



P. R. Pote (Patil) College of Engineering & Management, Amravati
(An Autonomous Institute)



Department of Artificial Intelligence and Data Science

Presentation on

MOVIE RECOMMENDATION SYSTEM

Presented By

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Year 2024-25

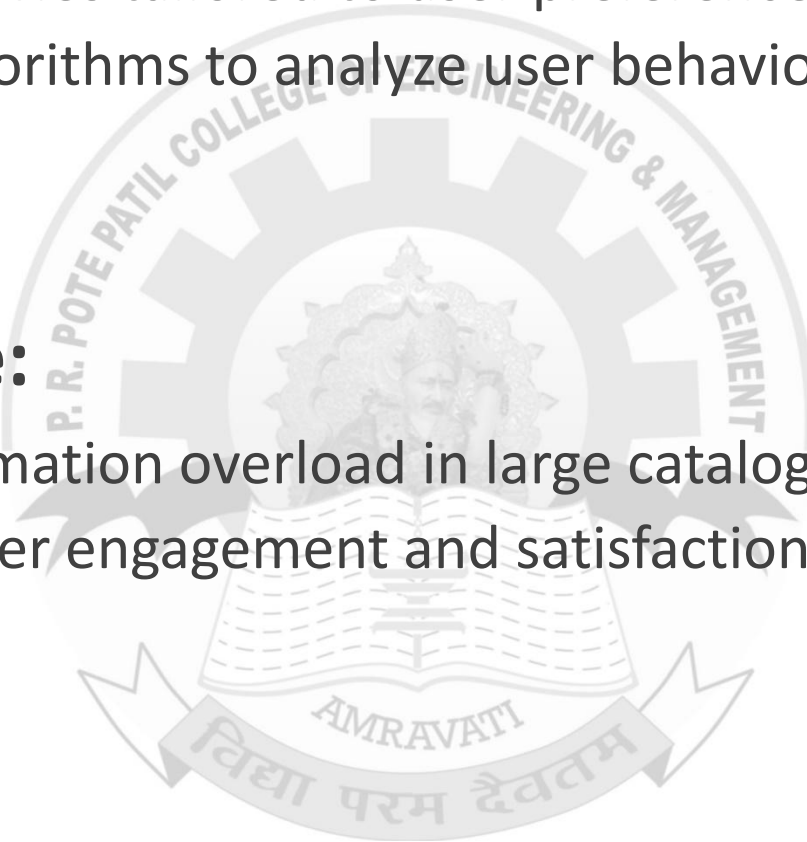
Abstract

Brief overview of the project:

- A system that suggests movies based on user preferences using machine learning.
- Enhances user experience on platforms like Netflix, Amazon Prime.
- Implements content-based filtering using NLP techniques like TF-IDF and cosine similarity for personalized movie recommendations.

Introduction

- **What is a Movie Recommendation System?**
 - Suggests movies tailored to user preferences.
 - Uses ML algorithms to analyze user behavior and movie features.
- **Importance:**
 - Solves information overload in large catalogs.
 - Increases user engagement and satisfaction.



AIM & Objectives

- Build an accurate recommendation model using cosine similarity.
- Improve user engagement with personalized suggestions.
- Implement a content-based filtering recommendation system using movie metadata and NLP methods.

