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Movie Recommendation System

CSE D

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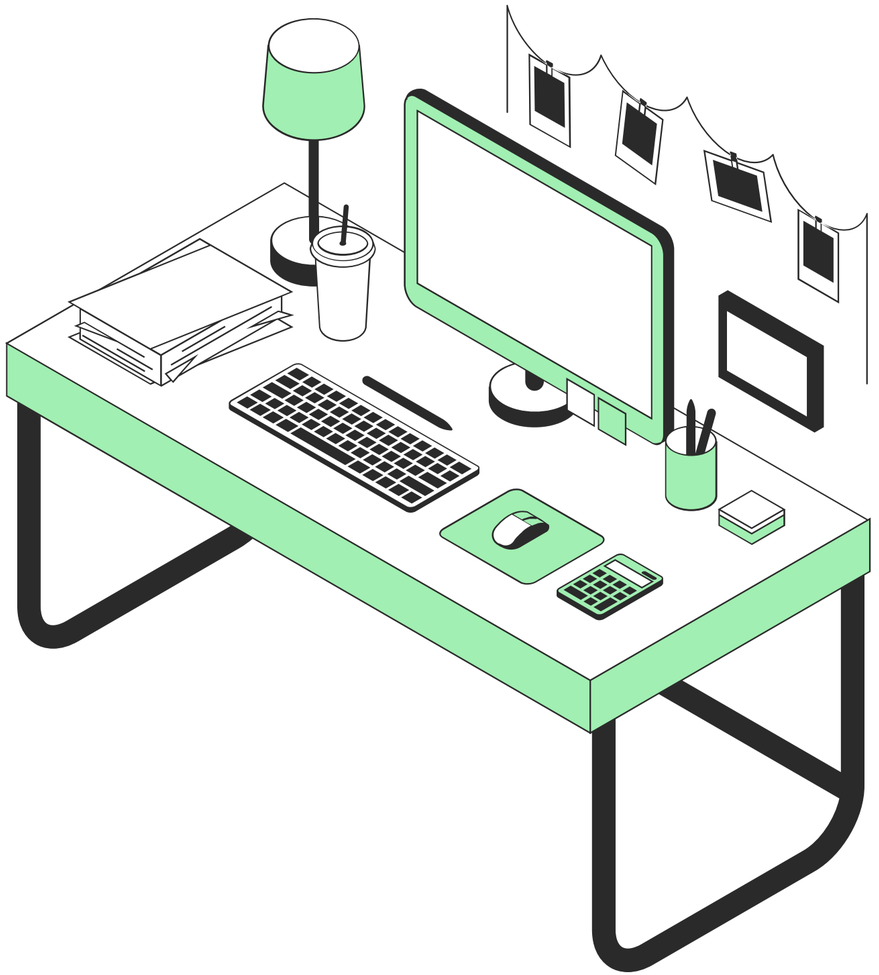

