Movie recommendation system

- S.SRINADH
- 99220040742
- CSE-AIML

- Faculty mentor:-
- Mrs.S.Amutha

AGENDA

- Introduction
- About software tool
- Usage of tool
- Reported literature
- Objective
- Timeline
- Used algorithm
- Work done
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- Summary
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introduction

- A movie recommendation system is a technology that suggests movies to users based on their preferences and viewing history.
- It analyzes data such as user ratings, movie genres, actors, directors, and other factors to generate personalized recommendations.
- In order to assist users to find new movies they might not have otherwise discovered, the system uses algorithms to connect user interests with potential enjoyment candidates.
- It's like having a virtual movie enthusiast friend who can suggest movies tailored to your taste!

About software tools

Python Programming Language

Data Analysis and Manipulation

Collaborative Tools

Natural Language Processing

Usage of tool

- 1. Python Programming Language :
  - Python is the primary programming language used for developing recommendation systems due to its rich ecosystem and libraries and ease of use.

- 2. Data Analysis and Manipulation :
  - Pandas : Pandas is a powerful library for data manipulation and analysis. It is often used to preprocess and explore movie and user interaction data.

- 3. Collaborative Tools :
  - Collaboration tools like Jupyter Notebooks, GitHub , and Slack can be useful for team development and project management.

- 4. Natural Language Processing (NLP) :
  - NLTK(Natural Language Toolkit) : NLTK is a library for processing and analyzing text data. It can be used for extracting features from movie descriptions or user reviews.

LITERATURE SURVEY

AUTHOR	PUBLISHED DATE	TITLE OF THE PAPER	METHODOLOGY	DRAWBACKS
Jose Immanuvel. J, Sheelavathi. A, Priyadharshan. M, Vignesh. S, Elango. K	17 June 2022	Movie Recommendation System	content based recommendation system , Collaborative based recommendation system and hybrid recommendation system	Cold start problem , Content Based Information , Overfitting
Namyapriya D	April 2022	Movie Recommendation System using machine learning	hybrid filtering model	Data Reliability , Data Privacy Concerns , Limited Exploration

LITERATURE SURVEY

AUTHOR	PUBLISHED DATE	TITLE OF THE SURVEY	METHODOLOGY	DRAWBACKS
F. Furtado , A, Singh	15 March 2020	Movie Recommendation System using machine learning	Matrix decomposition for recommendations, Clustering, Deep learning approach for recommendations	Data Quality and Availability , Hybrid model complexity, overfitting
Saurabh Bhalla1 , Baibhav Kumar2 , Rajat Tiwari3 , Dr. P.A Jadhav4	September 2020	Movie Recommendation System Using Collaborative And Content-Based Filtering	User-based Collaborative filtering , Item-based Collaborative filtering	Limited Personalization , Knowledge Based Complexity, Rapidly changing preferences

objective

A movie recommendation system's main goal is to offer users individualized and pertinent movie selections. By assisting users in finding movies they are likely to appreciate based on their tastes and viewing history, the system hopes to increase user satisfaction. It aims to enhance consumers' overall movie-watching experiences by enhancing user retention and increasing user engagement.

