

# Jinit Patel

(740) 803-4681 | [patel.4780@osu.edu](mailto:patel.4780@osu.edu) | [jinitpatel.org](http://jinitpatel.org) | [linkedin.com/in/jinitpatel1](https://www.linkedin.com/in/jinitpatel1) | US Citizen

## EDUCATION

### The Ohio State University

*M.S. Aerospace Engineering*

*B.S. Aerospace Engineering, Minor in Computer Science*

- GPA: 3.876 (Dean's List All Semesters)

Columbus, OH

*Expected May 2027*

*Expected May 2026*

## 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

## EXPERIENCE

### 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 an estimated **\$10,000** production cost savings by developing the Flexible Reaction Surface (FRS) nozzle in **SolidWorks**, applying **DFM** principles to improve scalability and manufacturability.
- Achieved **15° deflection** at **Mach 0.9**, investigating plasma-actuated thrust vectoring technology to expand control authority in next generation **VTOL** and **UAV/UAS** applications.
- Accelerated additive manufacturing production of nozzle prototypes by **2×** using **stereolithography** technology.
- Ran **RANS CFD** simulations in **ANSYS Fluent**, validating flow field within **±5%** of experimental results.
- Performed high-speed flow visualization using **PIV** and **Schlieren imaging** techniques, automating **MATLAB** scripts to post-process data sets and characterize geometry parameters.
- 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

- Sponsored by GE Aerospace to model aerodynamic losses in gas turbines, building a **CFD database** to train an **AI/ML model** that predicts flow losses and enables more efficient engine design. Conducted experimental wind tunnel test campaigns to validate CFD findings by using pressure transducers & static pressure taps.

### 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 to support events, professional development, and chapter activities in coordination with the executive board.

### 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**.