# Rachit Jain

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## EDUCATION

**Rutgers University,** New Brunswick, NJ **Sep 2022 - May 2026**

- **Major:** B.S in Mechanical Engineering; Concentration in Aerospace Engineering
- **GPA**: 3.90/4.00; Dean's List All Semesters
- **Coursework**: Thermodynamics, Fluid Mechanics, Differential Equations, Mechanics of Materials, Mechanical Measurements, Design of Mechanical Components, Aircraft Flight Dynamics, Spacecraft Mission Design
- **Tau Beta Pi -** ***New Jersey Beta Chapter*** **-** Academic Affairs Chair

## EXPERIENCE

**General Motors -** ***Engineering Design Intern*** **|** *Warren, MI* **June 2025 - Sep 2025**

- Utilized Siemens NX to design endcaps and brackets for Cadillac & Chevrolet vehicle instrument panels.
- Performed structural and modal FEA on injection molded and stamped components using NX Pre/Post and Autodesk Moldflow; Analyzed results to meet strength and stiffness requirements.
- Developed an Assembly Sequence to follow Cadillac instrument panel in development through production and manufacturing to support design and pre-production builds.
- Collaborated with cross-functional teams to broaden technical knowledge and gain exposure to vehicle development processes, such as human factors and occupant accommodations, using RAMSIS, while also supporting the intern program by organizing tours and visits to enhance learning.

**Marotta Controls -** ***Production Engineering Intern*** **|** *Montville, NJ* **June 2024 - August 2024**

- Designed and manufactured a high-pressure mobile testing cart that withstands over 6,000 psi for testing solenoid valves supplied to customers such as SpaceX and Blue Origin.
    - Produced a P&ID to represent 30+ components to visualize design and perform hardware selection.
    - Utilized CREO to create a CAD assembly with over 50 parts, including a custom test panel, pump, gauges, and fittings (Swagelok, AN, NPT).
    - Performed fluid and computational flow calculations on booster, valves, and boundary conditions to determine the volume necessary for a 10k psi high-pressure accumulator tank.
    - Ensured proper documentation and held formal reviews to support future iterations; visited after the internship program to support the continuing progress of the test cart.
- Iterated on tools and fixtures such as poppet holders and safety shields to protect against high temperatures (280 F) encountered during the armature assembly process using 3D Printing.
- Performed quality inspections per ISO 9001 by using various metrology equipment on components to complete work orders and gather information for design updates and NCRs.

**Rutgers Formula Racing -** ***Ergonomics Lead*** **|** *Piscataway, NJ* **January 2024 - Present**

- Served as the engineering lead on the team to design, manufacture, and integrate components (seat, dashboard, throttle pedal, etc.) on an FSAE-style vehicle.
    - Led and educated multiple new members on engineering subjects and facilitated efficient progress towards the development of the vehicle.
    - Redesigned throttle pedal to support design for manufacturing, reduce weight, and improve ergonomics
    - Supported the manufacturing of carbon fiber seat to reduce weight while preserving strength
- Utilized a custom-built ergonomics testing fixture and RAMSIS to gather data on multiple drivers' seating positions to design an optimized cockpit that follows FSAE guidelines.
- Designed a carbon fiber dashboard utilizing SOLIDWORKS to address problems found in previous iterations and provide easier access to controls to ensure driver ergonomics.

**Space Technology Association at Rutgers -** ***Project Lead*** **|** *Piscataway, NJ* **September 2022 - January 2024**

- Managed a team and projects to acquire data through experiments with a Weather Balloon and electronics.
- Coordinated internal and external collaborations and completed project planning to ensure efficient meetings and successful missions, while ensuring a greater learning opportunity for new students in the CubeSat program.
- Hosted workshop meetings to educate new members in PCB Design, CAD, 3D Printing, Soldering, and Arduino.

## SKILLS

**Programs & Languages:** NX, Moldflow, CREO, SOLIDWORKS, Inventor, Altium Designer, Visual Studio, MATLAB, Python, Java, Arduino / C++, Windchill, Teamcenter, RAMSIS, Microsoft Suite (Excel, Word, PowerPoint), Adobe Suite
**Technical Skills:** FDM Additive Manufacturing, Soldering, Manual Mill & Lathe
**Interpersonal Skills:** Attention to Detail, Problem-Solving, Leadership, Time Management, Communication