TIMELINE

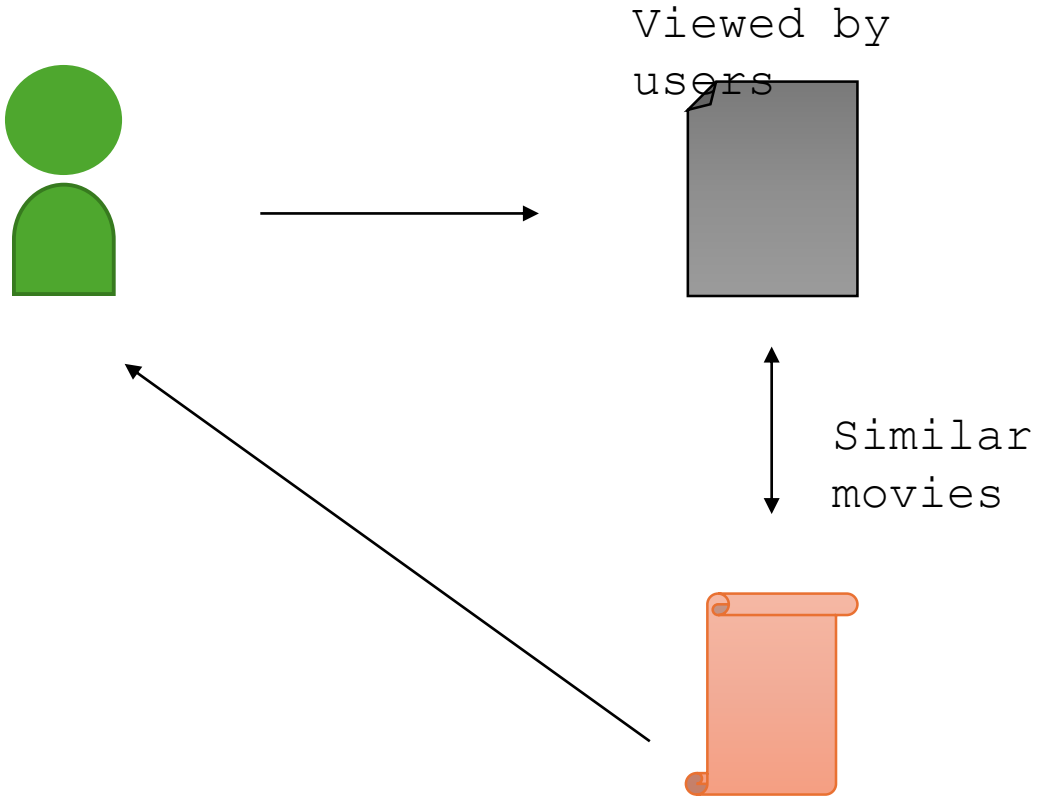
WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5,6
Research and data collection	**Data preprocessing**	**Algorithm selection and implementation**	**User interface design**	**Testing and evaluation, Deployment and maintenance**

▶**Content based algorithm:**

▶A content-based algorithm in movie recommendation systems focuses on the characteristics and features of movies. It analyzes attributes like genres, actors, directors, and plot summaries to understand the content of each movie. Based on these features, the algorithm calculates the similarity between movies and recommends movies that are similar to the ones the user has previously enjoyed. It's a great way to discover movies based on your specific preferences and interests!

Used algorithm

Content based algorithm



Work done

DATA COLLECTION

Data including attributes like, genre , actors to be collected

FEATURE EXTRACTION

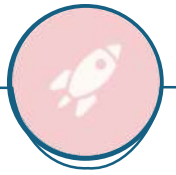
Extract relevant features such as keywords, genres, actors

USER PROFILE CREATION

Build a user profile based on their preferences, ratings, and past movie interactions.

