

# SANSKRITI ARVIND

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## Professional Summary

Aerospace Engineering graduate with design-focused experience in structural analysis and aircraft component design. Skilled in SolidWorks, CATIA V5, and ANSYS for developing aircraft modifications and structural components. Strong foundation in stress analysis, fastener design, and systems integration across mechanical and avionics disciplines. Experienced in ISO 9001 and AS9100D quality management systems.

## Education

**RMIT University** – Melbourne, Australia

2020 - 2025

- Bachelor of Engineering (Honours) in Aerospace Engineering
- Relevant Coursework: Aircraft Structures, Finite Element Analysis, Mechanical Design, Flight Mechanics, Composite Materials

## Technical Skills

**CAD & Design Tools:** SolidWorks (Advanced), CATIA V5, Siemens NX, AutoCAD, Creo, GD&T

**Structural Analysis:** ANSYS (Mechanical, Structural), FEA, Stress Analysis, Fastener Design, Bearing Loads, Composites

**Systems Integration:** Avionics Systems, Mechanical Systems, Electrical & Electronics Integration, Flight Testing

**Standards & Quality Systems:** ISO 9001, AS9100D, ASME Y14.5, ASME B31.1, ASTM

**Programming:** Python (NumPy, Pandas), MATLAB (Simulink), Arduino

## Experience

**Composite Structures Engineer** – *Engineers without Borders, Melbourne*

Feb 2025 - Nov 2025

- Designed 6 composite panel layout configurations for marine deployment structures, conducting structural analysis and FEA validation in ANSYS to achieve 5.6 kN flexural strength per ASTM D790 while optimizing weight to 2.75 kg.
- Performed material selection analysis and stress calculations to reduce component costs by 71-81%, identifying alternative materials that maintained structural integrity and met design load requirements.
- Developed technical drawings and manufacturing specifications for composite structures, coordinating with fabrication teams to ensure dimensional accuracy and quality standards compliance.

**Junior Mechanical Engineer** – *Invitrosense / EVAPCO, India*

Jan 2022 - Jan 2024

- Executed design engineering for 43 thermal system projects using SolidWorks and AutoCAD, creating manufacturing drawings, assembly models, and technical specifications achieving  $\pm 5\%$  capacity accuracy.
- Analyzed 120+ Bill of Materials for component compliance with ASME B31.1 standards, identifying cost-effective alternatives that maintained structural and thermal performance, contributing \$20K+ in project savings.
- Conducted 15+ on-site facility assessments to gather field measurements, perform structural evaluations, and troubleshoot mechanical integration challenges, reducing installation delays by 35-40%.
- Collaborated with design, manufacturing, quality assurance, and field service teams to prepare 12 technical proposals and performance models supporting client decision-making and project approvals.

**Avionics Engineering Intern** – *Vaayushastra Aerospace, IIT Madras, India*

Jun 2023 - Aug 2023

- Integrated 6 avionics subsystems (GPS, IMU, telemetry, flight controller, power distribution, datalink) for 12 kg tactical UAV, developing interface control documents and validating communication protocols.
- Executed 32 ground tests and 8 flight tests to validate avionics performance, analyzing sensor data in MATLAB to support calibration improvements achieving 95% accuracy targets ( $\pm 0.5\text{m}$  GPS,  $\pm 2^\circ$  IMU).
- Resolved 18 subsystem interface issues through systematic root cause analysis, collaborating with engineering team to implement design modifications preventing recurring failures.

## Academic Projects

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### **Aircraft Cargo Pod Design & Integration – RMIT University** 2024

- Designed external cargo pod attachment system for light aircraft using SolidWorks, creating detailed part models, assembly drawings, and GD&T specifications for mounting brackets and structural reinforcements.
- Conducted FEA stress analysis in ANSYS to validate attachment point loading, fastener selection, and aerodynamic load distribution, ensuring structural integrity under flight conditions and designing for manufacturing feasibility.

### **Aircraft Seat Modification & Structural Substantiation – RMIT University** 2023

- Designed aircraft seat track modification using CATIA V5, developing 3D CAD models and manufacturing drawings for floor reinforcement structure and attachment fittings with proper fastener specifications.
- Performed structural analysis to evaluate bearing loads, shear forces, and tension loads on floor structure and fasteners, documenting design calculations and analysis methodology following aerospace design practices.