Keyur Patel

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Professional Summary:

- **Mechanical Design Engineer** with over 2 years of experience in CAD modeling, 2D/3D drafting, GD&T, and design for manufacturing.
- Proficient in **SolidWorks, AutoCAD, and Fusion 360**, with a strong background in prototyping, testing, and assembly optimization.
- Adept at creating cost-effective, high-precision mechanical components for manufacturing industries.

Professional Experience:

Freelance & Contract Work (*Mechanical Design Technician/Engineer*) *(May 2022 – August 2023)*

- Designed 60+ complex mechanical components, ensuring compliance with GD&T and DFM/DFA standards.
- Led end-to-end product development, from concept to prototyping, optimizing designs for cost and manufacturability.
- Created detailed 3D models and technical drawings, reducing manufacturing errors.

BUNSEKI *(Mechanical Design Engineer)* (*Jan 2022 – April 2022)*

- Developed over 50 detailed 2D & 3D drafts for various mechanical components using SolidWorks & AutoCAD.
- Worked closely with manufacturing teams to reduce assembly time through optimized designs.
- Maintained design data and provided insights to enhance manufacturing efficiency.

SOPAN IED *(Mechanical Design Engineer)* *(July 2021 – Dec 2021)*

- Assisted in developing 3D models and simulations for academic projects.
- Conducted tolerance analysis and material selection, ensuring robust mechanical designs.
- Created precise 2D drafts in accordance with industry standards.

Skills:

- **Technical Skills:** 3D CAD modeling (SolidWorks, Fusion 360, Inventor, Siemens NX), GD&T, DFM/DFA, rapid prototyping, material selection, tolerance analysis, and BOM creation.
- **Analytical & Software Tools:** MATLAB, Python, Excel (advanced), engineering calculations, PDM/PLM systems (e.g., SolidWorks PDM); currently learning FEA and CFD analysis.
- **Project & Soft Skills:** Technical documentation, design reviews, teamwork, problem-solving, time management, adaptability, and cross-functional collaboration.

Education:

- **Master's in mechanical engineering** *University of Windsor, Canada. (Sept 2023 – Dec 2024)*
- **Bachelor's in mechanical engineering** *Gujarat Technological University, India. (Aug 2019 – May 2022)*
- **Diploma in Mechanical Engineering** *Gujarat Technological University, India. (Aug 2016 – May 2019)*

Projects:

EV Simulation (MATLAB & SIMULINK)

- Simulated a TATA Nexon EV to validate manufacturer's performance claims.
- Analyzed vehicle dynamics and battery efficiency.

Vehicle Detection & Lane Mapping (Python, Anaconda, JupyterLab)

- Developed computer vision algorithms for real-time vehicle detection and lane mapping.
- Implemented a deep-learning model to improve accuracy in road safety applications.

Roof Crush Analysis (Hyperworks & Abaqus)

- Conducted roof crush simulations to assess structural integrity and compliance with safety standards.
- Optimized design parameters to enhance vehicle durability.

Fuel Efficiency & Cooling Cycle Optimization (KULI Labs)

- Analyzed and improved the cooling cycle of a Toyota Corolla Cross Hybrid.
- Applied thermodynamic principles to increase fuel efficiency and system performance.

Mechanical Drafting & Design Internship (SolidWorks, Fusion360, Inventor)

- Generated 80+ 2D and 3D drafts, ensuring high precision and compliance with industry standards.
- Collaborated with the manufacturing team to reduce errors and improve production efficiency.

Certifications:

- Certified SOLIDWORKS Professional (CSWP) – Mechanical Design
- Certified SOLIDWORKS Associate (CSWA) – Mechanical Design