

RISHIT SALASIYA

Mechanical Engineering Student | Ahmedabad, Gujarat

☎ +91-8238238808

✉ salasiya.portfolio@gmail.com🌐 rishitsalasiya.in📺 [Rishit Salasiya](#)📦 [GrabCAD](#)

SUMMARY

Mechanical engineering undergraduate focused on **composite structures**, **CAD** and **Finite Element Analysis (FEA)**. SOLIDWORKS Certified Professional (CSWP) and presenting author at ASME IMECE India 2026, with hands-on experience designing, analysing and fabricating a carbon-fibre UAV airframe and Shell Eco-marathon prototypes.

EDUCATION

Pandit Deendayal Energy University (PDEU)*B.Tech, Mechanical Engineering – CGPA: 8.63/10***Aug 2024 – Expected 2028***Gandhinagar, Gujarat*

EXPERIENCE

Ahmedabad Textile Industry's Research Association (ATIRA)**May 2026 – Jul 2026***Composites Intern | Flying-Wing VTOL UAV**Ahmedabad*

- Designed the airframe structure and 3D CAD model of a flying-wing VTOL UAV for a **17 kg MTOW** with a **5 kg payload capacity**, including modular avionics and payload bays.
- Validated the airframe with static and dynamic FEA for high-load manoeuvres and hard landings.
- Fabricated the carbon-fibre fuselage and wing from in-house moulds with CNC-cut ribs; the completed aircraft was flight-tested at ATIRA.

Team Kaizen – Shell Eco-marathon Team, PDEU**Mar 2025 – Jul 2026***Design Lead | Technical Documentation Lead**Gandhinagar, Gujarat*

- Led the vehicle design team for two battery-electric prototypes, **Shyena** (2026) and **Trivikra** (2027).
- Fabricated composite components using hand lay-up and vacuum bagging.
- Led technical documentation and authored the vehicle design report for technical inspection.

ROBOFEST Gujarat 5.0 – Intelligent Ground Vehicle**Jul 2025 – Mar 2026***Mechanical Lead*

- Led the mechanical design of the autonomous rover **AIRAVAT** from ideation to the national finals.

PROJECTS

Shyena – Shell Eco-marathon 2026 Prototype | SolidWorks, MATLAB**Mar 2025 – Jan 2026**

- Integrated a new powertrain, redesigned the U-mount and modified the body aerodynamics.
- Achieved an official energy efficiency of **131.52 km/kWh** at Lusail, Qatar.

Trivikra – Shell Eco-marathon 2027 Prototype | Fusion 360, SolidWorks**May 2025 – Jul 2026**

- Designed the aerodynamic shell using surface and foam modelling, and built the full vehicle assembly.
- Final shell design: drag coefficient of **0.074** and **32 N** lift at a shell weight of **15 kg**.

AIRAVAT – Autonomous Rocker-Bogie Rover | SolidWorks**Jul 2025 – Mar 2026**

- Designed the rocker-bogie suspension, optimised its linkage for stability and validated the rocker link with FEA.
- Filed a **design patent** for the rover's linkage geometry and stability profile.

RESEARCH

ASME IMECE India 2026 – Presenting Author**Sep 2026***Paper IMECE-INDIA2026-189900 | with Prof. Vishvesh J. Badheka (PDEU)**Chennai*

- Comparative micromechanical analysis of cryogenic micro-cracking mitigation in CFRP composites: negative thermal expansion oxides vs. boron nitride nanotubes.*
- Developed a multi-scale FEA model in which representative volume elements (RVEs) of the filled epoxy feed a CFRP laminate model cooled to 77 K.
- Demonstrated that 5 vol% BNNT matches 20 vol% ZrW₂O₈ in thermal stability, with **31% lower** transverse thermal expansion, the direction in which micro-cracks open.

ACHIEVEMENTS

- **Shell Eco-marathon 2026** – 1st in India, 13th of 72 teams in Asia-Pacific & Middle East (Battery-Electric).
- **ROBOFEST Gujarat 5.0** – National finalist, 2nd in India at the ideation stage; won a **Rs. 2.5 lakh** cash prize.
- **Dassault Systèmes** – water-drop impact simulation featured on their global LinkedIn, Instagram and Facebook.

LEADERSHIP

Science and Technical Committee (SnT), PDEU **Jul 2026 – Present**

Sponsorship Head – sponsorship outreach for science and technical events

IEEE Robotics & Automation Society, PDEU Student Chapter **Nov 2025 – Jul 2026**

Mechanical Head

- Led mechanical design and fabrication for the chapter's robotics projects; conducted CAD, FEA and prototyping workshops for members.

Envirofreeks – Sustainability Club, PDEU **Jun 2025 – May 2026**

Sponsorship Head

- Secured corporate sponsorships to fund the club's university-wide sustainability events.

TECHNICAL SKILLS

CAD: SolidWorks, Fusion 360 – 3D modelling, surface & foam modelling, top-down / bottom-up assembly design

Analysis: Finite Element Analysis (FEA) – static, dynamic & explicit; composite micromechanics (RVE)

Software: Ansys Workbench, Abaqus, MATLAB

Composites: Carbon-fibre laminates, hand lay-up, vacuum bagging, autoclave curing, mould making

Documentation: Technical design reports, engineering documentation

CERTIFICATIONS

- **SOLIDWORKS Professional** – Certified SOLIDWORKS Professional (CSWP); Weldments, Surfacing, Sheet Metal and Drawing Tools Professional.
- **SOLIDWORKS / Dassault Systèmes Associate** – CSWA, Additive Manufacturing, Sustainability, 3DSwymer, xDesign, xShape, xMold, Electrical Design, DraftSight 2D Drafting.
- Vibration Analysis Bootcamp (MATLAB & Ansys) – ASME PDEU Student Chapter.