

Movie Recommender System

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Need:

- Launch movie recommender
 - Utilize features of movies
 - Make appropriate recommendations
 - Deploy using web application



Data:

- 'The Movies' Kaggle dataset
- Metadata for 45,000 movies
 - movies_metadata.csv
 - keywords.csv
 - credits.csv
- Include cast, crew, plot keywords, budget, revenue, posters, release dates, languages, production companies, countries, vote counts and vote averages.



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Tools:

- Pandas and Numpy
- NLTK, scikit-learn
- Github
- Streamlit

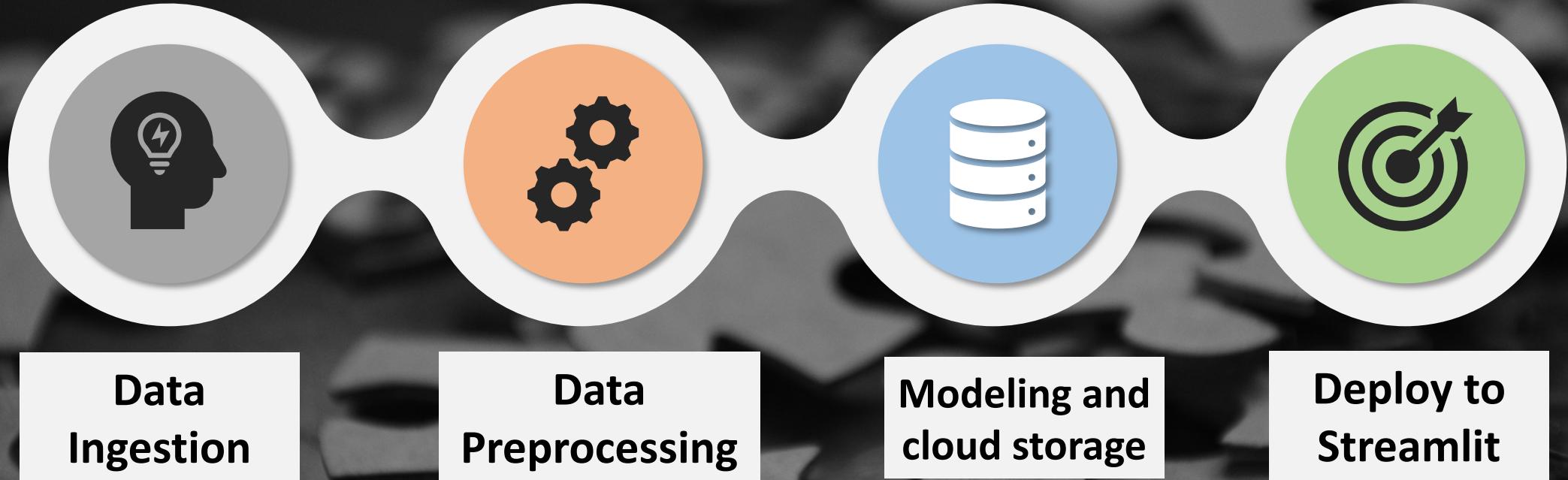




Methodology

HOLLYWOOD
PRODUCTION

Data Pipeline



Data Preprocessing

- Cleaning data
 - missing values
 - extracting director, genre
- Text transformation to feature vectors (TfidfVectorizer)
- Create cosine similarity matrix

Movie Recommender Model

- Criteria for recommendation:
 - Title
 - Genre
 - Director
- Custom functions using cosine similarity matrix
- Storage on GitHub

Results:

```
recommendation_title("Toy Story")
```

```
['Toy Story 2', 'Toy Story 3', "A Bug's Life", 'Cars', 'Cars 2']
```

```
recommendation_genre("Comedy")
```

```
['Grown Ups',  
 'Big Daddy',  
 'Jack and Jill',  
 'Just Go with It',  
 'I Now Pronounce You Chuck & Larry']
```

```
recommendation_director("SimonWells")
```

```
['The Prince of Egypt',  
 'Hot Tub Time Machine',  
 'Cloud Atlas',  
 'Back to the Future Part III',  
 'Men in Black 3']
```

Streamlit

- Web-based application
- Deployed using GitHub

Movie Recommender App:

Movies Recommendation System

Select Criteria for Recommendation

Title

Select

Toy Story

Recommend

Top Five Recommended Movies:

Toy Story 2

Toy Story 3

A Bug's Life

Cars

Cars 2

Movie Recommender App:

Movies Recommendation System

Select Criteria for Recommendation

Genre

Select

Drama Crime

Recommend

Top Five Recommended Movies:

GoodFellas

The Departed

Raging Bull

Shutter Island

Taxi Driver

Movie Recommender App:

Movies Recommendation System

Select Criteria for Recommendation

Director

Select

ChrisNoonan

Recommend

Top Five Recommended Movies:

The Simpsons Movie

Happy Feet

Mr. Deeds

The Angry Birds Movie

The Lion King 1-Ω

Further work:

- Intensive data cleaning
- Explore more data
- Collaborative Filtering
- Adding user experience
- Hybrid Recommendation
- Refining results



Thank you

HOLLYWOOD
ENTERTAINMENT