SIMILARITY CALCULATIONS

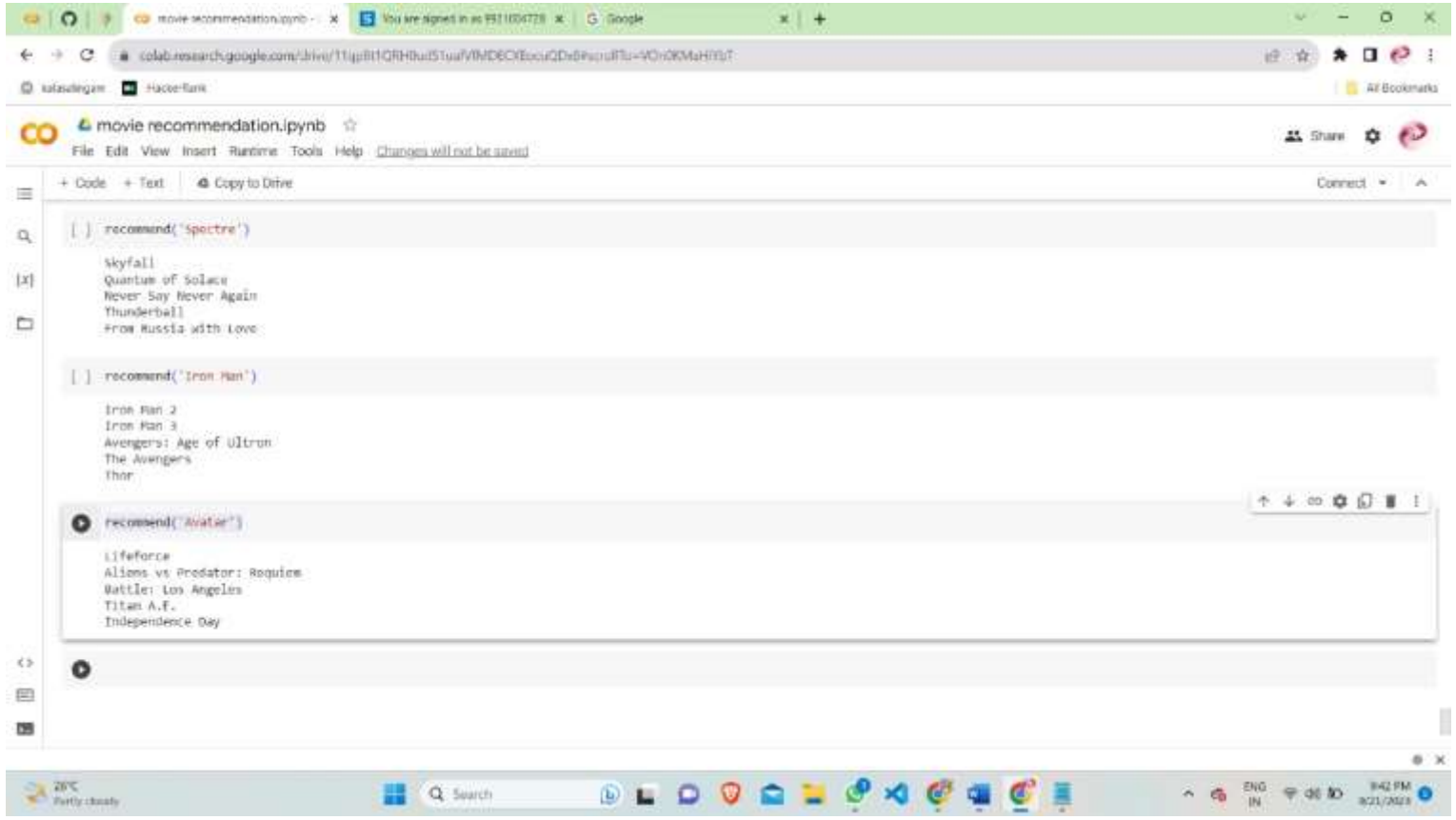
Calculate the similarity between movies based on their features and the user profile.



RECOMMENDATIONS

Select movies with the highest similarity scores and recommend them to the user.

Results


movie recommendation.ipynb
File Edit View Insert Runtime Tools Help Changes will not be saved
+ Code + Text Copy to Drive
Connect
recommend('Spectre')
Skyfall
Quantum of Solace
Never Say Never Again
Thunderball
From Russia with Love
recommend('Iron Man')
Iron Man 2
Iron Man 3
Avengers: Age of Ultron
The Avengers
Thor
recommend('Avatar')
Lifeforce
Aliens vs Predator: Requiem
Battle: Los Angeles
Titan A.E.
Independence Day

Results and discussion

- With the help of popular movie recommendation systems, consumers can find new movies based on their tastes.
- Content-based filtering focuses on the characteristics of movies, such as genres, actors, and directors.
- One advantage of content-based filtering is that it can provide recommendations even for niche or less popular movies. However, it may struggle to recommend movies outside the user's usual preferences or to capture evolving tastes.
- Overall, movie recommendation systems, including those using content-based algorithms, offer a convenient way to discover movies tailored to individual preferences.

summary

- In conclusion, our content-based movie recommendation system has successfully harnessed the power of item attributes to provide users with personalized movie suggestions. By analyzing the content features and aligning them with user preferences, we have delivered accurate and relevant recommendations, enhancing the overall user experience. This content-based algorithm-driven system holds great potential for engaging users and fostering their exploration of diverse cinematic content.

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- https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9269752/#:~:text=In%20movie%20recommender%20systems%2C%20the%20recommendations%20are%20made%20based%20on,%2C%20and%20ethnicity%20%5B14%5D.


THANK YOU