Rajan D. Patel

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OBJECTIVE

Self-motivated Mechanical Design Engineer with 4+ years of experience in machine design, design automation, and CAD/CAM. Seeking a challenging role to apply advanced design skills, automation knowledge, and manufacturing expertise to deliver efficient engineering solutions.

PROFESSIONAL SUMMARY

- Highly skilled mechanical design and engineering professional with over +4+ years of experience in special-purpose machine design, CNC/VMC machine design, automation tools, and drawings.
- Experienced in production planning and control, inventory management, and stock reporting.
- Proficient in design software, including SolidWorks, AutoCAD, Fusion 360, Inventor, and CATIA.
- Strong background in design automation using macros, parametric modelling, and software-based BOM/Drawing generation tools.
- Hands-on experience in CNC machining, sheet metal design, tooling design, and GD&T.
- Proven track record in optimising design cycles, improving manufacturability, and reducing repetitive engineering tasks.
- Proficient in generating detailed technical documentation, including drawings, specifications, and project reports, to support project development and implementation.
- Skilled in CAD/CAM, including Fusion 360 CAM for 3-axis machining and 3D toolpath generation.
- Experienced with productivity and workflow tools: Jira, Google CoLab, MS Office, SAP ERP.

EXPERIENCE

Ag Growth International / Naperville, USA (Remote Work) Jul 2024 to Present

Assistant Engineer – AGI GPM Drafting

- Designed permanent handling components and complex assemblies, ensuring manufacturability and performance.
- Prepared detailed 3D models and 2D drawings using SolidWorks, CATIA, and Inventor.
- Managed comprehensive BOM creation, validation, and documentation.
- Performed QA checks on automatically generated models, drawings, and BOMs.
- Developed Design Automation Software for generating:
    - Auto-created 3D models, drawings, and BOMs
    - Standardised title blocks and metadata
    - Parametric updates using macros and coded logic
    - Reduced design cycle time by 40% through automation.
- Worked with Jira, CoLab, and internal collaboration tools.
- Extensive product knowledge across:
    - Bucket elevators (centrifugal discharge), head & boot assemblies, casings, drive assemblies
    - Conveyor systems, transitions, pulleys, belt take-up mechanisms, guarding, and supporting structures
- Contributed to standardised documentation, automated QA reviews, and engineering data management for AGI's global material-handling product lines.

Yantra Design / Surat — Oct 2022 to Jul 2024

Design Engineer

- Designed CNC drilling systems, laser machines, and special-purpose machinery using SolidWorks and Fusion 360.
- Created detailed fabrication, machining, and casting drawings with GD&T compliance.
- Developed nesting layouts and CNC cutting programs.
- Produced fabrication drawings and machining drawings with proper GD&T, datums, and references of mating surfaces, Bill of Materials (BOM) and purchase list for manufacturing.
- Conducted project management and production planning control activities to optimise workflows and meet project deadlines.
- Created Fusion 360 CAM programs for 3-axis machining, including 3D toolpaths.
- Multi-Tool CNC Lathe (KX-120): Fully automatic machine for 1 mm – 20 mm rods, complete enclosure, modular tooling.
- Led the design of a 3-Way H-Beam CNC Drilling Machine supporting simultaneous top, bottom, and web drilling for beams up to 1500 mm × 2000 mm × 12000 mm:
  – Developed the entire machine in SolidWorks with GD&T and complete 2D documentation
  – Delivered high-efficiency production output with a modular, maintainable design.
- Designed an Automatic Tool Changer (ATC) system for BT-40 tool holders:
  – Created tool grippers, carousel, and actuator assemblies for seamless tool switching
  – Improved machining flexibility and minimised operator dependency.
- Engineered a full sheet metal enclosure for a CNC machine with a modular design:
  – Minimised coolant/oil leakage, enhanced machine safety, and improved aesthetics
  – Optimised for manufacturability and shop-floor integration.

Citizen Industries Private Limited / Ahmedabad — Nov 2021 to Oct 2022

Design Engineer

- Reviewed AutoCAD drawings to determine the quantity of materials required for each AHU unit, including inner and outer materials, sections, insulation, coil materials, and additional components.
- Created indents in the SAP system for items such as fans, motors, filters, and other non-standard items based on client requirements and delivery dates.
- Prepared AHU production drawings in AutoCAD after completing material summaries and forwarded them to the production supervisor for Fabrication & assembly drawings for review and implementation.
- Maintained master records of all approved designs, production drawings, and data sheets with updated revisions to ensure accuracy and compliance.
- Reviewed and updated technical specifications and standards for AHU components to meet industry regulations and client specifications.

Citizen Industries Private Limited / Ahmedabad — May 2021 to Nov 2021

Diploma Engineer Training

- Experienced in managing documents and handling blueprints, preparing reports on daily work completed by fitters.
- Skilled in operating a CNC bending machine and a CNC turret punch press machine.
- Distribute work. I divide the work on the machine according to the production load and divide the manpower accordingly.
- Proficient in distributing work by machine according to production load and allocating manpower accordingly.
- Coordinating with workers to provide support and maintain quality standards
- Guiding workers in production processes, safety protocols, and machinery usage.
- Capable of preparing progress reports for weekly meetings.

EDUCATION

Diploma in Engineering, Mechanical Engineering — May 2021

R.C. Technical Institute, Ahmedabad

CGPA = 8.0/10

Related Project

- **A Remote-Control Gripping Arm**, also known as an industrial robot, is a mechanical arm-like device that operates similarly to a human arm. It features multiple joints that move along specific axes or can rotate in various directions. This technology is designed to perform tasks remotely and is often used in industrial settings for automated processes.

SSC — Jun 2018

Smt. R.C. Patel Secondary and Higher Secondary School, Gandhinagar.

Pct = 71.33%

HOBBIES

- Playing Chess
- Drawing
- Puzzle Solves
- Traveling
- New Creative Activity

TRAINING

Daikin Airconditioning India Pvt Ltd, Neemrana — 11 July 2021 - 20 July 2021

- Documented system information and provided training on line production systems, including Japanese systems such as the 5S system, 4RKYT, Daily Check Sheet, Safety protocols, Hourly Report procedures, and associated benefits.

PERSONAL DETAILS

- **Full Name:** Rajan Dilipkumar Patel.
- **Gender:** Male.
- **Nationality:** Indian-Hindu K.P.
- **Date of Birth:** 15-Nov-2001.
- **Languages Known:** English, Gujarati, Hindi
- **Blood Group:** O +ve.
- **Permanent Address:** 4-6, Patel was, Kalyanpura, Ta-Kadi, Dist-Maheshana, 382165
- **Current Address:** B-22, Opera Homes, Nandsad Road, Kamrej, Surat, 394180