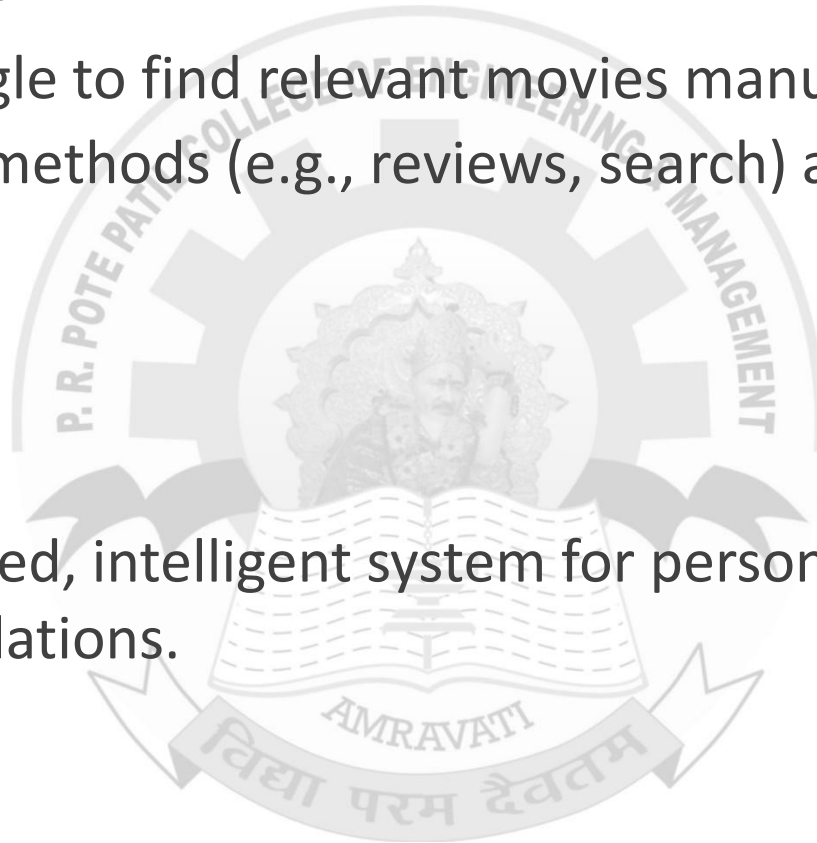
Problem Statement

- **Challenges:**

- Users struggle to find relevant movies manually.
- Traditional methods (e.g., reviews, search) are time-consuming.

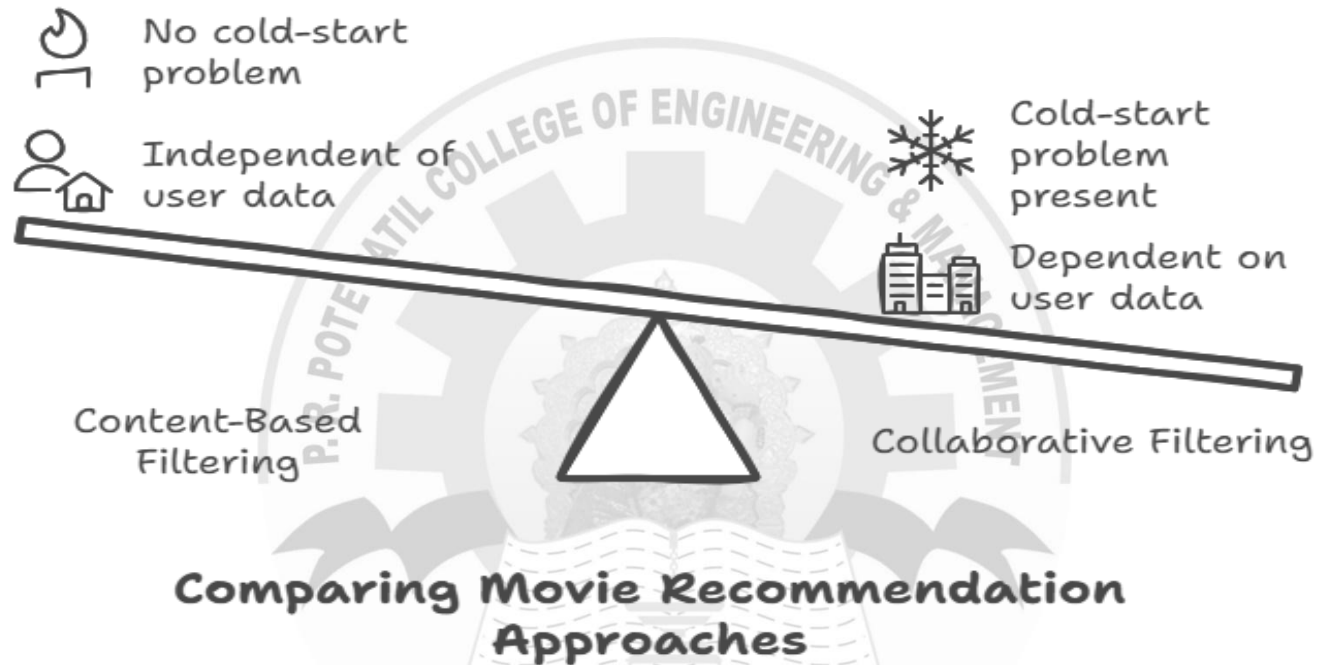
- **Solution:**

- An automated, intelligent system for personalized recommendations.



