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: Hands-on building, Uncertainty Analysis, Compressible Flow, Multi-Phase Flow, Thermodynamics
CAE Software: CATIA, IPEMotion, Star CCM+, PowerFLOW, ANSA, 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*
- Led a stagnant flow-mapping test rig; Developed timelines, procured components, and constructed the test rig in just 9 weeks, providing the team with essential flow data and design insights within the vehicle cooling system.
- Designed instrumentation diagram; connected and troubleshot pressure sensors and flowmeters; devised an automation script in VBS that cut the testing time from 3 hours to 30 minutes.
- Analyzed system flow by mapping 175 combinations of pump duty cycles and valve positions; obtained repeatable results.
- Managed the entire project from end to end; collaborated closely with the battery, compute, and powertrain team to obtain updated component data and specialized hardware.

Volvo Group Truck Technology   Greensboro, NC
Powertrain Simulation Intern   *January 2022 – May 2022*
- Designed, investigated, and optimized a swirl air-water separation tank which maintained a separation efficiency of 99% while decreased its mass from the original concept by 40%.
- Collaborated with Dassault Systèms, optimized water draining in truck air intake using PowerFLOW multi-phase flow, ensuring the system is up to standards as per SAE J554.
- Cleaned 100s of powertrain CAD models and generated for them fine and efficient meshes for thermal simulations using ANSA.
- Gained extensive experience working in an Agile team and a large company of 100,000 people.

Project Team 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.
- Led aero-thermal-structure interaction studies and optimized thermal-structural SF to 2.
- Investigated transient rocket aerothermodynamic behavior at Mach 4.49 by performing high-fidelity CFD simulation leveraging ANSYS Fluent and STAR-CCM+.
- Increased the apogee of our rocket from 40,000 to 60,000 feet through aero-structural optimization.
- Coordinated with out-of-house manufacturers; in 3 months, fabricated and assembled the largest rocket fin assembly (3-ft wide, 4-ft tall) that MASA has ever built.

CFD Engineer   *January 2021 – June 2021*
- Performed high-fidelity 3D full body CFD for a 27-ft rocket traveling at Mach 4.49 and converged the simulation to the 5th order of accuracy.
- Conducted aero-thermal-structure interaction studies and optimized thermal-structural SF to 2.
- Analyzed both steady and transient rocket aerothermodynamic behavior at Mach 4.49 by performing high-fidelity fluid simulation leveraging K-Omega and K-Epsilon turbulence models using ANSYS Fluent and STAR-CCM+.
- Spent 100s of hours after school to generate fine and efficient meshes with Y+ values below 5 and is the first on the team to successfully converge the simulation using the U of M Great Lakes HPC Cluster.