

Darshan Satish Makwana

INDUSTRIAL ENGINEER — Manufacturing Systems, CAD/CAE Tools, CAM & Machining

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SKILLS

- **CAD Tools:** SolidWorks, AutoCAD for component modeling, assembly drafting, and mechanical detailing.
- **CAE Tools:** ANSYS, MATLAB for thermal stress, modal frequency, and structured automation & simulations.
- **CAM & Machining:** CNC programming, tolerance stack-up analysis, toolpath strategies for part production.
- **Manufacturing Systems:** FMEA, APQP, PPAP, MSA, SPC for defect tracking & production control audits.
- **Core Engineering:** Thermodynamics, fluid mechanics, mechanics of materials, and mechanical system design.

WORK EXPERIENCE

Management Trainee

StayVista Pvt. Ltd.

August 2022 – June 2023

India

- Directed 30+ high-budget civil, MEP, and HVAC projects by applying Agile phases and Gantt-based resource mapping, minimizing idle time, enhancing throughput, and reducing average lifecycle by 11.3% across six teams.
- Diagnosed scheduling inefficiencies with Pareto-Fishbone logic, isolating root delay factors in scope drift, task overlap, and resource unavailability to cut project turnaround by 15 days and compress critical paths by 9.2%.
- Implemented JIT and EOQ-based inventory strategies across procurement flows, lowering stock wastage by 18%, reducing holding costs by 12%, and optimizing availability of site-critical materials in all tracked logistics cycles.
- Monitored ERP dashboards for ISO 9001:2015 conformity, achieving 100% vendor audit compliance and resolving procurement deviations by triggering corrective workflows through KPI benchmarking and variance analysis.
- Executed DMAIC-driven audit protocols to detect internal inefficiencies, reduce documentation cycle errors by 26%, and bring down total audit turnaround time by 0.8 days across multi-vendor installation and inspections.
- Consolidated safety reports, quality documents, RFIs, and material logs with engineering, procurement, and site teams to meet approval timelines, increasing documentation standardization rate across 10 concurrent sites.

Team Member

Team Onyx India

December 2019 – April 2021

India

- Developed fixed-wing aircraft systems for SAE Aero using SolidWorks and load estimation techniques, ensuring structural stability under variable thrust and payload while contributing to 13th global rank out of 60+ teams.
- Engineered fuselage frames with iterative FEA stress validation to reduce structural weight by 15%, ensuring uniform load distribution and stress recovery without breaching safety margins in three independent test flights.
- Simulated aerodynamic stability via XFLR5 and airfoil re-parameterization, improving lift-to-drag ratio by 20% and matching optimal Reynolds numbers for glide performance, stall recovery, and maneuvering efficiency.
- Assembled propulsion subassemblies with matched ESCs, thrust-optimized brushless motors, and high-discharge LiPo units to achieve compliance with SAE flight specs and reduce power loss across electrical channels by 8%.
- Operated subtractive manufacturing tools (CNC, lathe) for control surfaces and wing profiles, verifying component tolerances within ± 0.2 mm and correlating wind tunnel outputs with CFD-predicted stall and lift points.
- Generated technical drawings, BOMs, routing tables, & other specs using ASME Y14.5, achieving 100% documentation approval & enabling seamless peer replication across teams, driving placement into global top 15.

PROJECTS

Design and Fabrication of an RC Aircraft

SolidWorks, XFLR5, CNC Machining

India

- Modeled RC aircraft components in SolidWorks and validated airfoil designs via XFLR5, boosting aerodynamic efficiency by 20% and complying with SAE standards through integration of CAD and aerodynamic analysis.
- Fabricated aircraft using CNC milling and lathe machining with calibrated tolerances, enhancing structure and achieving 100% component fitment accuracy to withstand changing stress during competitive maneuvers.
- Assembled a high-efficiency flight platform through synchronized application of aerodynamic simulation, material selection, and mechanical joining methods, achieving consistent stability and performance across 10+ test flights.

EDUCATION

Master of Engineering in Industrial Engineering

University of Windsor, Ontario

September 2023 – December 2024

Bachelor of Technology in Mechanical Engineering

KJ Somaiya College of Engineering, India

August 2016 – December 2020

CERTIFICATIONS

- **Supply Chain Management** – Rutgers University
- **IATF Core Tools** – APQP, PPAP, FMEA, MSA, SPC