Literature Survey

- Existing Approaches:



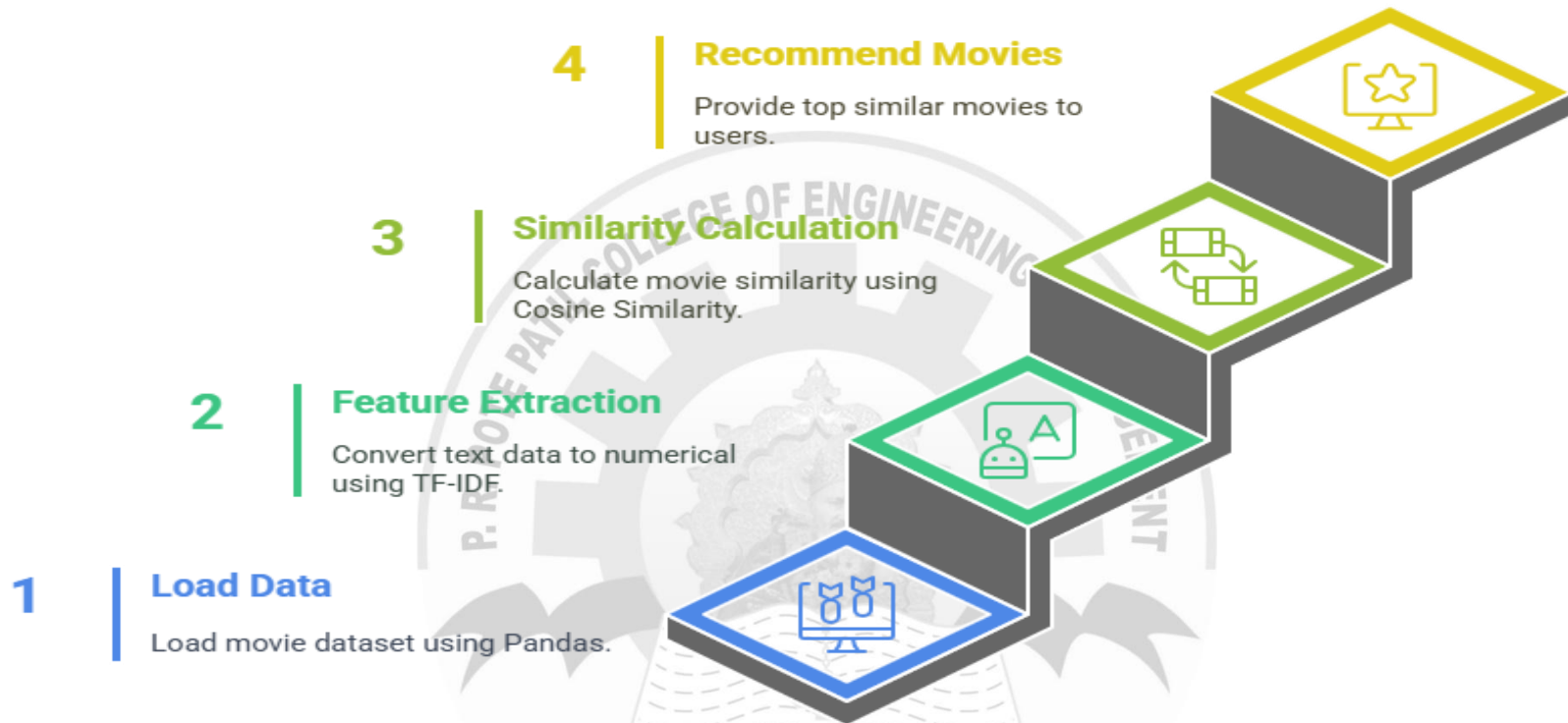
Made with Napkin

- Datasets:** TMDB (The Movie Database) with genre, overview, cast, etc.

Idea / Methodology

Steps:

Building a Movie Recommendation System



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Tech Stack for Data Application



Screen shots/ Results

Team CodeHack

Your AI-powered Movie Recommender

- ☒ Movie Recommender
- ☐ Meet the Team

Search for a movie:

Spider-Man 3

Find Similar Movies

Featured Today

Dumb and Dumber

The Thing

Fork

Discover Your Next Favorite Movie

AI-powered recommendations based on your taste. Search for a movie you love and we'll find similar gems for you.

Because you liked: Spider-Man 3



Rating: ★ 6.4 (14372 votes)

Release Date: May 01, 2007

Runtime: 139 min

Genres: Action, Adventure, Science Fiction

"The greatest battle lies within."

Overview

The seemingly invincible Spider-Man goes up against an all-new crop of villains—including the shape-shifting Sandman. While Spider-Man's superpowers are altered by an alien organism, his alter ego, Peter Parker, deals with nemesis Eddie Brock and also gets caught up in a love triangle.

