

Om Chavan

Seeking Internship/Full-Time Co-op

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EDUCATION

Bachelor of Science, Mechanical Engineering Honors, Robotics Minor

Graduation: Dec. 2028

The University of Texas at Austin | GPA: 4.00/4.00

Coursework: Calculus III, Differential Equations, Linear Algebra, Statics, Mechanics, Engineering Design

COLLEGIATE EXPERIENCE

Flight Hardware Engineer – Member, Longhorn Rocketry Association

Fall 2025 - Present

- Led ejection charge setup and bulkhead wiring, prepped chutes, and loaded Aurora onto launch rail, contributing to a successful 14,215 ft AGL test flight (Mach 0.99) with nominal deployment and full recovery
- Sanded and finished composite fins, body tube, and centering rings to reduce mass and ensure target apogee of 10,000 ft AGL for IREC competition rocket: Aurora
- Installed centering rings and bonded main coupler to maintain coaxial alignment across the full 12 ft rocket assembly
- Calibrated 1:1 fin outline templates for carbon fiber layup, achieving $\pm 0.5\%$ dimensional accuracy
- Hand-cut fiberglass fins to revised mass targets using a hacksaw, trimming material to within $\pm 1\text{mm}$ of reference lines
- Performed wet carbon fiber layups on fiberglass fins, aligning woven CF sheets to fin geometry and vacuum-bagging assemblies to minimize voids

Student Engineering Council (SEC) Makeathon 2025, UT Austin

Fall 2025

- Prototyped JellyRoll, a low-cost classroom system for automated attendance and participation tracking
- 2nd Place, 48-hour engineering competition—as part of a 3-person team, delivered and presented a working prototype to judges, including SpaceX Test Engineers
- Fabricated laser-cut enclosure panels and integrated mechanical components including button input and display module

Undergraduate Researcher, UT Austin

Spring 2026 - Present

- Track object motion in nuclear imaging using robot-acquired high density 3D point clouds for SPECT medical imaging motion correction
- Design experimental setups simulating patient breathing (sinusoidal/cosine) and localized translational motion to generate benchmark datasets
- Benchmark 3D flow estimation algorithms against captured datasets to evaluate correction accuracy for respiratory vs. localized head motion

EXPERIENCE

Intern at Vanguard Defense, Harvard Ventures Program

Summer 2025

- Delivered an aerial object detection model achieving 90%+ accuracy for reconnaissance applications to an early-stage defense startup building AI-driven autonomous systems as part of a 9 person team
- Curated 8+ open-source datasets across drone, radar, and radio frequency modalities
- Annotated 200+ photos using a self-made python application to apply bounding-boxes and export in COCO JSON to subsequently train a YOLOv8 model
- Presented technical approach and performance results to engineers and leadership, supporting continued development of autonomous reconnaissance systems

Materials Science Eng. Researcher, UNT Advanced Materials Processing Lab

Summer 2024

- Worked (250+ hours) with Dr. Sameehan Joshi to refine a next-gen self-healing bone implant slurry made of Full-Density Hydroxyapatite (HA)
- Operated a Scanning Electron Microscope, DIW 3D printer, sintering furnace, etc. to create and evaluate HA samples iteratively
- Evaluated multiple TPMS lattices and selected the gyroid structure as the primary infill for HA implants based on literature and empirical data
- Developed a sustainable orthopedic implant business model; awarded 2nd Place at the 2024 Citizen Entrepreneurship Int'l Competition

SKILLS/ADDITIONAL

Technical: 3-D Printing/Lab Equipment, Woodworking, Solidworks, Python, Microsoft Office

Interests/Hobbies: Aerospace, Robotics, Formula 1, Boxing