

ANISH DHAR

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EXPERIENCE

Engineering Trainee, New Product Development | Glatt Systems Pvt. Ltd., Pune, IN Jun 2025 – Present

- **Containment washing system, full design ownership:** Delivered a first-of-its-kind containment washing solution for highly potent APIs, a 9 m structure, partially embedded below grade, with specialised containment valves, sized for 600 to 2500 L bins. Produced layout, detailed design, BOMs, and the full fabrication package from scratch, coordinating procurement and manufacturing.
- **Boltless twist-lock joinery:** Designed a twist-lock joining mechanism replacing legacy flanged plant joints on large-diameter process ducting, cutting assembly steps and field installation complexity; prototype qualified at 2 bar in a single-connection acceptance test.
- **Lab-scale extruder-spheronizer, design ownership:** Guided the machine through its full development cycle, mechanical CAD, manufacturing, functional testing, and exhibition, working directly with the industrial designer across concept iterations to reconcile enclosure aesthetics with mechanical and manufacturing constraints. Introduced bio-compatible clear resin printing for large-format parts, a first at the site, producing functional and aesthetic components for the build.
- **High-load test structure:** Designed and analysed a dedicated structure for high-load trial and validation work, sizing members and joints against loading cases with structural FEA. Separately contributed structural design to a three-storey all-steel vertical granulation line across mechanical and process sub-teams.
- **CAD automation and design tooling:** Built automation for the design group, including iLogic mass-comparison tools, a parametric stair generator, and a BOM integrity checker validating assembly structure ahead of drawing release.
- **Change control and drawing standards:** Managed 60+ Change Requests and Change Orders across assemblies of 200+ parts with revision-controlled releases through Vault PDM; maintained GD&T to ASME Y14.5, tolerance stack-ups, and supporting calculations, folding shop-floor feedback on machining, sheet metal, and joining into design revisions.

Engineering Intern, Thermal Systems | Saarloha Advanced Materials Pvt. Ltd., Pune Jun 2024 – Aug 2024

- Surveyed the water-cooling circuit of a 35T Electric Arc Furnace and continuous casting line, identifying thermal loss pathways from slag deposition on cooling panels using plant instrumentation data, and delivered an improvement report proposing design modifications to cut parasitic heat losses in the EAF cooling loop.

ENGINEERING PROJECTS & COMPETITIONS

Thermal Systems & Electronics, SAE e-BAJA and ATVC | VJTI Racing Jan 2022 – Mar 2024

- Designed a jet-impingement cooling enclosure for the motor controller in SLA/FDM additive manufacturing, targeting a 25°C reduction in peak operating temperature, with low-loss manifold geometry cutting static pressure drop across the forced-air network; **AIR 1 Sales Presentation, AIR 5 Overall at SAE e-BAJA 2024.**
- Led low- and high-voltage system design for the ISIE IKR 2023 EV entry with a multi-layer startup interlock sequence, Best Accelerating Vehicle, AIR 5 in EV category.

Converging-Diverging Nozzle, IPA/Air Rocket Engine | Personal Project

- Designed a C-D nozzle for 300 N sea-level thrust and CNC machined it in mild steel on a Jyoti VMC850, handling fixturing design and toolpath programming.

Lattice Structures: Thermal and Compressive Behaviour | Capstone & Honours, VJTI Apr – May 2025

- Meshed lattice unit cells in ANSYS Fluent with mesh-convergence studies quantifying convective heat transfer enhancement against pressure-drop penalty; modelled vertically graded-density lattices under uniaxial compression in ANSYS Mechanical, extracting load-displacement curves to quantify energy absorption versus uniform-density architectures.

EDUCATION

B.Tech, Mechanical Engineering | VJTI Mumbai Dec 2021 – May 2025

Honours in Additive Manufacturing, VJTI Honours Programme; capstone: compressive behaviour of vertically graded lattice structures (see Projects).

TECHNICAL SKILLS

CAD & PDM: Autodesk Inventor (large assemblies, sheet metal, weldments, frame generator), SolidWorks, Vault PDM

Simulation: ANSYS Mechanical (structural and thermal FEA, meshing, convergence), ANSYS Fluent (CFD), MATLAB/Simulink

Design Automation: Inventor iLogic, rule-based and parametric modelling, BOM validation tooling, Python (PINN, SPH, FEA post-processing)

Standards & Methods: GD&T to ASME Y14.5 / ANSI Y14, tolerance stack-up, DFMEA, Change Request and Order control, BOM management

Manufacturing: CNC machining (Jyoti VMC850), sheet metal, welding and joining, fixturing, FDM/SLA/resin additive manufacturing, steel fabrication

LICENSES & CERTIFICATIONS

Applied Computational Fluid Dynamics, Siemens (2026) | Cleanroom Fundamentals & Semiconductor Technologies, University at Buffalo (2026) | SOLIDWORKS: Design Study and Optimization, LinkedIn Learning (2023)