Jinit Patel

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Education

The Ohio State University — Columbus, OH
M.S. Aerospace Engineering — *Expected May 2027*
B.S. Aerospace Engineering, Minor in Computer Science — *Expected May 2026*
- GPA: 3.885 (Dean's List All Semesters)

Experience

Honda Aircraft Company — May 2026 – August 2026
Propulsion Engineering Intern — *Greensboro, NC*
- Supporting the design, integration, and performance analysis of business jet propulsion systems.

Vertiv — May 2025 – September 2025
Mechanical Engineering Intern — *Delaware, OH*
- Rapid-prototyped a **patent-pending** actuation lever mechanism, using carbon fiber composite **FDM 3D printing** for iterations, and validated performance under torsional loading through **ANSYS FEA**.
- Developed and documented **75+** electromechanical components in **Creo**, delivering detailed drawings with **GD&T/MBD** to drive consistency across design, manufacturing, and quality product lifecycle phases.
- Cut manual engineering hours by **80%** by developing a **Python**-based hardware automation utility tool.
- Executed engineering change orders (ECOs) and BOM management in Oracle Agile EC & PD Cloud.

The Ohio State University Aerospace Research Center — May 2024 – December 2024
Undergraduate Research Intern — *Columbus, OH*
- Realized **$10,000** in production costs savings by designing a scalable, manufacturable nozzle in **SolidWorks** utilizing additive, stereolithography (SLA) printing and **DFM** principles.
- Achieved 15° deflection at Mach 0.9, investigating plasma-actuated thrust vectoring technology to expand jet control authority in next -eneration **VTOL** and **UAV/UAS** applications.
- Ran RANS **CFD** simulations in **ANSYS Fluent**, validating flow field within **±5%** of experimental results.
- Performed PIV and Schlieren flow visualization, using **MATLAB** for data acquisition, processing, and analysis.
- AIAA published and presented research findings at the 33rd Annual Ohio Space Grant Consortium Symposium.

Projects

GE Aerospace - Gas Turbine Engine Aerodynamic Loss Modeling Capstone — August 2025 – Present
- Modeled aerodynamic losses in gas turbines by building a **CFD database** to train an **AI/ML model** for flow loss prediction and engine design optimization, with wind tunnel validation using pressure transducers.

End-to-End RC Fixed-Wing Aircraft Development — January 2025 – Present
- Designing, 3D-printing, and testing a custom RC airplane, applying aero analyses **(XFLR5, Fluent)**, iterating with LW-PLA, and soldering propulsion & control electronics (ESC, flight controller, servos, sensors, battery).

Involvement

Aerospace Honors Society - Sigma Gamma Tau | *Treasurer* — December 2024 – Present
- Oversee financial planning & operations for Sigma Gamma Tau, managing a **$6,000** annual budget.

Buckeye Vertical | *Avionics and Structures Member* — August 2024 – May 2025
- Collaborated with a 20-member competition team to develop a UAS payload drone with autopilot & 15-mile range; fine-tuned **ArduPilot** in **QGroundControl (GCS)** by optimizing PID loops to enhance flight stability.

BSLI | *NASA Student Launch Initiative* — August 2022 – May 2024
- Fabricated rocket fuselage and fins by performing wet layups, CNC routing, and laser cutting to construct a 12-ft carbon fiber fuselage, contributing to three successful launches.
- Achieved a **+50 ft** increase in peak altitude through aerodynamic geometry optimization in **OpenRocket**.

Technical Skills

Design & Simulation: Creo, SOLIDWORKS, ANSYS Fluent & Mechanical, SimScale CFD, XFLR5, OpenRocket
Fabrication: Additive Manufacturing (SLA/FDM), CNC Machining, Sheet Metal Forming, Laser Cutting, Composite Layups, Soldering & Wiring, Avionics Integration, Precision Measuring (Calipers, Micrometers), Engineering Drawings
Programs: Python (NumPy, PyTorch), MATLAB/Simulink, C++, Oracle Agile, Cura, PreForm, MS Office
Standards & Quality: GD&T (ASME Y14.5), ISO, DFM/DFA, Design Reviews, Kaizen, Safety & Compliance