

DARSHIT SOLANKI B.E.

CAD Design Engineer | Product Development, Mold & Tooling Design

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Professional Summary

Interdisciplinary engineer with a B.E. in Automotive Engineering and an M.Sc. in Interdisciplinary Engineering (expected 2027), specializing in CAD product design, injection mold and tooling design, and reverse engineering. Experienced in finite element analysis with ANSYS and in production-oriented design (DFM/DFA) through 1.5 years of industry work in pump and industrial product design. Seeking a design engineer position in Germany.

Core Competencies

- Product Design and Development (DFM/DFA) – CAD Engineering
- Injection Mold and Tooling Design – Draft analysis, Parting line decision, Shrinkage, Die design
- Reverse Engineering and 3D Reconstruction – 3D scanning, Additive manufacturing
- Structural Simulation – Finite Element Analysis
- Production Planning and ERP – Inventory management (SAP S/4 HANA)
- Technical Documentation – Technical drafting, Research papers, Conference papers

Technical Skills

- **CAD:** SolidWorks (proficient), CATIA V5, AutoCAD, Simens Nx, Creo.
- **Simulation / FEA:** ANSYS, COMSOL
- **Programming and Documentation:** MATLAB, LaTeX
- **ERP:** SAP S/4 HANA
- **Other:** Microsoft Office

Professional Experience

Junior Design Engineer Jan 2023 – Aug 2023
Meru Pumps, India

- Developed parametric pump assemblies, including pump housing, adaptor, impeller, shafts, flange and sleeve.
- Designed pump variants: centrifugal non-clog, side channel, horizontal pull-out, close-coupled monoblock and horizontal side suction.
- Supported production planning and factory-floor instruction; performed post-production quality verification.
- Coordinated vendor allocation for die manufacturers and casting providers.

Product Design Engineer Jul 2021 – May 2022
Design CAD Centre & Service Provider, India

- Developed industrial units and assembly lines; created prototype designs and supported testing and development.
- Prepared industrial patent design drawings for client companies.
- Designed fabrication of a hydraulic fire extinguisher.
- Designed injection mold and casting/die tooling: draft, shrinkage, parting line decisions and selection of machining materials.

Education

M.Sc. Interdisciplinary Engineering Oct 2023 – Present (expected Apr 2027)
Trier University of Applied Sciences, Germany

- **Master's Thesis (Aug 2026 – Present, expected Mar 2027):** Redesign and Development of Church Organ Pipes – additive manufacturing and design of an intonation and tuning assembly for 61 different pipes.
- **Master's Project (Nov 2025 – Jul 2026):** Simulation of In-Plane Deformation Behavior in Components Induced by Defects – research, design, simulation, validation, analysis and reporting using SolidWorks, ANSYS, MATLAB and LaTeX. Grade: 2.3.

B.E. Automotive Engineering Jul 2017 – Jun 2021
L.D. College of Engineering, Ahmedabad, India | CGPA: 7.98

Projects

- **Reconstruction of TWS Earbuds:** reverse engineering with snap-fit tolerances and G2/G3 surface continuity.
- **Reverse Engineering (DFM/DFA):** ISO standard fits, BOM, casting and injection mold die design, multicomponent assembly.
- **Injection Mold Die Design:** core/cavity sets with non-planar parting lines; side-action slider for parts with undercuts.
- **Advanced Surface Engineering:** G3 curvature-rate continuity (automotive standard), Class A/B surfaces, zebra analysis and curvature comb analysis.

Full project documentation: www.sketchsolid.de

Languages

English: Professional working proficiency (B2) **German:** Intermediate (B1)

Personal Strengths

Self-driven engineer capable of independent end-to-end project execution, with clear technical presentation skills.