ANDI ZHOU

Canadian Citizen
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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: Thermal System Design, CFD, Numerical Optimization, 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 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.
- 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
Aerothermal CFD Lead *January 2021 – June 2021*
- Led high-fidelity 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.

Personal Projects

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.