Sonika Jain CS

sonikajaincs@g4wrd.in | 8792533384

EDUCATION:

Bachelor of Technology in Aerospace Engineering
RV College of Engineering (2022-26)
Relevant Coursework: Aerodynamics, Flight Mechanics, Aircraft Structures, Avionics, Propulsion Systems

INTERNSHIP EXPERIENCE:

1. Laboratory of Electro-Optics Systems (LEOS-ISRO)
Assisted in 'The Testing and Evaluation of space grade, space borne vehicle camera'

2. Aircraft Research and Development (ARDC-HAL)
Gained hands-on experience with the designing and understanding of aircraft subsystems.

PROJECTS:

1. Thrust Determination of propellent grain using Load cell
-Designed and fabricated a test setup incorporating load cells to accurately capture thrust data.
-Fabricated various propellant grains with an emphasis on grain geometry to evaluate burn rate.
-Utilized MATLAB for data processing, correlating thrust measurements with propellant burn characteristics.

2. Drone Flight Simulation and Dynamics Modelling
- Developed a flight simulation to model drone dynamics
- Integrated collision detection using PIR sensor

3. CFD analysis of NACA M9 airfoil.
Utilized ANSYS Fluent to simulate airflow around the airfoil, focusing on key parameters such as lift and drag coefficients, pressure distribution, and flow separation characteristics.

4. Evaluating of Vehicle Performance on Slopes: A Simulink and Hardware Approach
Developed a comprehensive model in Simulink to evaluate vehicle performance on varying slopes, focusing on parameters such as acceleration, speed, and gradeability. Implemented a hardware-based approach using sensors and data acquisition systems

5. Finite element analysis of wing joint structure to predict the fatigue life behaviour
Conducted finite element analysis (FEA) on an aircraft wing joint to identify critical stress concentration areas and predict fatigue life.

SKILLS:

- **Software**: SolidWorks, APDL, MATLAB, NX, Hyper mesh
- **Programming**: Python
- **Analysis Tools**: Ansys, STAR-CCM+
- **Languages**: English, Kannada, Hindi
- **Soft Skills**: Team Collaboration, Technical Documentation, Project Management

EXTRACURRICULAR ACTIVITIES:

- Contributed to Team Antariksh as a member, engaging in various model rocketry projects.
- Participant of Advanced Model Rocketry workshop conducted in IIST Thrivantapuram
- Experienced a student exchange program focused on Indo-German collaboration