

# Personalized Movie Recommendation System - README

## Overview

This project is a Flask-based movie recommendation website that uses a collaborative filtering model (SVD) trained on MovieLens data. It features genre filtering, personalized recommendations by user ID, AJAX-based pagination, and a responsive UI layout.

## Requirements

Before running the application, make sure the following packages are installed:

**pip install flask pandas scikit-surprise**

## Folder Structure

### Code/

- |— **combined\_dataset.csv**     # Cleaned dataset used for training and recommendations
- |— **Movie\_recom\_sys.ipynb**                     # Flask application code ( main script)
- |— **static/**
  - | |— **black\_mirror.jpg**     # Example carousel image
  - | |— **toy.webp**     # Example carousel image
  - | |— **frozen.png**             # Example carousel image
  - | |— **iceage.jpg**             # Example carousel image
  - | |— **frame.webp**             # Film-frame background

# How to Run the Application

## Run in Jupyter Notebook (Recommended for Development)

1. Open a terminal in the project directory
2. Launch Jupyter:  
**jupyter notebook**
3. Open **Movie\_recom\_sys.ipynb**
4. Run all cells sequentially
5. Once the server starts, visit:

<http://127.0.0.1:5001>

(or click the link that generated after running the code as showing blow)

Leave the notebook running to keep the Flask server active.

```
* Running on all addresses (0.0.0.0)
* Running on http://127.0.0.1:5001
* Running on http://192.168.50.20:5001
Press CTRL+C to quit
```

## Option 2: Convert to Python Script

If you want to run this like a standard Flask app:

1. Convert the notebook to **.py** :  
**jupyter nbconvert --to script Movie\_recom\_sys.ipynb**
2. Rename and run the script:

