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
- Operate ground stations, RF systems, & radio software to operate the GRIFEX satellite and engineering data unit

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++, JavaScript, HTML, LATEX, ANSYS, Nastran, CAD – SolidWorks, CATIA, AutoCAD, Inventor, NX, Excel, PowerPoint, CFD – STAR-CCM+, 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*