Rohitkumar Singh

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EDUCATION			
Degree	Institute / Board	CGPA / Percentage	Year
M.Tech (Department of Management Sciences)	**IIT Kanpur**	--	2025-27
B.E. (Civil Engineering)	**University OF Mumbai,Maharashtra**	**8.54/10**	2018-2022
Higher Secondary Education |HSC	Maharashtra State Board	76.77%	2018
Secondary Education | SSC	Maharashtra State Board	84.80%	2016

SELF PROJECTS

Customer Segmentation Using Clustering | Machine Learning | Clustering

Objective	To perform **Unsupervised Clustering** on customer data to identify distinct customer groups, enabling the business to tailor products and marketing strategies to diverse customer needs and behaviors.
Approach	• Conducted data cleaning, preprocessing, and **dimensionality reduction** using techniques like **Principal Component Analysis(PCA).** • Applied clustering algorithms such as **K-means and Hierarchical Clustering** to segment customers. • Evaluated model performance using metrics like silhouette scores and visualized cluster characteristics.
Result	• Identified key customer segments, Proposed targeted marketing strategies and **product recommendations, optimizing customer engagement and retention.**

Air Ticket Fare Estimator, India | Machine Learning | Regression

Objective	**To predict the flight ticket prices for Indian airlines using Machine Learning Algorithms**
Approach	• The dataset comprises 10 independent features, and a dependent variable "Price" with 10682 observations. • **Data Preprocessing**: Conducted outlier treatment, **feature engineering** and handled missing values. **Applied onehot encoding and feature scaling.** • **Models Used**: Employed **Random Forest Regressor** comprehensive performance analysis. • **Hyperparameter Tuning**: Utilize GridSearchCV to optimize model hyperparameters and enhance predictive performance • **Toolset**: **Scikit-learn**, NumPy, Pandas, Matplotlib, Seaborn
Result	• Achieved **adjusted R2 of 85.2%** after **Hyperparameter tuning as compared to R2 of 84.5 %** using **Random Forest Regressor.**

NLP: Predicting Research Article Topics through NLP Analysis

Objective	**To predict topics for each article in the test set using abstract and title data for a set of research articles (NLP).**
Approach	• Using **NLTK, Gensim** and **scikit-learn**, tokenization, stemming, lemmatization, and TfidfVectorizer for text data pre processing. followed by the construction of a **Word2Vec model** and **data preprocessing** (removing tags, stopwords etc..) • The code sets up a **Logistic regression** model with balanced class weights, and utilizes it as the base estimator for a One-vs Rest (OVR) classifier. The classifier is then trained on the feature matrix 'X_train_vec' and target variable 'y_train'.
Result	• **Accuracy: 0.734 ; Precision: 0.734 ; Recall: 0.734 ; F1-Score: 0.734**

SKILLS, COURSEWORK AND CERTIFICATIONS

Technical Skills	**Python** | **ML Libraries**: NumPy, Pandas, Matplotlib, Seaborn **| NLP | SQL**
Non-Technical Skills	Analytical Thinking | Problem Solving | Strategic Thinking | Decision Making | Adaptability | Team Management | Communication Skills | Interpersonal Skills | Leadership | Team Work | Initiative Taking Skill
Academic Courses (ongoing)	**Data Mining | Probability & Statistics | Operations Research for Management |Introduction to Computing**
Online Certifications	Python Course for Beginners: Scalar

POSITION OF RESPONSIBILITY AND ACHIEVEMENT

- Participation in Bridge Design of Engineering Workshop and Paper Presentations Contest (EWPPC).