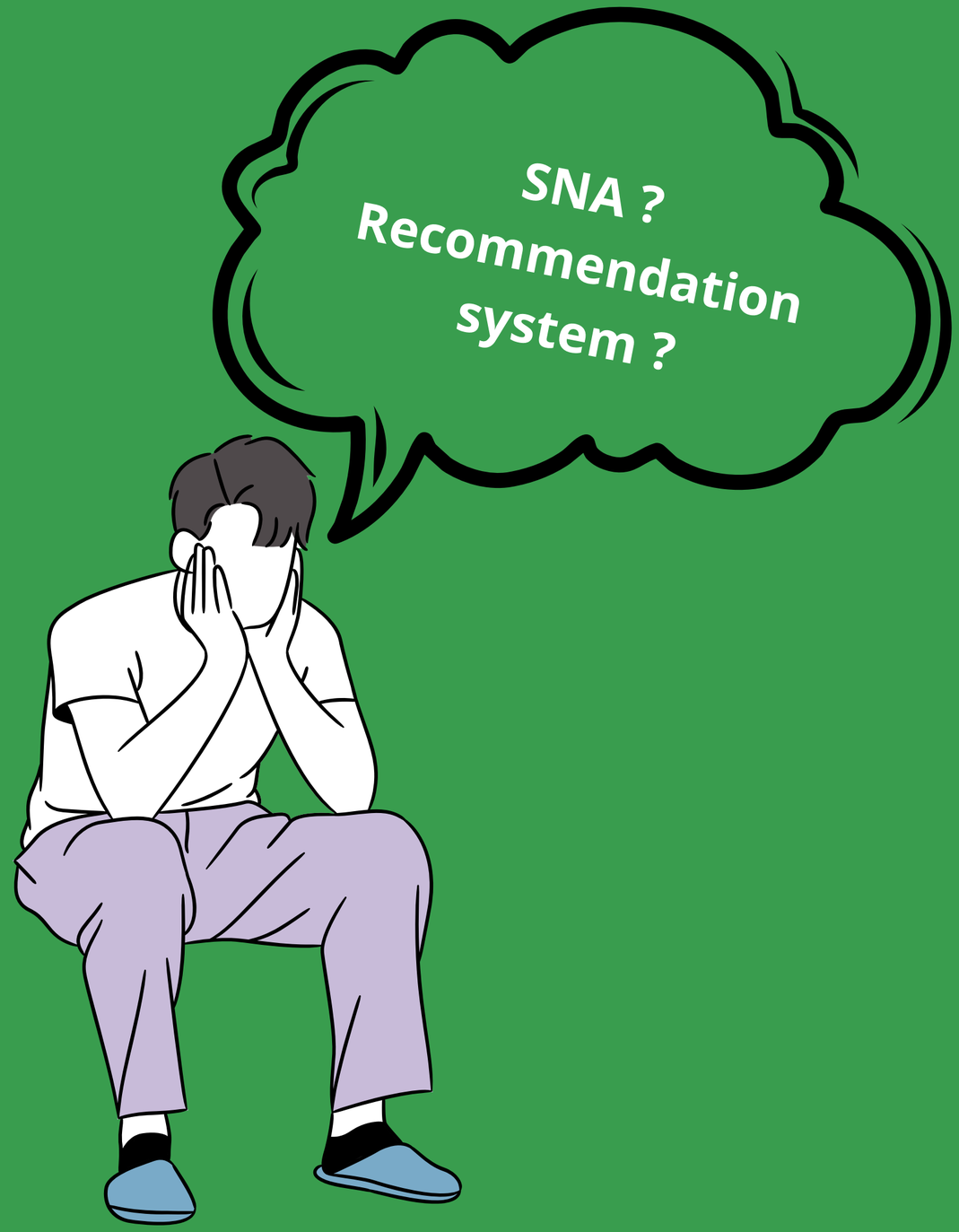
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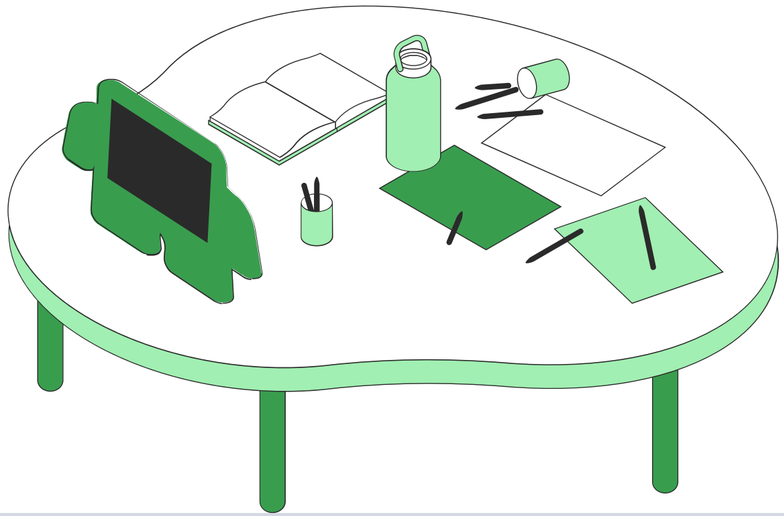
What to Know



Fun Fact: We like to share the love. The average internet user has 8.6 social media accounts.

Problem Statement

To develop a movie recommendation system that analyzes movie preferences of users and provide recommendation of movies on interests of the users.

The system analyzes a user's viewing history and provides personalized recommendations, taking into account factors such as genre, actor, director, and ratings.

Introduction

Protecting data is crucial

The primary goal of movie recommendation systems is to filter and predict only those movies that a corresponding user is most likely to want to watch. The ML algorithms for these recommendation systems use the data about this user from the system's database.