[View on IMDB](#)



Result Analysis

 Team CodeHack

Your AI-powered Movie Recommender

☒ Movie Recommender

☐ Meet the Team

Search for a movie:

Spider-Man 3



Find Similar Movies

 Featured Today

Dumb and Dumber

*

The Thing

You Might Also Enjoy



Spider-Man

★ 7.3 2002

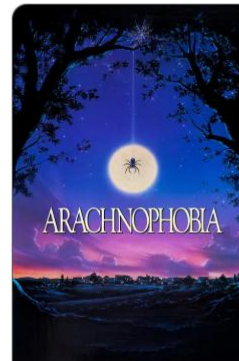
After being bitten by a genetically altered spider at Oscorp, nerdy but...



Spider-Man 2

★ 7.3 2004

Peter Parker is going through a major identity crisis. Burned out from...



Arachnophobia

★ 6.4 1990

A large spider from the jungles of South America is accidentally transported i...



The Amazing Spider-...

★ 6.7 2012

Peter Parker is an outcast high schooler abandoned by his parents as a boy,...



The Amazing Spider-...

★ 6.5 2014

For Peter Parker, life is busy. Between taking out the bad guys as Spider-Man and...

Fork  



Opportunities and Challenges

Opportunities

- **Growing Demand:** Increasing need for personalized content in streaming platforms.
- **Advanced AI:** Potential to integrate deep learning (e.g., Neural Networks) for higher accuracy.
- **Monetization:** Improved recommendations can boost user retention and ad revenue.

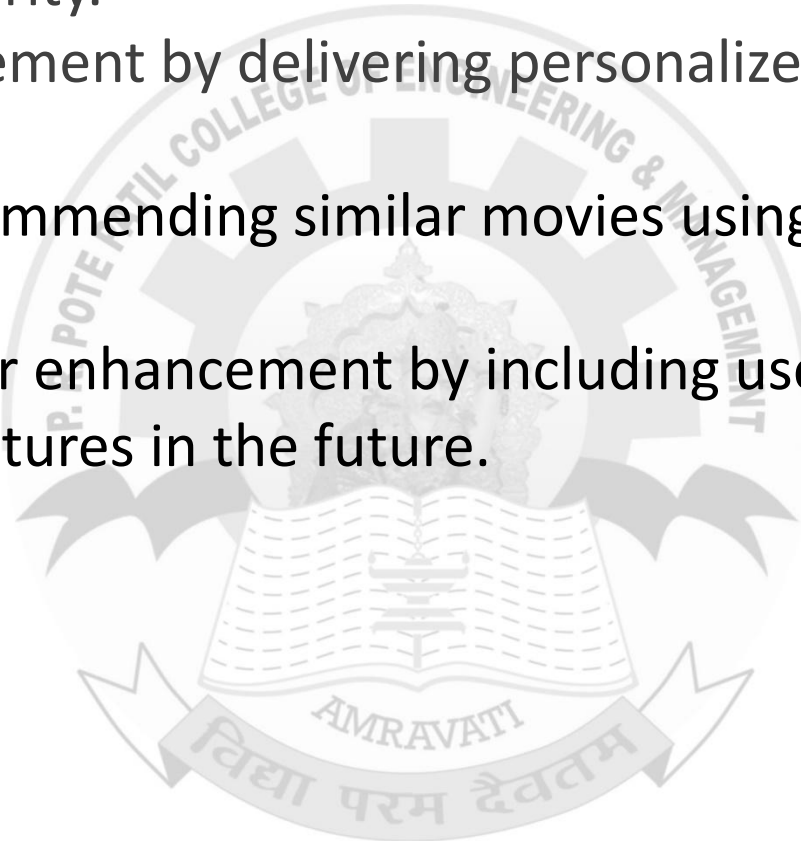
Challenges

- **Cold Start Problem:** Difficulty recommending to new users or movies with no history.
- **Data Sparsity:** Limited user ratings for niche or new movies.
- **Scalability:** Handling large datasets efficiently in real-time.

Conclusion

Effective Solution:

- The system uses content-based filtering techniques like TF-IDF and cosine similarity.
- Enhances engagement by delivering personalized movie suggestions.
- Effective for recommending similar movies using metadata only.
- Ready for further enhancement by including user behavior for collaborative features in the future.



References

Paper Title: Content-Based Recommendation Systems

- Authors: Michael J. Pazzani and Daniel Billsus
- Description: Explains the core of content-based filtering techniques used in recommendation systems.
- Link: https://link.springer.com/chapter/10.1007/978-1-4615-1629-3_3

Paper Title: A Survey of Recommender Systems

- Authors: Gediminas Adomavicius and Alexander Tuzhilin
- Description: A widely cited survey paper that explains various recommendation techniques including content-based, collaborative, and hybrid models.
- Link: <https://ieeexplore.ieee.org/document/1423975>

