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Manisha Aryal

ENGINEERING RESEARCH EXPERIENCE

Research Methodology Training Program — *Participant*

20 June 2022 - 24 June 2022

- Training on how to read research papers, identify research gaps, and write the research papers.
- Learned about IMRAD technique in research paper writing.

Design and Analysis of Electric Vehicle chassis using FEM. -*Final year project*

- Utilized Prismatic Beam theory to determine the type of beam for the chassis frame.
- Material selection done using Ashby chart.
- Structural analysis of the chassis frame is done using finite element method utilizing ANSYS Mechanical Solver.

EDUCATION

Pulchowk Campus, Lalitpur — *Bachelors in Mechanical Engineering*

November 2018 - April 2023 (Graduating score: 80.83%)

- Mechanical engineering general courses like Engineering Mechanics, Strength of materials, Mechanics of Solids, Material Science, Manufacturing, Fluid Mechanics and Machines, Machine Design, Theory of Machines and Mechanisms, Basic Thermodynamics and Applied Thermodynamics, Heat Transfer, Finite Element Method.
- Majors like operation research, Advanced Mechanical Design, and System Design and Simulation

Tilottama High School, Rupandehi — *class 11 and 12*

2016 - 2018 (GPA: 3.69)

- Majored in Science, and studied Mathematics, Physics, and Chemistry.

EXPERIENCE

Internship at Hyundai Automobiles, Kupondole— *Service Advisor and technician*

April 2022 - May 2022

- Diagnose the vehicles for the problem and assign technicians to fix those problems.
- Deal with customers, write job cards, and call customers to pick up the vehicle.
- Worked as technician as well, and assisted in solving problems such as changing engine oil, brake pad, gear box, engine assembly, and so on.

Entegra Pvt. Ltd, Baneshwor — *Content Writer*

June 2021 - November 2021

- Read the engineering project thesis done by the clients and write the career episodes of their projects.

Freelancer at Study pool

2021 - present

- I take the assignments related to mathematics, programming, finite element method, calculus, numerical analysis, 3D modeling and simulations, chemistry, physics, and questions related to mechanical engineering.

PROJECTS

Trekking Baton— *2019*

- A ready to manufacture industrial product design of trekking baton with other features like torch, mobile charger, electrocutor, and trek stick.
- Designed, fabricated and displayed in the Mechanical Engineering Expo.

Water Treatment Plant — *2020*

- Small working model of a water treatment plant was designed and displayed in the Mechanical Engineering Expo and got the best design award.
- The prototype included all the essential components of a water treatment plant like coagulator, flocculator, sedimentation tank, and filter.

River cleaning machine — *2020*

- A 3D model of the river cleaning machine was designed for participation in a design competition.
- This model is specially designed with the target to clean the Bagmati river of Nepal.

Mask Shredder — *2021*

- A 3D model of the mask shredder was prepared using SolidWorks, as a participant in a CAD design competition.

Pelton Bucket Design— *2021 "Mini Project for Fluid machines class"*

- Pelton bucket was designed based on the head and flow rate provided by the professor, and the simulation of jet hitting the peloton bucket was performed in ANSYS fluent.

Motorcycle Design and Simulation — *2021 "Mini Project for Machine Design class"*

- A 3D model of the motorcycle was made using SolidWorks, and static structural analysis of the frame was performed.

SKILLS

3D modeling: SolidWorks, AutoCAD,

Numerical simulations: ANSYS, MATLAB, Finite Element Method

Programming: C Programming language, Python, MATLAB, and basic HTML, CSS, and javascript

Adobe packages: Adobe Photoshop, Illustrator, and Premiere Pro.

Writing tools: Microsoft word, Overleaf Latex.

Language: English, Nepali, and Hindi

AWARDS and RECOGNITION

- Winner of BE Design competition 2020 in Pulchowk campus for the design and fabrication of Water Treatment Plant.
- Participated in National Young Scientists Conference 2019 (NYSC 2019) with project entitled Trekking Baton
- Participated in 3D modeling competition in Pulchowk campus for the design of Mask Shredder
- Earned two badges in GrabCAD by uploading the models.

RELEVANT ONLINE COURSES

- ☑ Introduction to programming with MATLAB- Vanderbilt University-Coursera
- ☐ A Hands-on Introduction to Engineering Simulations- Cornell University- edx

- ☐ Machine learning- Stanford University- Coursera

CERTIFICATIONS

- ★ Certified SOLIDWORKS Associate **(CSWA)**
  Date Obtained: November, 2023
  Demonstrates proficiency in 3D modeling and engineering design using SOLIDWORKS.