**Movie Recommendation System**

**Overview**

The Movie Recommendation System is a machine learning project designed to recommend movies to users based on their preferences and past behavior. This system uses collaborative filtering, content-based filtering, or hybrid approaches to generate personalized movie suggestions.

**Features**

* User-based collaborative filtering: Recommends movies based on similar users' preferences.
* Item-based collaborative filtering: Recommends movies similar to the ones the user has liked.
* Content-based filtering: Recommends movies based on movie attributes such as genre, actors, directors, etc.
* Hybrid filtering: Combines collaborative and content-based filtering for improved recommendations.
* User-friendly interface: Easy to navigate and provides movie recommendations with detailed information.

**Installation**

To get started with the Movie Recommendation System, follow these steps:

1. **Clone the repository:**

bash

git clone https://github.com/your-username/movie-recommendation-system.git

cd movie-recommendation-system

1. **Install the required dependencies:**

bash

pip install -r requirements.txt

1. **Prepare the dataset:**
   * Download the movie dataset (e.g., MovieLens dataset) and place it in the data/ directory.
   * Ensure the dataset is preprocessed and cleaned before use.
2. **Run the application:**

bash

python app.py

**Usage**

1. **Sign up/Login:**
   * Create an account or log in with your existing credentials.
2. **Explore and Rate Movies:**
   * Browse the movie catalog and rate movies you have watched to help the system learn your preferences.
3. **Get Recommendations:**
   * Navigate to the "Recommendations" section to view personalized movie suggestions based on your ratings and preferences.
4. **Search for Movies:**
   * Use the search feature to find specific movies and add them to your watchlist.

**Dataset**

* MovieLens Dataset: https://grouplens.org/datasets/movielens/

**Technologies Used**

* **Programming Language:** Python
* **Frameworks/Libraries:** Flask, scikit-learn, pandas, numpy, surprise
* **Database:** SQLite
* **Frontend:** HTML, CSS, JavaScript

**Contributing**

Contributions are welcome! If you'd like to contribute to this project, please follow these steps:

1. Fork the repository.
2. Create a new branch: git checkout -b feature-branch.
3. Make your changes and commit them: git commit -m 'Add new feature'.
4. Push to the branch: git push origin feature-branch.
5. Submit a pull request.