Jay Yadav

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EDUCATION

Columbia University: *Master of Science in Mechanical Engineering* Expected May 2025

- GPA: 4.00/4.00
- Selected Coursework: Advanced Fluid Mechanics, Advanced Thermodynamics, Robot Machine Learning, Aerospace Human Factors Engineering

Columbia University: *Bachelor of Science in Mechanical Engineering* Aug 2022 – May 2024

- GPA: 4.13/4.00; Summa Cum Laude; Dean's List all semesters
- Selected Coursework: Fluid Mechanics, Solid Mechanics, Computer Design, Data Science, Aerodynamics, Heat Transfer, Machine Design, Machining, Advanced Manufacturing

Grinnell College: *Bachelor of Arts in Physics* Aug 2019 – May 2022

- GPA: 3.93/4.00; Dean's List all semesters
- Selected Coursework: Electronics, Electromagnetic Theory, Astrophysics

WORK EXPERIENCE

Textron Aviation: *Advanced Design Engineering Intern* May 2024 – Aug 2024

- Designed a baggage compartment mockup in CATIA V6 to test configurations for new aircraft
- Researched emerging aerospace technology to develop novel aircraft systems

Textron Aviation: *Customer Support Engineering Intern* May 2023 – Aug 2023

- Created a technical troubleshooting system for the Cessna Citation Latitude
- Updated and repaired troubleshooting systems for various Citation jets

University of Arkansas: *Mechanical Engineering REU Research Assistant* May 2022 – Aug 2022

- Designed in SOLIDWORKS and manufactured a lubricant spray coating system
- Prepared and analyzed lubricants using 3D Laser and Scanning Electron Microscopy
- Developed a graphite solid lubricant that reduces friction by 50%
- Mentored by Engineering Dean in weekly leadership and communication sessions

University of Texas at Austin: *Electrical Engineering Research Assistant* Summer 2020, Summer 2021

- Researched in the Mid-IR Photonics Lab to develop novel infrared detectors
- Expanded RCWA simulations in MATLAB to improve IR propagation modelling
- Automated Python data collection and analysis to reduce dark current in IR detectors

Columbia Machine Shop: *Machining Superuser* May 2023 – Present

- Supervised student machine shop with 3D Printers and CNC mills and lathes

PROJECTS & LEADERSHIP

Columbia University Airplane Club: *Member and Chief Design Engineer* Aug 2022 – Present

- Led aircraft CAD in SOLIDWORKS and analysis in Ansys for the Design/Build/Fly competition
- Implemented rapid prototypes, parametric modelling, rigorous GD&T and CFD analysis
- Oversaw the 2024 design to Columbia's most successful placement in 10 years

Columbia Space Initiative Rocketry Team: *Airframe Member* Aug 2022 – Present

- Optimized rocket nose and body with Ansys FEA and CFD for the Spaceport America Cup
- Designed and manufactured composite carbon fiber rocket fins with layups and a CNC waterjet

SKILLS

- **Design:** Autodesk Inventor, ANSYS Mechanical and Fluent, CATIA V5/V6, SOLIDWORKS (CAD and FEA)
- **Coding:** C++, MATLAB, Python, HTML
- **Manufacturing:** Additive Manufacturing, CNC Machining, Composite Layups, DFM, GD&T, Soldering
- **Achievements and Hobbies:** Eagle Scout, Aviation Enthusiast, Guitar and Piano, Basketball, Tennis