

# Ruchit.P.Zinzuwadia

Pursuing M.Tech. in Energy and Environmental Management with a sound knowledge of 3D modeling in Solidworks software. As a highly motivated and skilled mechanical design engineer, I am excited to express my interest in pursuing opportunities in this field. With a strong academic background in designing and developing mechanical systems, I am eager to leverage my skills to contribute to innovative projects and advance the state of the art in this sector. I possess a deep understanding of engineering principles and a passion for using my creativity to solve complex problems.



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## EDUCATION

### Masters of Technology-Energy & Environmental Management

Pandit Deendayal Energy University, Gandhinagar

08/2021 - 06/2023

CGPA:- 8.91

#### Subjects

- Advanced Energy Storage Systems
- Modeling and Analysis in Energy Systems
- Energy Auditing
- Integrated Waste Management

### Bachelors of Engineering-Mechanical Engineering

Sal College of Engineering, Ahmedabad

07/2016 - 05/2020

CGPA:-7.34

#### Subjects

- Engineering Graphics
- Heat Transfer
- Manufacturing Processes
- Refrigeration & Air Conditioning

## WORK EXPERIENCE

### Project Intern

Indian Oil Corporation Ltd., Gujarat State Office, Ahmedabad

07/2022 - 05/2023

- Responsible for investigating test reports of various automobile lubricants used in cars and industrial lubricants used in compressors, thermic heaters, etc. and drafting technical reports based on the tests.
- Responsible for identifying the root cause and providing solutions for the problem of phase separation due to water contamination in Ethanol Blended Motor Spirit (EBMS). Prepared reports mentioning the impacts of contamination, source of contamination and guidelines to prevent contamination.
- Responsible for conducting experiments based on research on increasing the water tolerance of EBMS by blending it with additives and analyzing the results to draw comparisons.

## CONFERENCES & WORKSHOPS

- Presented a poster on "Investigation of Fly-ash based Adsorbents for Treatment of Dye Effluents in Industry-Contaminated Water" at the International Conference on Sustainable Energy and Clean Technologies (ICSECT-22) held at Pandit Deendayal Energy University, Gujarat.
- Completed a 6 days training session organized by Royal Enfield -Center of Excellence, Ahmedabad where a hands-on session was given of disassembling and reassembling 350cc and 500cc Royal Enfield bike engines.

## PROJECTS

### Lubricants for Wind Energy Applications

07/2022 - 06/2023

- Conducted an extensive market survey to evaluate the market share of various Wind Energy lubricant companies.
- Performed comprehensive comparative analysis of wind turbine lubricants offered by multiple suppliers in the Indian market.
- Calculated numerous parameters related to Wind Energy like energy density, intensity, wind power, Weibull Distribution and efficiency using real time annual wind speed data in order to understand the energy requirement in windmills.

### Investigation of Fuel Stability Problem in Ethanol Blended Fuels Leading to Engine Starting Failure: A Case Study

07/2022 - 12/2022

- Conducted a thorough study on phase separation principles, its impact on engine performance, and explored techniques to delay phase separation by increasing water tolerance.
- Analyzed the market share of multiple fuel companies
- Undertook a systematic review to determine the root cause of the phase separation problem.

### Increasing the water tolerance of Ethanol Blended Motor Spirit (EBMS)

01/2023 - 06/2023

- Carried out extensive research on methods of increasing the water tolerance of ethanol blended fuels
- Shortlisted and finalized additives to increase the water tolerance based on a detailed cost analysis.
- Tested 20% ethanol contained Motor Spirit samples after blending with additives.

## SKILLS

### 3D Part Modeling (Solidworks)

- Certified associate in Solidworks Mechanical Design and Sustainable Design. Possess a good knowledge of 3D part Modeling, assemblies and sheet metal part designing.
- Designed Centrifugal pumps and Heat Exchangers in Solidworks.

### Technical Reports Drafting

- Conducted lab test reports analysis and drafted technical reports as a project intern at IOCL.

### MS Office

- Performed a comparative analysis of Lubricants' cost/liter, drain interval, sump size of a vehicle and average running per annum of a vehicle.
- Prepared a calculation sheet in Excel to provide a marketing strategy of Green Combo Package lubricants.

CERTIFICATIONS

- **Solidworks Mechanical Design**

Certified Solidworks Associate (CSWA) certification course by Dassault Systems. Performed part modeling, sketches, assemblies, motion analysis and simulation.

- **Solidworks Sustainable Design**

Certified Solidworks Associate (CSWA) certification course by Dassault Systems. Performed sustainable designing, Lifecycle Assessment, material selection and energy efficiency.

- **Esprit CAM Programming Fundamentals**

Certification course by DP Technology Corporation. Involved geometry Creation, tool path assigning, cutting technique and simulation.

- **NPTEL Supply Chain Analytics**

This course covered demand forecasting, inventory management, network design, transportation and performance management.