Motivation

The motivation behind movie recommendation systems is to provide personalized movie suggestions to users, based on their self-reported preferences.

With such a system in place, users can discover new movies that they are likely to enjoy, and may not have otherwise found.

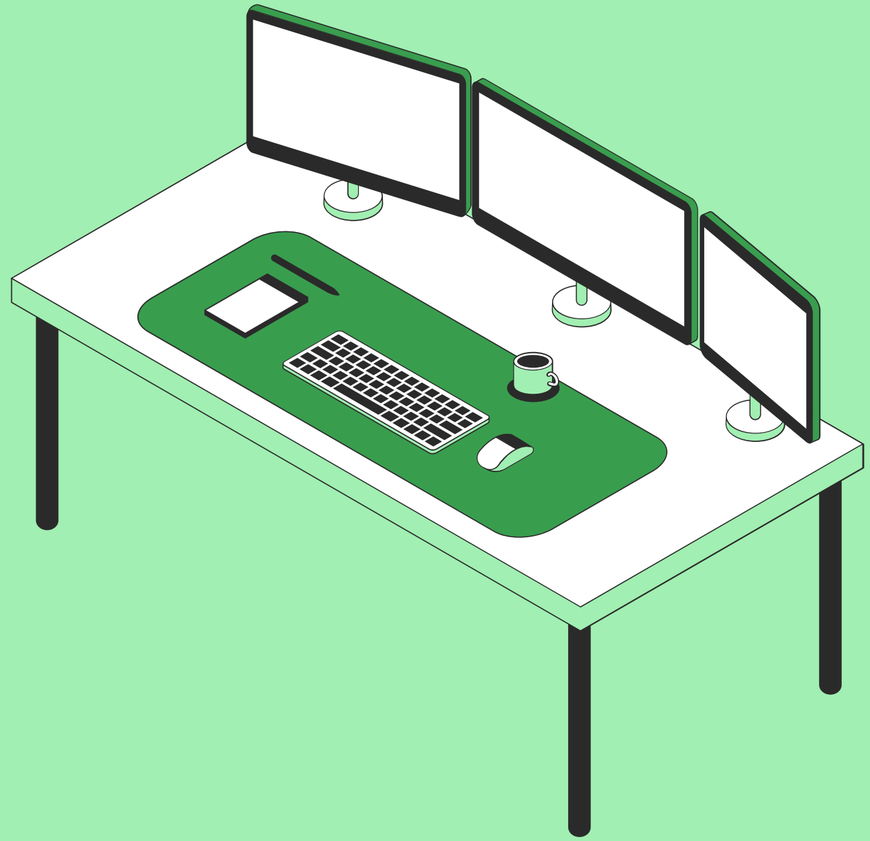
Data Sets Used

Movie Metadata – Contains the genres, Title, Overview, Revenue, Popularity etc…

Ratings – Contains the Movie ID, Ratings

Keywords – Contains the Keywords which are being used in the Movie

Existing Systems



Content Based

It recommends movies to users based on their past movie preferences.

These features could be anything from genre and cast to plot keywords and themes.

Collaborative

It recommends movies to users based on the preferences of other similar users.

The system then recommends movies that these similar users have enjoyed but the original user has not seen yet.

Content Based

It struggles to recommend movies that are outside a user's usual preferences.

Limited Diversity

Over-Specialization

Cold Start Problem

Collaborative

It struggles to recommend movies with less user data.

