive after-school hours to craft precise meshes with Y+ values under 1 and was the team's first to converge the simulation using U of M's Great Lakes HPC Cluster.