

NANTHAKUMAR R

Mechanical Design Engineer | CAD & Fixture Design | SolidWorks & AutoCAD

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PROFESSIONAL SUMMARY

Mechanical Engineer with over 1 year of hands-on manufacturing experience and strong working knowledge of SolidWorks, AutoCAD, 3D part modelling, assembly design, BOM preparation, and GD&T fundamentals. Proven track record designing and implementing fixture and platform improvements for the VPI process at Winomechanic Pvt. Ltd. (Leitwind Group, Italy), improving operator safety and raising output by 20%. Brings a manufacturing-first perspective to design work, connecting design intent with real shop-floor buildability, safe handling, and process efficiency. Seeking a Design Engineer / Mechanical CAD Engineer role, open to international opportunities and relocation.

SKILLS

- **Design Skills:** 3D Part Modeling, Assembly Design, Engineering Drawings, BOM Preparation, GD&T, Fixture & Platform Design (SolidWorks, AutoCAD)
- **Manufacturing Awareness:** Wind Turbine & Automotive Components, Shop Floor Operations, Machine Troubleshooting, Production Planning, 5S, Lean Manufacturing
- **Quality & Testing:** NDT Level 1 (VT, MPT, LPT), Engineering Drawing Interpretation, In-Process Inspection
- **Office Tools:** Microsoft Office / Excel (Intermediate), SAP (Basic)

WORK HISTORY

Mechanical Engineer (Promoted from Graduate Engineer Trainee)

Jun 2026 – Present

Winomechanic Private Limited (Leitwind Group, Italy) — Gummidipoondi, India

- Designed and implemented fixture and platform modifications for the Vacuum Pressure Impregnation (VPI) process, improving operator safety and raising production output by 20%.
- Interpreted engineering drawings of wind turbine components to ensure accurate manufacturing execution.
- Supervise daily Machine Shop and Coil Shop operations, managing work allocation, workforce coordination, and shift-wise production scheduling.
- Resolve machine troubleshooting issues and production stoppages, reducing downtime by 10% and maintaining on-schedule output.

Graduate Engineer Trainee (GET)

Jun 2025 – Jun 2026

Winomechanic Private Limited (Leitwind Group, Italy) — Gummidipoondi, India

- Trained across Machine Shop, Coil Shop, and NDT functions, building hands-on knowledge of wind turbine component manufacturing.
- Contributed to fixture and platform design work for the VPI process, earning promotion to Engineer based on performance.
- Assisted in production planning, machine troubleshooting, and quality/safety compliance on the shop floor.

Intern

Feb 2025 – May 2025

Brakes India Private Limited — Chennai, India

- Read and interpreted engineering drawings of hydraulic brake booster components in an automotive manufacturing environment.
- Performed hands-on component fitting and quality checks on the booster assembly line.
- Assisted in troubleshooting assembly issues and understanding the manufacturing workflow of mass production.

Intern — NDT Training

Jul 2024

Suntek Automation and Solutions

- Trained in NDT Level 1 techniques: Visual Testing (VT), Magnetic Particle Testing (MPT), and Liquid Penetrant Testing (LPT).
- Performed supervised quality checks on metal components, supporting defect identification including cracks and porosity.

NLC India Limited, Neyveli (TS-II Expansion) — Neyveli

- Participated in ash evacuation and system modification projects, gaining exposure to large-scale industrial plant operations.
- Developed understanding of thermal power plant layouts through site visits and hands-on tasks.

PROJECTS

Fixture Modification & Platform Design Improvement (Winomechanic Pvt. Ltd., Current)

- Identified safety and productivity gaps in existing fixtures and platforms used in the VPI (Vacuum Pressure Impregnation) process.
- Designed and implemented new fixture and platform configurations, reducing downtime by 10% and raising production output by 20%.

Four-Cylinder Engine Assembly Study (SolidWorks)

- Modeled a complete four-cylinder engine assembly, studying component relationships across the crank-piston-valve train system.
- Applied mates, alignment, and assembly constraints for accurate motion and fit; analyzed rotational interfaces and functional movement between mating parts.
- Evaluated design intent, tolerances, and clearances affecting assembly behavior, with a manufacturing-oriented focus on ease of inspection and maintenance access.

Hook Design — 3D Modeling (SolidWorks)

- Modeled a hook design in SolidWorks, applying advanced modeling techniques to create precise, functional components.

Fuel Pump — 3D Modeling (SolidWorks)

- Modeled a fuel pump assembly in SolidWorks, strengthening 3D design and functional component detailing skills.

2D Engineering Drawing Practice (AutoCAD)

- Created detailed 2D engineering drawings in AutoCAD, applying precision drafting techniques for engineering documentation.

Excel-Based Manufacturing Production and Material Tracking System (Winomechanic Pvt. Ltd.)

- Created connected Excel tracking tools for production progress, work-order follow-up, material usage, scrap monitoring, and management reporting.

Minor Stoppage Elimination (Brakes India Pvt. Ltd.)

- Analyzed production line data to identify root causes of recurring minor stoppages; optimized check sheets and process parameters.

EDUCATION

University College of Engineering, BIT Campus — Tiruchirappalli

Bachelor of Engineering, Mechanical Engineering — Aggregate: 70% (First Class)

Completed Coursework: Master Certificate in Product Design, 2024

CERTIFICATIONS

- Microsoft Office Advanced (Microsoft Office 365 Productivity) — Microsoft, Oct 2022
- NDT Level 1 (VT, MPT, LPT) — Suntek Automation and Solutions, Jul 2024
- Master Certificate in Product Design (Proficient in AutoCAD & SolidWorks) — CADD Centre Training Services Pvt. Ltd., Aug 2024
- Essential Revit MEP — CADD Centre Training Services Pvt. Ltd., Sep 2024
- Apex First Responder Training (First Aid, CPR & AED) — Tamil Nadu Apex Skill Development Centre for Healthcare, Mar 2026
- English for Career Development — University of Pennsylvania, May 2026
- Driving License — MCWG, LMV