**python Movie\_recom\_sys.py**

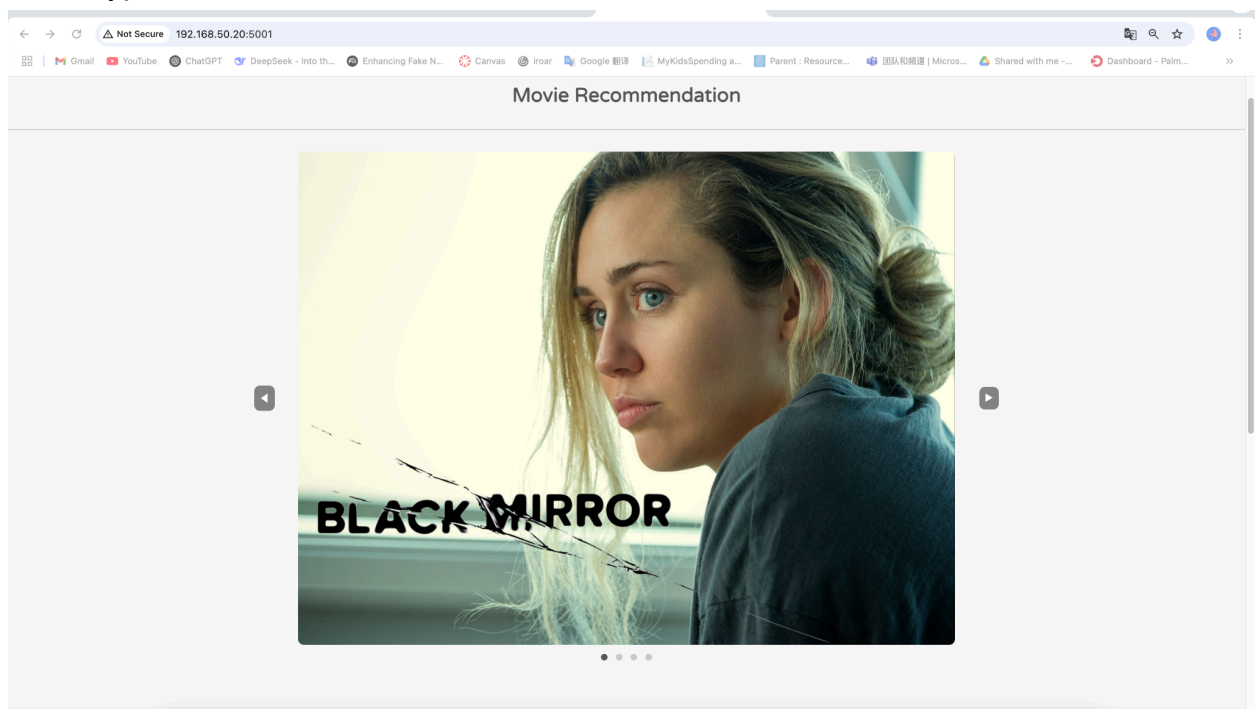
## Functionality

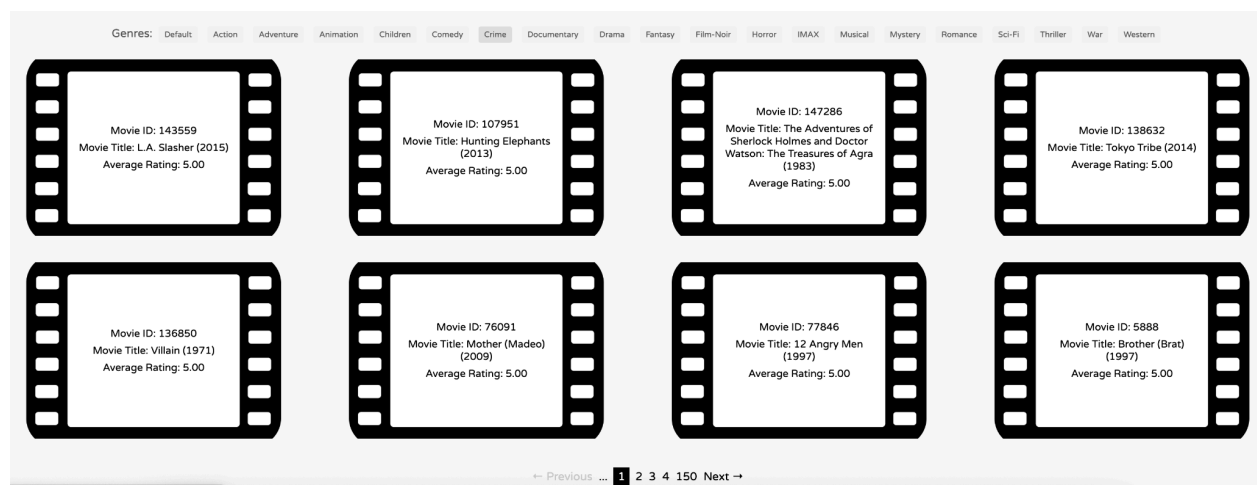
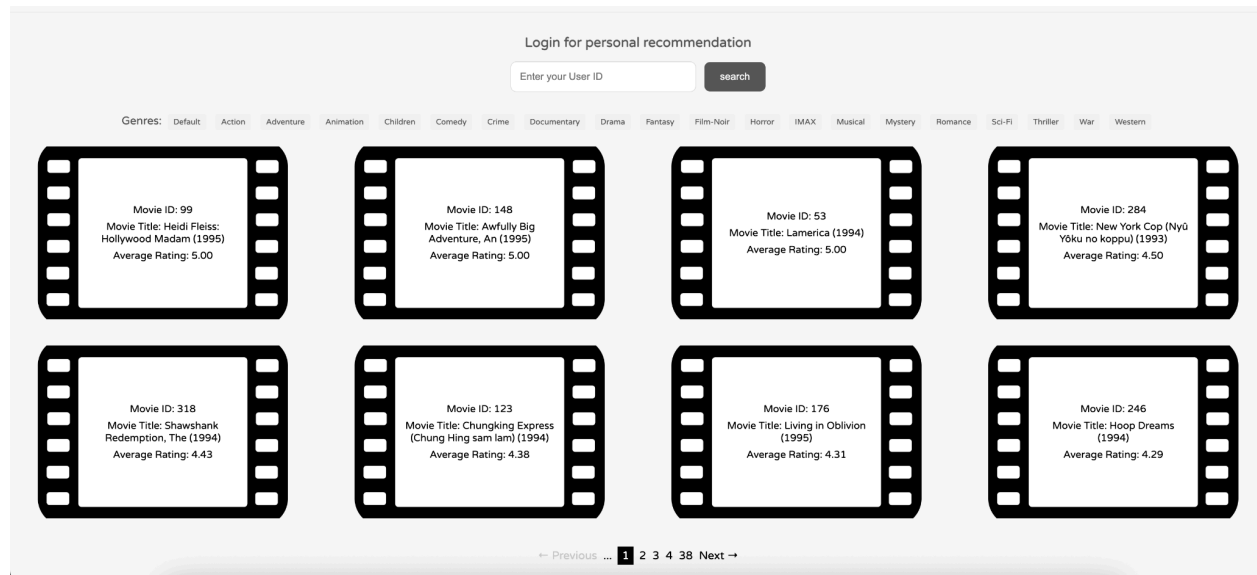
- Homepage: Shows top-rated movies (default 12 per page)
- Genre filter: Clickable links to filter movies by genre
- Login section: Input user ID to get personalized movie recommendations
- AJAX pagination: Navigate between pages without reloading the whole page
- Carousel: Displays sample movie stills at the top of the homepage

## Screenshot of the website

### Main page:

can login for personal recommendations, and each Genres are clickable for different movie types.





Showing movies of Crime

## Personal recommendation page:

This is the page after login, and by clicking the Return to Home button, we can go back to the homepage.

Recommendations for User 97

Movie ID: 296  
Movie Title: Pulp Fiction (1994)  
Average Rating: 5.00

Movie ID: 318  
Movie Title: Shawshank Redemption, The (1994)  
Average Rating: 5.00

Movie ID: 260  
Movie Title: Star Wars: Episode IV - A New Hope (1977)  
Average Rating: 4.98

Movie ID: 1213  
Movie Title: Goodfellas (1990)  
Average Rating: 4.94

Movie ID: 527  
Movie Title: Schindler's List (1993)  
Average Rating: 4.91

Movie ID: 1204  
Movie Title: Lawrence of Arabia (1962)  
Average Rating: 4.90

Movie ID: 2959  
Movie Title: Fight Club (1999)  
Average Rating: 4.89

Movie ID: 3435  
Movie Title: Double Indemnity (1944)  
Average Rating: 4.86

Return to Home