# Shibani Thakur

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## EDUCATION

| Year | Qualification | Educational Institute | Score |
|---|---|---|---|
| 2023 - Present | MTech \| DoMS | Indian Institute of Technology, Kanpur | - |
| 2017-2022 | BE (Mechanical Engineering) | Institute of Engineering, Pulchowk Campus, Nepal | 7.57 |
| 2017 | HSEB \| Nepal | Prasadi Academy, Kathmandu | 84.4% |
| 2015 | SLC \| Nepal | Nightingale Higher Secondary School | 86% |

## Work Experience

Mechanical Engineer – TD Energy and Multi-Constructions, Lalitpur, Nepal                    *Aug22 – Jun23*
- Performed data collection, and data analysis, and prepared a detailed report incorporating the findings of the project.
- Collaborated with team members for the evaluation of literary works affiliated with energy-based studies.

**Projects completed:**
- Design, fabrication, and installation of Screw press dewatering machine
- Study of greenhouse gasses emissions from vehicles running on petroleum products and formulation of a master plan of EV of Kathmandu Valley
- Present status and future plan of clean cooking technologies in Kathmandu Valley
- Prepared materials for Energy Audit trainings

## Key Projects

**Predicting National Life Expectancy | Self project| Regression**

Objective: To predict national life expectancy using regression models.
- Package used (**Pandas, Numpy, Matplotlib**)
- Applied **missing value treatment** (**mean, median**), performed **EDA** techniques such as **outlier detection.**
- Performed **feature engineering** and **transformation** techniques such as **one-hot encoding** and **standard scaling.**
- Identified attributes with high **correlation factors** and dropped one among those.
- Applied model – **Linear Regression.**

Result: **$R^2$** value of 0.94 and **Mean Square Error** of 3.49.

**Credit Card Fraud Detection | Self project | Classification**

Objective: To classify whether a given transaction is fraudulent or not using machine learning classification algorithms.
- Package used (**Pandas, Numpy, Matplotlib**)
- Used **under-sampling** & **over-sampling (SMOTE technique)** method to deal with **imbalanced dataset.**
- Used classification algorithms: **Logistic Regression**, **KNN** for prediction.

Result: Various **classification metrics** were used to compare the models. Logistic Regression performed the best.

## Relevant Courses and Skills                                                                                                    *Ongoing

| | |
|---|---|
| Courses | Statistical Modeling for Business Analytics*\| Probability & Statistics* \|Operations Research for Management* \|Introduction to Computing* |
| Skills | Basics Python \| SQL* \| Machine Learning*\| Data Analysis* |

## Position of Responsibility and Extracurricular

- **Alumni & Corporate Relation team, IIT Kanpur (DoMS)**
  Member of the <u>Alumni and Corporations Relations</u> team where main duty is to keep in touch with DoMS alumni and corporate leaders.
- **Teaching assistant, IOE Pulchowk Campus, Nepal**
  Assisted the professor with preparing course content and assignment grading for **Data Analysis** and **Operations Management** course.
- **Sub-Coordinator, BE Design Competition, MechTRIX, IOE Pulchowk Campus, Nepal**
  Planning and Managing Design Competition. Major responsibilities included Outreach, Finance and Human Resource Management.