Personalized Recommendation System

1. Introduction

The **Movie_Rating Dataset** is a well-established collection of movie ratings that has become a benchmark in the fields of data mining and recommendation systems. Developed by **GroupLens Research**, this dataset serves as a valuable resource for researchers and practitioners aiming to explore and implement recommendation algorithms.

It includes user-generated ratings for a wide array of films, facilitating the analysis of user preferences and behaviors. It comprises various versions, each with a different scale of data:

- **Ratings**: The core of the dataset consists of ratings provided by users, which range from 1 to 5 stars. This provides insight into user satisfaction and movie popularity.
- **Movie Information**: Each entry includes essential details about the films, such as:
  1. Title
  2. Release year
  3. Genre classifications (Action, Comedy, Drama)
- **User Data**: The dataset includes anonymized user IDs, allowing for the tracking of ratings while maintaining user privacy.

2.Details on Dataset.

Link of datasat : https://grouplens.org/datasets/movielens/

A. Ratings File

- **Structure**: Each row corresponds to a user rating for a specific movie.
- **Columns**:
  - `UserID`: Unique identifier for the user.
  - `MovieID`: Unique identifier for the movie.
  - `Rating`: Numeric rating given by the user (typically from 1 to 5).
  - `Timestamp`: The time when the rating was submitted (in Unix timestamp format).

B. Movies File

- **Structure**: Each row contains information about a specific movie.
- **Columns**:
  - `MovieID`: Unique identifier for the movie.
  - `Title`: Title of the movie.
  - `Genres`: Comma-separated list of genres (Action, Comedy, Drama).
  - `Release Year`: The year the movie was released .

This dataset uses in many Applications like :

Recommendation Systems: It serves as a benchmark for developing and evaluating collaborative filtering, content-based filtering, and hybrid recommendation systems.

Part of every one :

SALMA SAEED

Data Collection

Data Preprocessing

Data Analysis

Recommendation Algorithms Using User_id

Recommendation Algorithms Using Movie_id

Recommendation Algorithms Using Genre Of Movie

Deployement Using Streamlit

GANNA TAHER

Advanced Techniques Using GANs

MLOPs and presentation

(MLfow & Prompt Engineering)