PROJECT REPORT

Title: Movie Recommendation System

Developed By: Sneha Talukdar

Elevate Labs Internship, 2025

Introduction-

This project is a movie recommendation system that makes suggestions for related films based on the user's chosen favourite. By using movie rating data, it was created as a component of the Elevate Labs Internship to show how machine learning and data science are applied in the real world.

Abstract-

The top five films that are comparable to the user's chosen film are suggested by the system using collaborative filtering. A user-movie matrix taken from the MovieLens dataset powers it. The correlation between user ratings is used to compute the similarity. For a straightforward and engaging user interface, the entire solution is implemented using Streamlit and constructed in Python.

Tools Used-

- **Programming Language- Python**
- **Libraries- Pandas, NumPy, Scikit-learn**
- **Framework- Streamlit**
- **IDE- Visual Studio Code**
- **Version Control- Git and GitHub**
- **Dataset Used- ratings_small.csv (MovieLens) ; movies_metadata.csv (TMDB Metadata)**

Steps involved in building the Project-

- **Data collection: Metadata and MovieLens ratings were integrated.**
- **Data cleaning includes handling missing values and removing unnecessary data.**
- **Building Model: Correlation is calculated and a user-movie matrix is created.**
- **Suggestion Logic: Filtering yielded the top five similar films.**

- **UI Development: A streamlined application that accepts input and shows the outcomes.**
- **Deployment: The application is live on Streamlit Cloud (shared publicly).**

Conclusion-

This project facilitated the deployment of ML models in practical applications and the comprehension of collaborative filtering techniques. The practical experience with GitHub and Streamlit improved the ability to do full-stack data science. It also demonstrated how basic recommendation systems operate internally and how better datasets or hybrid models can enhance them.

Footer-

Developed by Sneha Talukdar

B.Tech CSE (AI & ML), Kolkata, West Bengal, India

For Elevate Labs Internship, 2025

For educational and non-commercial use only.