

PRATHAM PUGLIA

MECHANICAL ENGINEERING (HONOURS) STUDENT

ADVANCED MANUFACTURING | COMPOSITES | MECHATRONICS

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PROFESSIONAL SUMMARY

Engineering experience shaped across India and Australia through the 2+2 dual degree, with hands-on experience across **aerospace composites**, **mechatronics** and **prototype manufacturing**. Contributed to a **Boeing** linked composite structures project, taking designs from **CAD** and **FEA** through manufacturing and **structural testing**. Combines technical knowledge with proven commercial execution, including scaling a **seven-figure INR business** and leading cross-functional product initiatives.

EDUCATION (Dual Degree)

RMIT University | Melbourne, Australia

Jun 2025 – May 2027

- Bachelor of Engineering (Honours), Mechanical Engineering | **WAM 88** (weighted average mark, High Distinction band)
- Coursework: Mechanics of Machines, Mechatronics Principles, Thermodynamics, CFD, Heat Transfer, FEA, Systems Eng.

BITS Pilani | Pilani Campus, India

Aug 2023 – May 2025

- Mechanical Engineering Studies (2+2 Global Pathway) | Foundations in mechanics, thermodynamics and mathematics

ENGINEERING EXPERIENCE

Boeing-Sponsored Capstone, RMIT | Aerospace Structures Researcher (Composites)

Mar 2026 – Present

- Developed a novel composite isogrid panel concept for future lightweight aerostructures, focusing on manufacturability
- Iterated concepts in **CAD** and **FEA**, then **3D-printed** prototypes and validated structural behaviour through buckling tests
- Built **composite prototypes hands-on** from raw fibre to assembly: lay-up, bagging, curing, trimming, prep, bonding
- Collaborated with academic, technical and industry stakeholders across design, manufacturing and testing activities

Novo AeroTex | Engineering Team Member – Autonomous VTOL Platform

Feb 2026 – Jul 2026

- Contributing to the mechanical design and systems engineering of an autonomous **VTOL surveillance platform**
- Ran **trade studies** across propulsion, payload, endurance, weight, operations to steer configuration choices
- Fed CAD and integration findings into weekly multidisciplinary design reviews, driving iterations under real constraints

RUASRT | Ground Station Engineer – AI/ML Counter-UAV Detection System

Aug 2025 – Jun 2026

- Tackled rogue-drone risk, developing a **counter-UAV ground station** for geofence-breach detection and flight-path analysis
- Designed architecture for synchronous operation between linked ground stations across an adjustable coverage area
- Evaluated **radar- and ADS-B-independent** detection for low-signature aircraft, shortlisting 2 scalable field approaches

2-DOF Collection Robot, BITS Pilani | Mechanical Design Lead

Apr 2026 – Jun 2026

- Led the **Fusion 360 redesign** of a 2-DOF robot across **4 subsystems**: pivoting arm, scooper, geared drive and servo lid
- Fabricated and assembled **3D-printed parts**, iterating fits and clearances to deliver a working prototype on deadline
- Integrated **Arduino-driven motors and servos**, fixing wiring and calibration faults to achieve full **2-axis motion** at demo

COMMERCIAL & LEADERSHIP EXPERIENCE

ForHUE | Co-Founder – University Merchandise Brand

Oct 2023 – Jan 2025

- Re-sequenced vendor production cycles, **cutting order turnaround by 70%** while scaling supply to **20+ institutional clients**
- Built **Excel cost models** and tiered pricing across 15+ product lines, lifting gross margin by 12% on bulk university orders
- Scaled the brand to **7-figure INR revenue in 12 months**, deploying an order-tracking system that kept bulk orders on time

Saathi | Head of Project – Eldercare AI Platform

Jan 2025 – Aug 2025

- Targeted India's post-discharge care gap, where 76% of readmissions occur within 72 hours, by mapping care pathways
- Built India's first **WhatsApp-native B2B2C care platform**, automating AI reminders and check-ins for 100+ pilot users
- Led **cross-functional product development**, turning needs of 3 healthcare stakeholder groups into prioritised features

Conquest | Head of Mentor Relations – Student-Run Startup Accelerator

Mar 2023 – May 2025

- Replaced manual coordination with an **internal workflow system**, automating **15+ hours/week** of tasks for **200+ users**
- Redesigned the submission flow and ran a global campaign, driving **3,000+ startup registrations** and **100% YoY growth**
- Managed **80+ founders, investors and executives**, building a mentor-matching system that supported **100+ startups**

TECHNICAL SKILLS

Manufacturing: Composite wet lay-up, vacuum bagging, oven curing, mould tooling, DFM, adhesive bonding, 3D printing

CAD & Simulation: Fusion 360 (proficient), SolidWorks, ANSYS Mechanical (FEA), MATLAB/Simulink, CFD fundamentals

Mechatronics & Data: Arduino, motor/servo integration, electromechanical troubleshooting, Python (basic), advanced Excel

Professional: Technical documentation, lab risk assessment, trade studies, cross-functional teamwork, stakeholder comms

ACHIEVEMENTS & ACTIVITIES

- People's Choice Award – Best Startup**, FounderHub, RMIT Activator's incubator program, selected by audience vote
- National Finalist (Top 5)**, Sustain & Open Access Case Competition, IIM Ahmedabad, among national student teams