ANDI ZHOU

Canadian Citizen
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Education

University of Michigan Ann Arbor **Ann Arbor, MI**
Master of Science in Engineering Starting September 2022
Major: Aerospace Engineering **GPA N/A**
Bachelor of Science in Engineering Graduated May 2022
Major: Aerospace Engineering **GPA 3.7/4.00**
Clubs/Programs – Michigan Aeronautical and Science Association (MASA), Sigma Gamma Tau, Michigan Active Aeroelasticity and Research Laboratory, AIAA

Skills

Engineering Skills: Compressible Flow, Multi-Phase Flow, Thermodynamics, Heat Transfer, Thermal Management
CAE Software: PowerFLOW, ANSA, Star CCM+, Solidworks, ANSYS, NASTRAN, Linux OS
Coding Language: MATLAB, Python, C++, Simulink
Awards: **Dean's Honor List & University Honors (2018 – 2021)** | **Sigma Gamma Tau –** National Aerospace Honor Society

Work Experience

Solar Ship Inc. Toronto, ON
Mechanical, Test Engineer Intern, and Drone Test Pilot *May 2022 – August 2022*

- Worked tightly with a team of 6 engineers, designed the gondola for an 11-m diameter, human piloted, solar-electric tsorocopter airship used for disaster relief in remote areas
- Designed and prototyped a light, ergonomic, 11-G crash-resilient extendable controller mount for an 11-m diameter airship, allowing a 2-m tall pilot to fly the aircraft comfortably and safely
- Modeled and integrated all avionic component within the avionics bay, reduced the size of avionics bay by 40% while lowering the entire vehicle mass by 5%
- Designed and conducted flight tests of a 3-m diameter tsorocopter at highly irregular hours, while maintaining the safety of other operators in addition to the equipment

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 – Present*

- Led a team of 12 in designing, simulating, and manufacturing rocket fins able to take on supersonic flight loads
- Organized design reviews, conducted engineering work sessions, led to team to eventually optimizing the apogee of our rocket by 30%
- Designed the structure to a SF of 1.5 with a loading condition of 2-degree AoA at Mach 2.77, reducing the weight of the overall rocket by 10% while maintaining the same performance at identical loading conditions
- Contacted out-of-house manufacturers; in 3 months, fabricated a 4-ft tall, 3-ft wide rocket fin assembly leveraging advanced sheet metal manufacturing techniques such as bump bending and brake pressing

Testing Engineer Lead *September 2021 – December 2021*

- Led a team of 6 in testing the largest fin assembly (3-ft wide, 4-ft tall) that MASA has ever built
- Investigated dynamic roll behaviors using a 5' by 7' wind tunnel; quantified moment and angular acceleration due to aerodynamic effects and explored the possibility of inertial roll coupling
- Conducted static testing of the fin surface, analyzed data and compared with those given in Finite Element Analysis; confirming that the error range stayed within 20%
- Optimized team design cycles; accelerated design duration by 70%