

Akashdeep Pawar

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US Citizen

EDUCATION

University of Michigan

Ann Arbor, MI

Master of Science in Engineering in Aerospace Engineering

Expected April 2023

Bachelor of Science in Engineering in Aerospace Engineering, Minor in Computer Science

April 2022

- **Cumulative GPA:** 3.68/4.00
- **Coursework:** Spacecraft Dynamics, Astrodynamics, Controls, Computational Fluid Dynamics, Aerodynamics, Data Structures & Algorithms, Numerical Methods, Orbital Mechanics, Electric & Rocket Propulsion, Dynamics & Vibrations, Solid Mechanics & Statics, FEA, Space Systems Design, Materials & Manufacturing

WORK EXPERIENCE

University of Michigan Space Physics Research Laboratory (SPRL)

Ann Arbor, MI

Mechanical Engineering Intern

May 2021 - Present

- Aid senior engineers in design of components & space environment testing for NASA-funded solar instrument
- Design photodiode sensor mounting components, assemblies, and drawings for testing an electrostatic analyzer
- Characterize the venting performance of heliophysics probe components using analytical models and ANSYS

PROJECT EXPERIENCE

Michigan Aeronautical Science Association (MASA)

Ann Arbor, MI

Structures and ATLO (Assembly Test and Launch Operations) Engineer

September 2018 – Present

- Construct propulsion plumbing/GSE systems for static hot fires and cold flows using P&ID schematics
- Lead a small team of engineers in design of rocket's airframe, integration, and clocking mechanisms
- Model and simulate using Siemens NX, FEA, MATLAB, and HPC computing to model launch and thermal loads on rocket structures and pressurized cryogenic propellant tanks
- As structures team lead: managed design, manufacturing, and testing of liquid bi-propellant rocket aerostructures

University of Michigan

Ann Arbor, MI

MCubed Project – CubeSat Fabrication Lab

September 2021 – Present

- Power systems lead for a high-altitude CubeSat with an investigative magnetometer payload
- Develop command & data handling software and CONOPS for sensor telemetry and communications systems
- Test flight software and hardware in simulated flight environment in thermal/vacuum chamber

AEROSP 205 – Aerospace Systems Engineering

September 2019 – December 2019

- Designed, built, and tested a prototype radio-controlled hovercraft on a student team
- Used CATIA, Nastran and STAR-CCM+ to design and simulate structural stress and airflow CFD
- Implemented PID controller using elementary controls theory

SKILLS

- **Software:** MATLAB & Simulink, Python, C++, HTML, LATEX, ANSYS, Nastran, CAD – SolidWorks, CATIA, AutoCAD, Inventor, NX, Visio, Excel, PowerPoint, CFD – STAR-CCM+, ANSYS Fluent, LabVIEW
- **Hardware:** Manual Mill, Manual Lathe, Drill Press, Sheet Metal Slip Roller, Bandsaw, 3D Printing
- **General:** Technical Writing, Computation with High Performance Clusters (HPCs), BASH Scripting, GitHub

ACTIVITIES

American Institute of Aeronautics and Astronautics (AIAA) – Michigan Student Chapter, *Outreach Committee Member*
Sigma Gamma Tau (Aerospace Engineering Honor Society), *Member*