

MOVIE RECOMMENDATION SYSTEM

Synopsis report of Major Project

BACHELOR OF TECHNOLOGY in INFORMATION TECHNOLOGY

Submitted by

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ABSTRACT

This project aims to create a movie recommendation system that suggests movies to users based on their preferences and the feelings expressed in movie reviews. We gather data about movies and user reviews from online sources. Using advanced text analysis techniques, we analyse the reviews to determine whether they are positive, negative, or neutral.

Our recommendation system combines traditional methods, like comparing users with similar tastes and analysing the features of movies, with the results of our sentiment analysis. This way, we can recommend movies that not only match the user's interests but also have received positive feedback from other viewers.

KEY FEATURES

1. **Personalized Recommendations:**

- The system suggests movies based on what you like and the kinds of movies you have enjoyed before.

2. **Sentiment Analysis:**

- It reads and understands movie reviews to figure out if people felt positive, negative, or neutral about a movie.

3. **Movie Data Collection:**

- It gathers detailed information about movies, such as their titles, genres, actors, and release dates, from various online sources.

4. **User Profiles:**

- The system creates profiles for users by tracking the movies they watch, rate, and review, to better understand their tastes.

5. **Review Analysis:**

- It analyses the text of user reviews to determine the overall sentiment and uses this information to improve recommendations.

6. **Hybrid Recommendation Approach:**

- Combines different recommendation techniques, like finding similar users and analysing movie features, to provide more accurate suggestions.

7. **Interactive User Interface:**

- Offers an easy-to-use interface where users can search for movies, see recommendations, and write their own reviews.

8. **Dynamic Updates:**

- Continuously updates recommendations based on new reviews and ratings, ensuring that suggestions are always relevant and up-to-date.

9. **Positive Feedback Emphasis:**

- Gives more weight to movies with positive reviews, helping users find films that are well-liked by others.

10. **User Feedback Integration:**

- Allows users to provide feedback on recommendations, which the system uses to further refine and improve future suggestions.

INTRODUCTION

Finding a great movie to watch can be hard with so many options out there. Our project creates a

smart movie recommendation system that helps you find movies you'll love. It does this by looking

at your preferences and analysing what people say in their reviews.

We gather lots of movie information and read reviews to see if they are positive, negative, or neutral.

Using this information, our system can suggest movies that match your taste. With a simple interface, you can easily find and enjoy new movies without spending too much time searching.

MOTIVATION

1. Too Many Choices:

- There are thousands of movies available, making it hard to pick the right one. We wanted to simplify this process by providing personalized recommendations.

2. Understanding Preferences:

- Everyone has unique tastes in movies. Our goal is to understand these preferences and suggest films that match what you enjoy watching.

3. Using Reviews:

- Reviews can tell us a lot about how good a movie is. By analysing these reviews, we can recommend movies that others have liked, increasing the chances that you'll like them too.

4. Saving Time:

- Searching for a good movie can take a lot of time. Our system aims to save you time by quickly suggesting movies you're likely to enjoy, so you can spend more time watching and less time searching.

5. **Improving Enjoyment:**

- Watching a great movie can be a wonderful experience. By helping you find movies that suit your taste, we aim to enhance your overall movie-watching enjoyment.

BACKGROUND

1. **Growing Movie Industry:**

- The movie industry is expanding rapidly, with new films released every week across various genres and languages. This abundance of options can make it challenging for viewers to decide what to watch.

2. **User Reviews and Ratings:**

- People often share their opinions about movies through reviews and ratings on platforms like IMDb, Rotten Tomatoes, and social media. These reviews reflect viewers' experiences and can influence others' decisions on what to watch.

3. **Personalized Recommendations:**

- Recommendation systems have become increasingly popular in recent years, helping users discover new content tailored to their preferences. By analysing user behaviour and feedback, these systems offer personalized suggestions, enhancing the user experience.

4. **Advancements in Technology:**

- Advances in machine learning and natural language processing have made it possible to analyse large amounts of data, including movie reviews, more efficiently and accurately. This

technological progress enables the development of smarter recommendation systems that can better understand and cater to individual tastes.

GANTT CHART

1. **Project Planning:** Week 1

- During these weeks, we'll define the project's goals, scope, and requirements. We'll also outline the tasks and create a project schedule.

2. **Data Collection:** Week 2-4

- In these weeks, we'll gather movie data from various sources such as IMDb, Rotten Tomatoes, and social media platforms.

3. **Data Preprocessing:** Week 5-7

- This phase will involve cleaning and organizing the collected data to prepare it for analysis.

4. **Sentiment Analysis:** Week 8-10

- During this time, we'll perform sentiment analysis on movie reviews to determine their positive, negative, or neutral sentiment.

5. **Recommendation Model:** Week 11-13

- These weeks will be dedicated to developing and implementing the recommendation algorithm based on user preferences and review sentiment.

6. **Frontend Development:** Week 14-16

- Week 16 to 18 will focus on creating the user interface where users can interact with the recommendation system.

7. **Backend Development:** Week 16-18

- During these weeks, we'll build the backend logic that handles data processing and recommendation generation.

8. **Testing and Debugging:** Week 18-19

- Thorough testing of the system will be conducted during these weeks to identify and fix any issues or bugs.

9. **Deployment:** Week 20-21

- Finally, in weeks 25 to 27, we'll deploy the recommendation system to a production environment for public use.

REFERENCES –

1. **Books:**

- "Recommender Systems: An Introduction" by Dietmar Jannach, Markus Zanker, Alexander Felfernig, and Gerhard Friedrich.
- "Practical Machine Learning for Computer Vision" by Himanshu Singh.

2. **Research Papers:**

- Koren, Y., Bell, R., and Volinsky, C. (2009). Matrix Factorization Techniques for Recommender Systems.

3. **Online Courses and Tutorials:**

- Coursera offers courses on recommender systems and machine learning by top universities.
- Udemy has tutorials on natural language processing and sentiment analysis using Python.

4. **Websites and Blogs:**

- Towards Data Science publishes articles on data science and machine learning topics.

5. **Documentation and APIs:**

- Documentation for Python libraries like Scikit-learn, NLTK, and TensorFlow can provide guidance on implementing machine learning and natural language processing algorithms.
- APIs from IMDb, TMDb, or other movie databases can be used for accessing movie data programmatically.

6. **Academic Journals:**

- "Journal of Machine Learning Research" and "IEEE Transactions on Knowledge and Data Engineering" often publish research papers related to recommender systems and sentiment analysis.