**Harsh Patel**

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**EXPERIENCE**

**Mechanical R&D and Project Engineer EIT** Sep 2020 - Present

Adhmiradhes | Sudbury, ON

* Developed profound knowledge about renewable energy, hydrogen energy, and cryogenics in mine chilling.
* Did business development for current projects and R&D for upcoming projects regarding mathematical calculation and design and simulation with SolidWorks.
* Budgeting and estimating for a project, buying materials, and labor.
* Did testing in the mine for ongoing projects for mine ventilation and cooling.
* Attended the hydrogen energy conference 2021 as a company representative and did business development
* Project management, writing technical reports and proposals for upcoming projects.
* Budgeting and scheduling for projects & new projects (product) development.
* Leading consulting projects like machine reliability in mine(India), LRT California, the mine ventilation system in Sweden mine, and machine maintenance

**Graduate Research Assistant** March 2019 -March 2021

Laurentian University | Sudbury, ON

* Gained knowledge of composite material and finite element analysis for creating models and analysis of structures
* Generated design and calculation for composite structure by **Abaqus.**
* Design and **FEA** **analysis** of cad models, structure, and failure testing.
* Machine learning for composite material.
* Created models for upcoming research projects.
* Detailed analysis of the piezoelectric composite and their filler shape as well as materials.

**Assistant Engineering Manager (Mechanical Design)** March. 2017 - Dec. 2018

Seva Engineering and Consulting | Ahmedabad, Ind

* Heading a team of 6 multi-talented junior engineers and interns, executing various tasks including design studies, product improvement, technical sales support, Budgeting, and manufacturing.
* Leading engineering team in design and calculation & Regular site visits and documentation.
* Making monthly reports for testing plans and writing manuals.
* Enhanced sales performances with product promotion in the local market and surrounding provinces.
* Specified the product at various designing consultants and registered under approved vendors.
* Completed value stream mapping of the custom order process and implemented workflow improvements.
* Developed and implemented a strategic plan.
* Managed projects to increase engineering quality and productivity.
* Conducted daily quality control line audits at manufacturing facilities.
* Work with existing suppliers on improving the quality process as well as determine the root cause of quality issues.
* Ensure supplier production readiness in terms of quality, cost capacity, and materials.

**Mechanical Design Engineer Trainee** Sep. 2016 - Feb 2017

Sharp Engineering Ltd | Ahmedabad, Ind

* Designed 2D and 3D mechanical components of elevator motors such as shaft, bevel gears, motor housing, and pully as per load caring capacity using SolidWorks
* Monitored design process from the conceptual phase through the construction of detailed drawings, **BOM**, material selection, and tolerance analysis
* Applied best techniques, procedures, and theories to researching, analyzing, and designing mechanical equipment and componentsfor research and development and customized orders
* Identified and implemented the most efficient and acceptable resolutions to complex engineering problems
* Prepared plans and layouts for equipment for system arrangements and space allocation
* Continually improved methods and procedures for processes, measurements, documentation, and workflow technique
* Coordinated tooling changeovers, setups, and repairs to minimize downtime and improve productivity

**EDUCATION**

**M.Eng Engineering Science (Mining-Mechanical Engineering)** Jan 2019- Apr 2021

**Laurentian University, Sudbury, ON**

**Major:-**Mining **Minor:-**Mechanical

* **Project:-** Design and FEA analysis of composite structure and effect of filler shapes and material on the composite structure by Artificial intelligence and Machine learning.

**B.Eng Mechanical Engineering** Aug 2014-May 2018

**Gujarat Technological University, Ahmedabad, Gujarat**

**Project**:- **Design and Analysis of Car Suspension (C.A.D.), August 2017-May 2018**

* Designed an **Independent car suspension** in SolidWorks with proper dimension and required tolerance for optimization. Exercised solid modeling, surfacing, and sheet metal techniques.
* Performed **FEA, Motion Study** of subassemblies, and final assembly. Material allocation, aesthetics of final design, and design calculations such as volume to material weight ratio.
* Created assembly drawings, including Bill of materials (BOMs), followed by an Exploded view

**SKILLS**

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| --- | --- |
| * Proficient in **SolidWorks & AutoCAD** * Proficient in FEA analysis **Abaqus** * Geometric Dimensions and Tolerances * Strong mathematical and analytical skills * Problem-Solving * Mine ventilation **(Ventsim Design)** * **Microsoft Office** | * Result oriented * Machine Design * **Deswik-Cad** * **Rock Mechanics (Phase2)** * Project Management * Statistical data analysis, Risk Management |

**CERTIFICATIONS & ACCOMPLISHMENT**

* Elected member of GSA (Graduate Student Association) as an international commissioner 2019-2020 at Laurentian University.
* Elected member of graduate council from GSA 2019-2020.
* Elected financial manager for GSA 2019-2020
* Project Management Foundation
* Autodesk certified professional
* Zonal Level Tech-fest Robotics team runners-up 2016.

**REFERENCES**

* Available upon request

**Dear Sir/Madam,**

I am writing to express my interest in the **Mechanical** EIT position at your company. With more than 4-5 years of experience in the engineering industry, I am confident in my ability to provide valuable support to your team.

Throughout my career, I have gained extensive experience in renewable energy, hydrogen energy, cryogenics, and mine chilling. I have successfully executed business development for current projects and R&D for upcoming projects, including mathematical calculation, design, and simulation using SolidWorks. I have also been responsible for budgeting and estimating projects, purchasing materials and labor, and conducting testing in mines for ongoing projects related to mine ventilation and cooling.

In my previous role as an engineering consultant, I have demonstrated a strong track record in improving and ensuring accurate maintenance plans and procedures. I understand the importance of having the right scheduling and plans to minimize downtime and maximize efficiency. My experience in conducting Root Cause Analysis of all failures above a certain impact threshold has allowed me to identify and resolve issues effectively.

I am a well-rounded engineer, with experience in project management, technical report writing, and proposal preparation. I have successfully led various projects such as machine reliability in mines, the mine ventilation system in Sweden, and machine maintenance. Additionally, I have expertise in composite material, finite element analysis, and machine learning, allowing me to generate designs and perform detailed analysis for upcoming research projects.

As a team leader, I have headed a team of 6 multi-talented junior engineers and interns, executing various tasks including design studies, product improvement, technical sales support, budgeting, and manufacturing. I have also been responsible for daily quality control line audits at manufacturing facilities and have worked with suppliers to improve the quality process and resolve quality issues.

In addition to my technical expertise, I have excellent interpersonal and communication skills, allowing me to effectively collaborate with a variety of stakeholders, including clients, contractors, and regulatory agencies. I am also well-versed in project management methodologies, with a proven track record of delivering projects on time and within budget.

I am eager to bring my experience and skills to your company and contribute to the success of your projects. Thank you for considering my application. I look forward to the opportunity to discuss my qualifications further.

**Sincerely,**

**Harsh Patel (M.Eng Mining-Mechanical)**