

MOVIE RECOMMENDATION SYSTEM



I OBJECTIVE

The objective is to recommend movies based on the user's selected movie. This is used on various Social Media platforms like Netflix and can help a user to make a quick suggestion for movies

The technique used here is Natural language processing and Recommendation System which is a part of Artificial Intelligence.



Applications of Recommendation System

E-commerce sites recommend products to their customers based on the top overall sellers on a site or based on an analysis of the past buying behaviour of the customer.



Stock Market recommender system takes the task of identifying stock price patterns on itself, allowing even a lay-user, to trade profitably on a consistent basis



Music Recommender system can predict and then offer the appropriate songs to their users based on the characteristics of the music



| STEPS FOR RECOMMENDATION SYSTEM

01

Data Collection

Collect the movies
Along with the details like
genre, cast etc.

02

Data Cleaning and Pre-processing

Make the data compatible
for the model

03

Building Recommendation model

With the help of NLP, convert
textual data to numbers

04

Similarity score

Show result based on the top
similarity scores among movies



| DATASET

```
movies.head(2)
```

```
credits.head()
```

	movie_id	title	cast	crew
0	1995	Avatar	[{"cast_id": 242, "character": "Jake Sully", "credit_id": "52fe48009251416c750aca23", "order": 1}, {"cast_id": 243, "character": "Neelix", "credit_id": "52fe48009251416c750aca24", "order": 2}, {"cast_id": 244, "character": "Miles Quaritch", "credit_id": "52fe48009251416c750aca25", "order": 3}, {"cast_id": 245, "character": "Moat", "credit_id": "52fe48009251416c750aca26", "order": 4}, {"cast_id": 246, "character": "Pond", "credit_id": "52fe48009251416c750aca27", "order": 5}, {"cast_id": 247, "character": "Worrell", "credit_id": "52fe48009251416c750aca28", "order": 6}, {"cast_id": 248, "character": "Tucker", "credit_id": "52fe48009251416c750aca29", "order": 7}, {"cast_id": 249, "character": "Dreyfus", "credit_id": "52fe48009251416c750aca2a", "order": 8}, {"cast_id": 250, "character": "Leyton", "credit_id": "52fe48009251416c750aca2b", "order": 9}, {"cast_id": 251, "character": "Vance", "credit_id": "52fe48009251416c750aca2c", "order": 10}, {"cast_id": 252, "character": 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"Tucker", "credit_id": "52fe48009251416c750aca2y", "order": 32}, {"cast_id": 274, "character": "Dreyfus", "credit_id": "52fe48009251416c750aca2z", "order": 33}, {"cast_id": 275, "character": "Leyton", "credit_id": "52fe48009251416c750aca2aa", "order": 34}, {"cast_id": 276, "character": "Vance", "credit_id": "52fe48009251416c750aca2bb", "order": 35}, {"cast_id": 277, "character": "Pryce", "credit_id": "52fe48009251416c750aca2cc", "order": 36}, {"cast_id": 278, "character": "Tucker", "credit_id": "52fe48009251416c750aca2dd", "order": 37}, {"cast_id": 279, "character": "Dreyfus", "credit_id": "52fe48009251416c750aca2ee", "order": 38}, {"cast_id": 280, "character": "Leyton", "credit_id": "52fe48009251416c750aca2ff", "order": 39}, {"cast_id": 281, "character": "Vance", "credit_id": "52fe48009251416c750aca2gg", "order": 40}, {"cast_id": 282, "character": "Pryce", "credit_id": "52fe48009251416c750aca2hh", "order": 41}, {"cast_id": 283, "character": "Tucker", "credit_id": "52fe48009251416c750aca2ii", "order": 42}, {"cast_id": 284, "character": "Dreyfus", "credit_id": "52fe48009251416c750aca2jj", "order": 43}, {"cast_id": 285, "character": "Leyton", "credit_id": "52fe48009251416c750aca2kk", "order": 44}, {"cast_id": 286, "character": "Vance", "credit_id": "52fe48009251416c750aca2ll", "order": 45}, {"cast_id": 287, "character": "Pryce", "credit_id": "52fe48009251416c750aca2mm", "order": 46}, {"cast_id": 288, "character": "Tucker", "credit_id": "52fe48009251416c750aca2nn", "order": 47}, {"cast_id": 289, "character": "Dreyfus", "credit_id": "52fe48009251416c750aca2oo", "order": 48}, {"cast_id": 290, "character": "Leyton", "credit_id": "52fe48009251416c750aca2pp", "order": 49}, {"cast_id": 291, "character": "Vance", "credit_id": "52fe48009251416c750aca2qq", "order": 50}, {"cast_id": 292, "character": "Pryce", "credit_id": "52fe48009251416c750aca2rr", "order": 51}, {"cast_id": 293, "character": "Tucker", "credit_id": "52fe48009251416c750aca2ss", "order": 52}, 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We have used **TMDB 5000 Movie Dataset** which contains 2 CSV files:

- tmdb_5000_movies.csv
 - tmdb_5000_credits.csv

They include data on the genre, title, plot, cast, crew, budget, and revenues of several thousand films.

Model Building



Natural language processing (NLP)

Natural language processing (NLP) is the ability of a computer program to understand human language as it is spoken and written -- referred to as natural language. It is a component of artificial intelligence (AI). We have used TF-IDF vector, an NLP concept, to recommend movies to users.



Recommendation System



Content Recommender Systems

A **Content Based recommender** works with data that the user provides, either explicitly (rating) or implicitly (clicking on a link). Based on that data, a user profile is generated, which is then used to make suggestions to the user. As the user provides more inputs or takes actions on the recommendations, the engine becomes more and more accurate.



Streamlit Application

Movie Recommender System

Type or select a movie from the dropdown

Spider-Man 3

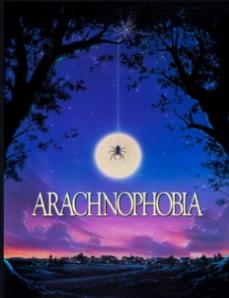
Show Recommendation

Spider-Man

Spider-Man 2

Arachnophobia

The Amazing Spider-Man



We have created a Web Application for Movie Recommendation using Streamlit Framework. Streamlit is an open-source Python library that makes it easy to create and share beautiful, custom web apps for machine learning and data science. In just a few minutes you can build and deploy powerful data apps



| PREDICTION OF THE MOVIE

```
recommend1('Avatar')
```

```
Aliens  
Star Trek Into Darkness  
Meet Dave  
Apollo 18  
Titan A.E.
```

