# Anshul Jain

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## EDUCATION

**Master of Science in Aerospace Engineering Sciences**
University of Colorado at Boulder — Aug 2023 - Dec 2025
**Bachelor of Engineering in Aerospace Engineering**
R. V. College of Engineering, Bengaluru — Aug 2019 - Jul 2023

## TECHNICAL SKILLS

**Control Systems:** Linear Control, State Estimation, Kalman Filtering, State-Space Control, Control System Design
**Flight Control & Aerospace:** Aircraft & Spacecraft Dynamics and Control, Performance & Stability, Avionics
**Systems Engineering & Optimization:** Fundamentals of Systems Engineering, Operations Research
**Programming & Tools:** MATLAB, Simulink, Python, C, C++, R, Fusion 360, VS Code, Git, Mathematical Modeling

## WORK EXPERIENCE

**CU Boulder** — Aug 2023 – Present
*Teaching Assistant, Boulder, CO*

- Facilitated student understanding of complex concepts in laboratory experiments by providing hands-on guidance and practical applications, leading to improved comprehension and lab performance.
- Managed weekly lab sessions for over 50 students by structuring experiments, organizing materials, and ensuring smooth execution, resulting in increased student engagement and positive feedback.
- Conducted office hours and provided individualized support to address academic challenges, enhancing students' problem-solving abilities and contributing to improved exam performance.

**AIRBUS** — June 2022 - Aug 2022
*Flight Control Intern, Bengaluru, IN*

- Developed 6 DOF State-Space model and PID Controller for the YAK-54 aircraft using MATLAB and Simulink to analyse system stability, enabling accurate assessment through poles and zero analysis.
- Simulated aircraft performance by modeling key flight parameters such as pitch rate, pitch angle, position and altitude, optimizing system stability using feedback from Gyroscope and Accelerometer transfer functions.
- Collaborated with a cross-functional team to refine flight control strategies, integrating stability enhancements that improved the aircraft's control response and overall performance.

## PROJECT EXPERIENCE

**CU Boulder** — Aug 2023 – May 2024
*Graduate Project – Hardware & Simulation Engineer, Boulder, CO*

- Designed and implemented an Attitude Determination & Control Module for CubeSat applications, focusing on achieving 3 arcsec pointing accuracy and compact design requirements.
- Led hardware trades and selected components for a 0.5U module by evaluating performance criteria and documenting trade-offs, ensuring optimal integration with system requirements.
- Developed a Digital Sun Sensor model in C++ using Basilisk framework to enhance the simulation environment, contributing to improved system performance evaluation and optimization.

**R. V. College of Engineering** — Mar 2023 – July 2024
*Senior Project Team Member, Bengaluru, IN*

- Engineered a novel aeroshell design for spacecraft reentry by optimizing heat dissipation properties, significantly enhancing thermal protection efficiency.
- Worked within a structured team environment to contribute to large-scale project development, refining control system skills under the guidance of experienced project leads.

## LEADERSHIP EXPERIENCE

**Team Antariksh, R. V. College of Engineering** — Oct 2019 – Aug 2022
*Recovery Sub-System Engineer, Bengaluru, IN*

- Designed and tested a dual-parachute recovery system for sounding rockets reaching up to 10,000 feet, ensuring successful and stable descent through aerodynamic optimization.
- Mentored new team members by providing training on software tools and parachute system design, accelerating their integration and contributing to overall team efficiency.
- Conducted CFD analysis and ground testing to refine parachute dynamics, incorporating spill holes to minimize wobble and lateral drift for improved recovery reliability.