

INT-254

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2020-2024

Annexure-II: Student Declaration

To whom so ever it may concern I, ANIKET CHAUHAN, 12011156 and ABHINAV CHOUDHARY, 12015798, hereby declare that the work done by me on "Movie Recommendation System" from October, 2022 to November, 2022, for the course code of INT254: "Fundamental of Machine Learning" is a record of original work for the partial fulfillment of the requirements for the award of the degree, Bachelor of Technology.

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Dated: 15th November, 2022

ACKNOWLEDGEMENT

Primarily I would like to thank God for being able to learn a new technology. Then I would like to express my special thanks of gratitude to the teacher Dr.Pawan Kumar Mall (Registration Number: 28839) and who provide me the golden opportunity to learn a new technology from home. I would like to also thank my own college Lovely Professional University for offering such a course which not only improve my programming skill but also taught me other new technology. Then I would like to thank my parents and friends who have helped me with their valuable suggestions and guidance for choosing this course. Finally I would like to thank my all classmates who have helped me a lot.

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TABLE OF CONTENT

NTRODUCTION	5
The Intelligent Recommender System	5
What is a Recommendation System?	
ALGORITHMS	
IBRARIES INCLUDED	
DATASET USED	
PROGRAMMING SCREENSHOTS	9

INTRODUCTION

The Intelligent Recommender System

Ever wondered how Netflix or Hotstar recommends new movies based on the watch history, how Amazon or Flipkart suggests new products based on your order or search history?

These suggestions or recommendations are done by a system called a recommendation system. This engine makes suggestions by learning and understanding the patterns in your watch history (let's say) and then applies those patterns and findings to make new suggestions.

What is a Recommendation System?

Before moving on to build a recommender engine for movies, let's discuss recommendation systems.

Recommendation systems are computer programs that suggest recommendations to users depending on a variety of criteria.

These systems estimate the most likely product that consumers will buy and that they will be interested in. Netflix, Amazon, and other companies use recommender systems to help their users find the right product or movie for them.

ALGORITHMS

Step 1: Perform Exploratory Data Analysis (EDA) on the data.

Step 2: Build the Movie Recommender System.

Step 3: Get recommendations for the movies.

LIBRARIES INCLUDED

Libraries included in our projects are as follows:

1. PANDAS

Pandas is built on top of two core Python libraries—matplotlib for data visualization and NumPy for mathematical operations. Pandas acts as a wrapper over these libraries, allowing you to access many of matplotlib's and NumPy's methods with less code.

2. SCIPY

SciPy in Python is an **open-source library used for solving mathematical**, **scientific**, **engineering**, **and technical problems**. It allows users to manipulate the data and visualize the data using a wide range of high-level Python commands. SciPy is built on the Python NumPy extention.

3. SKLEARN

Sickie-learn is a free machine learning library for Python. It features various algorithms like support vector machine, random forests, and k-neighbors, and it also supports Python numerical and scientific libraries like NumPy and SciPy.

4. FUZZYWUZZY

FuzzyWuzzy is a library of Python which is used for string matching. Fuzzy string matching is the process of finding strings that match a given pattern. Basically it uses Levenshtein Distance to calculate the differences between sequences.

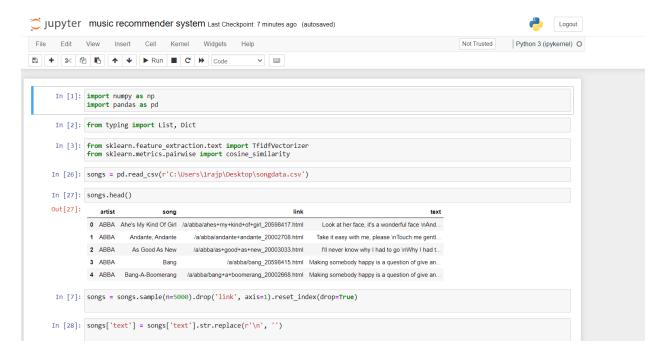
DATASET USED

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 $"C:\Users\1rajp\Desktop\songdata.csv"$

PROGRAMMING SCREENSHOTS

1.



2.

```
In [9]: tfidf = TfidfVectorizer(analyzer='word', stop_words='english')
lyrics_matrix = tfidf.fit_transform(songs['text'])
In [10]: cosine_similarities = cosine_similarity(lyrics_matrix)
In [11]: similarities = {}
```

3.

4.

\

5.

```
In [18]: recommedations = ContentBasedRecommender(similarities)

In [20]: recommendation = {
    "song": songs['song'].iloc[10],
    "number_songs": 4
}

In [21]: recommedations.recommend(recommendation)

The 4 recommended songs for Plaisir D'amour are:
Number 1:
    I Do Adore Her by Harry Belafonte with 0.217 similarity score

Number 2:
    La Vie En Rose by Donna Summer with 0.161 similarity score

Number 3:
    Outside My Window by Stevie Wonder with 0.155 similarity score

Number 4:
    People Need Love by ABBA with 0.151 similarity score
```

6.

References to Websites:

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- 3. https://data-flair.training/blogs/data-science-r-movie-recommendation