

# Jay Yadav

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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
  - Performed industry research and analysis to evaluate new systems for future aircraft
- 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
  - Optimized 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
- Performed research 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 (CFD and FEA), Additive Manufacturing, Python, C++, MATLAB, LaTeX
- **Soft:** Problem Solving, Analytical Thinking, Team Collaboration, Flexibility, Quick Learning