Pranay Kumar Pandey

Kharghar, Navi-Mumbai, Maharashtra, India
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Education

Indian Institute of Space Science & Technology, Thiruvananthapuram **2025 – 2027**
M.Tech in Manufacturing Technology, Dept. of Aerospace Engineering *Kerala, India*

Amity University Mumbai **2021 – 2025**
B.Tech in Aerospace Engineering — CGPA: 8.28 Minor in Business Management *Mumbai, Maharashtra*

St. Andrews Jr. College, Panvel **2019 – 2021**
Higher Secondary Certificate (HSC), 89.7% *Mumbai, Maharashtra*

Convent of Jesus & Mary High School, Kharghar **2008 – 2019**
Secondary School Certificate (SSC), 85% *Mumbai, Maharashtra*

Interest

- Advanced Manufacturing
- Finite Element Analysis
- Aircraft and UAV Design
- Computational Fluid Dynamics
- Computer Aided Manufacturing
- Aerospace Composites
- Propulsion Systems
- Aerospace Structures
- Flight Mechanics

Experience

FOSSEE, IIT Bombay **Mar 2025 – Aug 2025**
Research Assistant
- Mentoring interns and fellows on simulation projects, ensuring technical depth and quality
- Collaborating on national workshops and capacity-building programs for CFD outreach

IIT Kharagpur **Jun 2024 – Jul 2024**
Aeroengine Development Intern
- Analyzed variable cycle engine performance using Gasturb software
- Conducted parametric studies and optimized engine parameters for efficiency

IIT Bombay **May 2023 – Aug 2023**
Computational Fluid Dynamics Intern
- Studied non-Newtonian fluid flow in sinusoidal microchannels using OpenFOAM
- Performed literature survey, scientific writing, and rheological model implementation

Skills

- **Programming & Software:** Abaqus, Ansys Fluent, Ansys Workbench, Autocad, C/C++, CNCTRAIN, Fusion 360, GasTurb, ICEM, Java, Matlab, Openfoam, Openvsp, Paraview, Python, Scilab, Simulink, SolidWorks
- **Soft Skills:** Leadership, Effective Communication, Public Speaking
- **Languages:** Hindi, Marathi, English, German (A2)

Achievements and Awards

- Qualified GATE AEROSPACE - 2025, AIR 651
- Global Qualifier, NASA Space Hackathon (Oct 2024)
- First Prize, CFD Hackathon by FOSSEE, IIT Bombay (Dec 2023)
- NPTEL Course Topper, Aeroengine Gas Turbine Cycle, IIT Kharagpur (Oct 2023)
- FOSSEE Summer Fellowship, IIT Bombay (May 2023)

Conferences

- System Dynamics Theory & Practice, 2024 (IEOR, IIT Bombay)
- International Conference on Advances in Aerospace & Energy Systems, 2024 (ISRO LPSC, Kerala)

Projects Undertaken

- **Development of Random Positioning Machine for Simulating Microgravity on Earth (M.Tech Course Project, 2025):** Working on Model Development and Digital Twin
- **Advancement in Affordable and Accessible Avionics Control Systems for Modern Rocketry (B.Tech Project, 2025):** Developed cost-effective, robust avionics for model rocketry, focused on lightweight structures and reliability.
- **Autonomous Drone Navigation in GPS-Denied Martian Terrain (IROC-U, 2024):** Systems Engineer managing Sensor Fusion, Script Development and adherence to Competition Outcomes.
- **Conceptual Supersonic UAV Design for Military Applications (NACDEC VIII, 2024):** Team Mentor : Contributions to aerodynamic and propulsion system design for supersonic flight.