

SHIVAM RATTI

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Education

Netaji Subhas University of Technology (formerly NSIT), New Delhi

Dec 2020 – July 2024

Bachelor of Technology, Mechanical Engineering

Dwarka, New Delhi

Member of NSS NSUT cell, Nakshatra : Astronomy and Mathematics society of NSUT, Security team of Moksha 2022, ASME

CGPA : 7.9/10

Experience

Tata Consultancy Services Pvt. Ltd

April 2025 – Present

Systems Engineer

New Delhi, India

- Building A RAG based application to query Databases in English and generate an SQL query.

Mente Consultancies Pvt. Ltd

March 2025 – April 2025

ML Intern

New Delhi, India

- Acquired essential SAS skills streamlining data analysis and empowering efficient decision making.
- Gained hands-on experience in **ETL processes**, **banking terminologies**, and **SQL**, improving data handling and extraction capabilities for financial applications.

Projects

YouTube Sentiment Analysis: Decode Viewer Emotions: [Project Link](#)

Nov 2024 – Dec 2024

- Engineered a Streamlit-based solution leveraging the **YouTube Data API** to retrieve video metrics, including likes, comment counts, and playback duration
- Fine-tuned a **DistilBERT** model on the **IMDb dataset (50,000 reviews)**, achieving an impressive **93.45% accuracy** for sentiment classification.
- Categorized audience reactions into 4 distinct classes: **Positive, Negative, Neutral, and Undetectable**, enabling **80%** more precise sentiment insights.
- Visualized sentiment trends through dynamic **bar and donut charts**, enhancing interpretability and user engagement.
- Deployed a user-friendly web application for real-time analysis of YouTube videos and their audience sentiment.
- Exhibited proficiency in **natural language processing**, **API utilization**, and **data storytelling** to drive actionable outcomes.

Content-Based Movie Recommendation System Using TMDB Dataset : [Project Link](#)

Oct 2024 – Oct 2024

- Developed a **content-based movie recommendation system** using the TMDB dataset from Kaggle, recommending **5 similar movies** from a dataset of **10,000+ films** based on movie features like **genres, cast, and descriptions**.
- Implemented a **Bag of Words (BoW) model** to extract feature vectors from **over 50,000+ movie plot descriptions**, optimizing similarity calculations using **cosine similarity**, achieving an **86% accuracy** in recommendation relevance.
- Cleaned and preprocessed **500,000+ data points**, handling missing data and ensuring efficient feature extraction for optimal recommendation results, reducing **data inconsistencies by 40%**.

Decoding Emotions from Sound : Using Machine Learning : [Project Link](#)

Jun 2024 – Jul 2024

- Leveraged the **RAVDESS** dataset for training, comprising high-quality emotional speech and song recordings, to build a robust and reliable model.
- Designed and deployed a **Streamlit app** allowing users to upload or record audio for real-time emotion classification.
- Utilized Librosa to extract audio features such as **MFCCs**, ensuring robust and accurate feature representation.
- Conducted comprehensive data preprocessing and **feature engineering**, enhancing model performance and interpretability.

Achievements & Certifications

- Secured AIR **5158** in **GATE Data Science and AI 2024**, conducted by IISc Bangalore.
- Ranked **585** out of 1,846 in **Kaggle Used Cars Price Prediction**, part of the KaggleX Skill Assessment Challenge.
- **Certification: Machine Learning A-Z: AI, Python & R + ChatGPT** | Udemy | 2025
- [Leetcode](#) contest rating of **1528** , **SQL 50 Badge** | Solved 50 SQL problems on LeetCode

Technical Skills

- **Programming Languages and DataBases:** Python, C/C++, HTML, CSS, MySQL, RDBMS
- **Technical Knowledge :** Data Structures and Algorithms, Object Oriented Programming, Machine Learning, Deep Learning, LLMs, CNN, NLP, RNN, LSTMs, Transformers, Recommender Systems, Text Classification, Audio Classification, Git, Github, Flask, Streamlit, MLOps, ETL Development, SAS, MS Excel, MS PowerPoint, AB Testing, Hypothesis Testing
- **Libraries and Frameworks :** Pandas, Numpy, Sklearn, Matplotlib, Transformers, nltk, Librosa, Tensorflow, Pytorch
- **Other Skills:** Exploratory Data Analysis, Web Scraping, Data Preprocessing, Feature Engineering, Big Data Analytics, Statistics
- **Languages :** English, Hindi