

Jay Yadav

jay.yadav@columbia.edu

jayyadaveng.github.io/portfolio/

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

EXTRACURRICULAR EXPERIENCE

- Columbia Machine Shop:** *Machining Superuser* May 2023 – Present
- Supervised student machine shop with 3D Printers and CNC mills and lathes
- 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 carbon fiber rocket fins with layups and a CNC waterjet
- Boy Scouts Of America:** *Eagle Scout* Aug 2012 – June 2019

SKILLS

- **Technical:** SOLIDWORKS (Computer Aided Design and FEA), CATIA V6/V5, Autodesk Inventor, GD&T, Ansys Mechanical and Fluent, Additive Manufacturing, Python, C++, MATLAB, LaTeX
- **Soft:** Adaptability, Analytical Thinking, Communication, Problem Solving, Team Collaboration