ANDI ZHOU

Canadian Citizen
1929 Plymouth Rd, Ann Arbor, MI 48105 andi.zhou1324@gmail.com (734)-881-4192

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/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*
- Led and completed a 2-year stagnating coolant flow test rig in 9 weeks, yielding key fluid 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 pressure sensors and flowmeters.
- 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.
- 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 for 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 numerous powertrain CAD models using ANSA, repairing surfaces, and creating efficient meshes for thermal simulations via ANSA.
- Partnered with Dassault Systèms to enhance truck air intake water drainage, meeting SAE J554 standards using PowerFLOW.

Leadership Experience

MASA (University Rocketry Team) Ann Arbor, MI
Testing Engineer Lead *September 2021 – December 2021*
- Led a team of 6 in mechanically testing the largest fin assembly (3-ft wide, 4-ft tall) that MASA has ever built.
- Validated fin surface static tests against Finite Element Analysis (FEA) model, obtained an error margin under 20%.
- Studied aerodynamic roll behaviors in a 5'x7' wind tunnel, quantified moment, and angular acceleration due to aerodynamic effects.
- Optimized team design cycles; accelerated design duration by 70%.

Rocket Fin Lead *September 2019 – December 2021*
- Led a team of 12 in designing, simulating, and manufacturing the largest rocket fins in organization history that could take on supersonic flight loads.
- Achieved a thermal-structural SF of 2 at Max-Q via aero-thermal-structural optimization using ANSYS Suite.
- Elevated rocket apogee from 40,000 to 60,000 feet via aero-structural mass optimization.
- Partnered with external manufacturers to craft MASA's largest-ever rocket fin assembly (3-ft by 4-ft) in 3 months.