SAGAR PATEL

Mechanical Design Engineer | R&D Engineer | CAD/CAM Design Engineer | FUSION 360 | Teamcenter | TWO WHEELER | SOLIDWORKS | Catia V5 | NX CAD - CAM | AUTOCAD | PYTHON | AUTOMATION | NPD | SPM | KEYSHOT | BIW
Email: sagarpatel95@yahoo.com | Phone: +91-8401489892 | Location: Bangalore |

SUMMARY

MECHANICAL DESIGN & AUTOMATION ENGINEER WITH 8 YEARS OF EXTENSIVE EXPERIENCE IN FIXTURE DESIGN, ROBOTICS INTEGRATION, BIW ENGINEERING, AND TWO-WHEELER DESIGN, PARTICULARLY IN SUSPENSION AND WHEEL ASSEMBLIES. A VETERAN ENGINEER WITH A PROVEN LEGACY OF DELIVERING INNOVATIVE, COST-EFFECTIVE DESIGNS AND AUTOMATION SOLUTIONS ACROSS ROBOTICS, SPECIAL PURPOSE MACHINES (SPM), PACKAGING, AND FOOD MACHINERY INDUSTRIES. HIGHLY PROFICIENT IN DEVELOPING CONTROL SCHEMATICS, ADVANCED AUTOMATED FIXTURES, COLLABORATIVE ROBOT (COBOT) SYSTEMS, AND AUTOMATED GUIDED VEHICLES (AGVS). HIGH-LEVEL EXPERTISE IN SOLIDWORKS, AUTOCAD, UG NX, FUSION 360, AND CATIA V5. SPECIALIZED IN DFM, VAVE, GD&T, DFMEA, CNC PROGRAMMING, PLC LOGIC DESIGN, AND GLOBAL COMPLIANCE REQUIREMENTS INCLUDING ISO, FDA, AND CE STANDARDS. RECOGNIZED FOR UNMATCHED PRECISION ENGINEERING, STRATEGIC PROBLEM-SOLVING, AND DRIVING MANUFACTURING EFFICIENCY, PRODUCTIVITY, AND INNOVATION IN HIGH-VOLUME PRODUCTION ENVIRONMENTS. A TRUSTED ENGINEERING LEADER CAPABLE OF MENTORING TEAMS, LEADING CROSS-DISCIPLINARY PROJECTS, AND DELIVERING TRANSFORMATIONAL SOLUTIONS OVER THREE DECADES OF PROFESSIONAL EXCELLENCE.

CORE COMPETENCIES

- Design Tools: SolidWorks, AutoCAD, NX, Fusion360, Catia V5
- Project Management: APQP, Stage Gate Process, DFMEA, RCA, 5S, Kaizen
- Software & PLM Systems: SAP, Autodesk Vault, Teamcenter, Odoo
- Programming: Python, Arduino, CNC programming
- Other: Market Knowledge, Material Knowledge for manufacturing, Machine Tool Knowledge

WORK EXPERIENCE

Senior Associate - Vehicle Engineer ,Ola Electric Pvt. Ltd., Bangalore
Contract Employee through COPES TECH INDIA (Sep 2024 – May 2026)
Permanent Employee (Jun 2026 – Present)

- Mechanical design and development of Battery Energy Storage Systems (BESS), including battery modules, battery packs, and complete system architecture.
- Designed battery cell packaging, module structures, and pack assemblies with focus on structural integrity, manufacturability, serviceability, and packaging optimization.
- Developed mechanical cooling integration concepts to support battery thermal management and overall system performance.
- Performed module- and system-level energy calculations, sizing studies, and packaging optimization for BESS applications.
- Applied DFMEA, DFA, DFM, and VAVE methodologies to improve reliability, manufacturability, assembly efficiency, and cost.
- Coordinated with CAE and CFD teams for structural, vibration, and thermal analysis, incorporating simulation feedback into design improvements.
- Collaborated with cross-functional teams including electrical, battery systems, manufacturing, quality, sourcing, and validation throughout the product development lifecycle.
- Created detailed 3D models, assemblies, manufacturing drawings, BOMs, and engineering documentation using Siemens NX and Teamcenter.
- Supported prototype development, design validation, engineering change management (ECN/ECR), and product release activities..

