ANDI ZHOU

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An aspiring 3rd year aerospace engineering student with extensive interests in fluid flows, thermodynamics and structures and is skilled in a variety of design and simulation softwares including Solidworks, CATIA, ANSYS, and MSC NASTRAN

EDUCATION

UNIVERSITY OF MICHIGAN — Ann Arbor, Mi

Undergraduate Aerospace Engineering / 3rd Year – Sept 2018 to present

- Overall GPA: 3.65, Major GPA: 3.86
- Dean's honor list

SKILLS

- Component design involving Solidworks and CATIA
- FEA utilizing ANSYS and MSC NASTRAN
- CFD analysis using ANSYS Fluent
- Data analysis leveraging MATLAB and C++
- Formal technical reports and presentations using MS PowerPoint and Overleaf LaTeX
- Team leadership

EXPERIENCE

MICHIGAN AERONAUTICAL SCIENCE ASSOCIATION — Ann Arbor, MI

Coordinating the design, simulation, manufacturing and integration of the fin aerostructure on the Tangerine Space Machine, an amateur rocket that the aims to be the first student-built liquid engine rocket to reach above the Karmen Line

Fin Aerostructure Lead, 2018 – present

- Oversaw structural integration and manufacturing plan fabrication for the entire fin, making sure the manufacturing deadlines are met
- Coached 10 newer team members the basics of FEA and CFD analysis using ANSYS simulation package
- Presented in regular team meetings updates on component design and simulation results, conversing with other team members any possible issue regarding overall system integration
- Communicating with the chief engineer to address any potential system problem, such as decreasing the fin surface area in order to readjust component weight and vehicle stability parameter
- Analyzed fins' structural characteristics by conducting static and transient FEA analysis using ANSYS simulation package, reducing structural stress and deformation to safety factor of 2 at Max-Q
- Performed subsonic, supersonic and hypersonic CFD simulations from Mach 0.6 to Mach 5.0 using ANSYS Fluent in order to investigate boundary layer thickness and aerodynamic surface temperatures

ACTIVE AEROELASTICITY AND STRUCTURE RESEARCH LABORATORY — Ann Arbor, MI

Conducting comparison studies on the results between in-house aeroelasticity simulation software UM/NAST with commercially published simulation software MSC NASTRAN

Research Assistant, 2020 – present

- Evaluated BWB type aircraft with SOL 101, 103, 144, 145 and 400 in NASTRAN to study its structural, modal and aeroelastic behaviors under subsonic speed with varying angle of attack and compressibility factor
- Wrote finite element codes with MATLAB that allows NASTRAN to iteratively solve for varying loading conditions and organize the outputs into plots or tables
- Composed weekly formal reports and the final "end of the semester" report to the professor in LaTex regarding research progress and results