Scalability

Limited Diversity

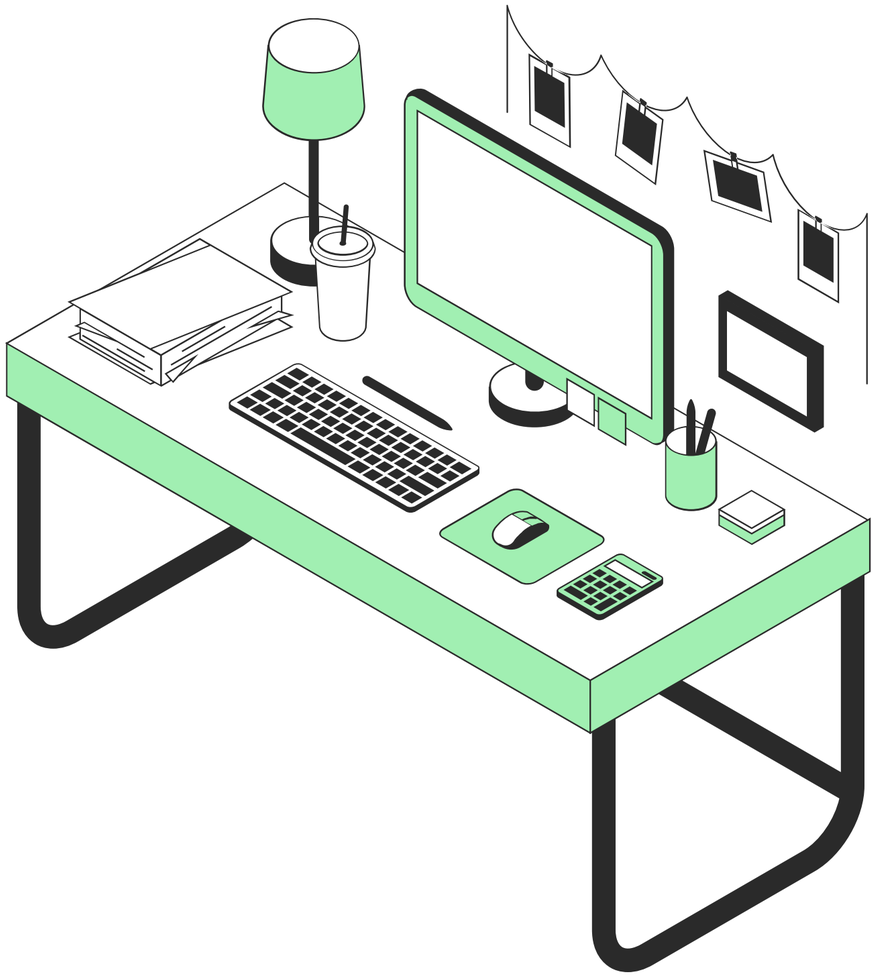
New User and Item Cold Start

Proposed System

The system proposed is a hybrid recommender system, which combines the strengths of two or more recommendation algorithms to provide more accurate and diverse recommendations.

Hybrid System

The system takes advantage of the strengths of each technique and compensates for their weaknesses.



Implementation / Algorithm Steps

Step 1

Define and Preprocess data

Step 2

Build content-based recommendation system

Step 3

Build collaborative filtering recommendation system

Step 4

Combine the systems

Step 5

Sort them out From both the Systems and return the top best results to the user

A hybrid recommendation system combines the strengths of multiple recommendation techniques to overcome the limitations of individual approaches and provide more accurate and diverse recommendations.

Observations/Results

We have observed combining two approaches, hybrid systems, can provide more accurate recommendations that take into account both the **preferences of the user and the features of the movies.**

- Hybrid systems can provide **accurate recommendations** for new users, while also improving the variety of recommendations.
- Recommendation systems, including movie recommendations, are widely used by e-commerce platforms and OTT platforms.

Conclusion

We have successfully able to implement movie recommended systems with both approaches together.

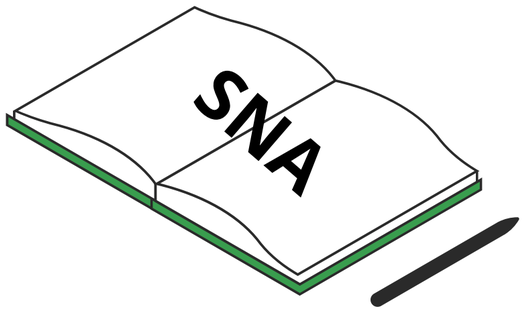
Hybrid filtering appears to be a promising approach to movie recommendation systems, **offering improved accuracy and relevance** compared to pure collaborative or content-based filtering

References

Movie Recommendation System , Shuo Zhang and Xiaomeng Wu.

Content-Based Recommendation Systems, Michael J. Pazzani and Daniel Billsus.

Recommender Systems Handbook, Francesco Ricci, Lior Rokach



Thank You

Fun Fact: Need evidence that we’re a visual species? Today, in excess of 3.2 billion photos and 720,000 hours of video are shared per day across social media.