Lead Design Engineer , Freshot Robotic Pvt. Ltd., Bangalore — Jul 2023 – Sep 2024
Design Engineer , — Jul 2022 – Jul 2023

- Lead R&D and design for robotic systems in the food industry, managing end-to-end design activities including design validation, team leadership, task management, and DFMEA.
- Conducted customer interactions to gather insights, coordinate with ensured compliance with ISO quality and safety standards. Worked on the “Idly-ATM” project — an automatic idly cooking, dispensing, packaging, storage, and delivery system.
- Utilized Python for control systems programming on Raspberry Pi and Arduino.

Senior Automation Engineer, All-Time Plastic Pvt. Ltd., Silvassa **May 2022 – Jul 2022**

- Automated plastic product assembly and packaging lines, including AGV, AS/RS, conveyor systems, EOAT, and robotic integration.
- Programmed and maintained 3-axis and 5-axis robots, ensuring optimal performance and reliability.
- Designed and implemented custom automation solutions using AutoCAD and Fusion 360, while overseeing maintenance and continuous performance improvements.

Design Engineer, Weavetech Engineers Limited, Surat **Oct 2021 – Apr 2022**

- Worked on the design and development of textile machinery, focusing on concept development and CAD modeling.
- Created part and assembly designs using Fusion 360 and NX CAD tools, while coordinating with the production and assembly teams to ensure seamless integration and assembly as per design.

Project In-Charge, Pioneer Herbals, Daman **May 2021 – Oct 2021**

- Product R&D for medical devices, managing vendor relations, cost analysis, and prototype development.
- Focused primarily on oxygen concentrator development and research on related technologies.

Mechanical Engineer, Creative Automation, Vapi **Aug 2017 – May 2021**

- Managed CAD (**Fusion 360)** modeling, company accounts, vendor coordination, and in-house labor management.
- Oversaw client communication, machine development, testing, installation, and servicing.
- Managed stores and handled CNC operations to ensure efficient manufacturing workflows.
- Designed and delivered SPMs such as conveyors, hydraulic presses, and telescopic belt conveyors.

EDUCATION

12Th Science **2011 - 2013**
Gujarat Secondary and Higher Secondary Education Board

Bachelor in Mechanical Engineering **2013 - 2017**
Gujarat Technological University (GTU)

KEY PROJECTS

- **Idlibot Robotics System: Conceptualized and designed a robotic food vending solution, achieving high customer satisfaction.**
- **WSZ Filament Sizing Machine: Oversaw the design and deployment of this high-efficiency textile machinery.**
- **Automated Packaging Line: Enhanced automation through conveyor, labelling, and sealing machine integration, improving output by 30%.**

CERTIFICATIONS

- **Siemens NX – Design Tech**
- **CATIA V5 – IGTR**
- **Design for Additive Manufacturing (DFAM) – IGTR**

TECHNICAL SKILLS

- **Design Software: SolidWorks, AutoCAD, UG NX, Catia V5, Fusion360 and Other**
- **PDM/PLM: Autodesk Vault, Teamcenter, Odoo, SAP**
- **FEA Tools: Ansys Workbench, Fusion360 Simulation**
- **Programming: CNC, Python, Arduino**
- **DFM, Plastic & Sheet Metal Design, GD&T**

SOFT SKILLS

- **Leadership & Team Management**
- **Problem Solving & Decision Making**
- **Adaptability and Innovation**
- **Communication & Collaboration**
- **Attention to Detail**
- **Time Management**

LANGUAGES

- **English, Hindi, Gujarati**