PRIYA PATIL

Mechanical Design Engineer | Product Design & Development | MSc Engineering Management

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Professional profile

Mechanical Design Engineer with over 8 years' experience in product design and delivery, including almost 5 years in the UK. Proven ownership of product lines within an ISO 9001 quality system. Strengths: SolidWorks CAD, FEA (SolidWorks Simulation/ANSYS), GD&T, tolerance stacks, EPDM change control, DFM/DFA and cross-functional stakeholder leadership. MSc Engineering Management (Middlesex).

Key achievements

- Sole design engineer for Geowinch and mechanical -handling projects, owning concept, analysis, detailing and production release.
- Resolved critical stress concentrations via FEA, extending service intervals for pressure housings (validated in field trials).
- Implemented EPDM-led change control for around 10 product lines, reducing drawing errors reaching production by 75%.
- Optimised assembly workflows and layouts for special-purpose machines, cutting cycle/assembly time by 50%

Technical summary

CAD & detailing	SolidWorks (expert), AutoCAD, Solid Edge, Inventor, SolidWorks Composer
Analysis	FEA (SolidWorks Simulation, ANSYS), static, fatigue, thermal, load/duty calculations
Drawing & quality	GD&T, tolerance stack-ups, manufacturing/fabrication drawings, BOMs, ISO 9001
PDM & ERP	SolidWorks EPDM (ECR/ECO), SAP, NAV
Manufacturing	DFM/DFA, machining/fabrication liaison, rapid prototyping, 3D printing
Leadership & delivery	Design ownership, design reviews, supplier management, cross-functional coordination

Professional experience

Robertson Geologging Ltd — Mechanical Design Engineer

Conwy, UK | Oct 2021 – Present

- Responsible for mechanical design of downhole instrumentation, winch systems and sub-assemblies from concept to production release within ISO 9001.
- Design ownership of the winch product line across 6 projects; delivered drum/frame structures, drive selection, spooling and braking documentation.
- Produced 3D models, manufacturing/fabrication drawings, GD&T and structured BOMs for all product lines in SolidWorks.
- Performed static and fatigue FEA (SolidWorks Simulation/ANSYS) to remove failure modes and improve service life.
- Owned EPDM change process for ECRs/ECOs, improving revision traceability and audit readiness.
- Coordinated with manufacturing, quality and suppliers to resolve build issues and meet delivery milestones.

Professional experience

Modi Special Purpose Machines Pvt. Ltd — Mechanical Design Engineer

Mumbai, India | Jun 2017 – Sep 2019

- Designed complete special-purpose machines and automated systems from concept through commissioning for clients.
- Produced layouts, fabrication and machining drawings, assembly documentation and production BOMs to ISO-style standards.
- Selected motors, gearboxes and bearings using load, torque and duty-cycle calculations.
- Performed static and fatigue analysis to validate component strength and reliability.
- Optimised material flow and assembly processes, reducing cycle/assembly time.
- Supported on-site commissioning and fault diagnosis, delivering successful client sign-off.

Plazma Technologies — Trainee Design Engineer

Pune, India | May 2016 – Apr 2017

- Supported senior engineers with 3D CAD modelling and detailed manufacturing drawings in SolidWorks.
- Conducted motor and gearbox selection based on system loads and operating conditions.
- Produced process flow diagrams, control plans and project documentation managed in EPDM.
- Assisted prototype builds and bench testing to validate design iterations.

Education & professional development

- MSc Engineering Management — Middlesex University, London | Sep 2019 – 2021 (full-time; relocated to UK)
- MTech Mechanical Design Engineering — Pune University | 2017 (studied alongside employment)
- BEng Mechanical Engineering — Pune University | 2014
- Certificate Course in Piping Engineering — IIT Bombay

Publication & awards

- Publication: "Design and Development of 2 Degrees of Freedom Robot Systems" — International Journal for Scientific Research & Development.
- 2nd Prize — National Level RoboWar Competition.

Additional information

- Right to work: Employed in the UK on a Skilled Worker visa; requires continued sponsorship from a licensed sponsor for next 2 years.
- Driving licence: Full UK driving licence.
- Interests: Hiking, badminton, swimming, gardening.