

Movie Rating Management System Using Python

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Abstract - This abstract highlights the importance of an internship in data science in training prospective data scientists for practical applications by outlining the essential elements and goals of such an internship. The internship gives interns practical experience, enabling them to apply their theoretical knowledge to real-world scenarios and hone critical problem-solving, machine learning, and data analysis skills.

1 INTRODUCTION -

A prominent topic of study in several fields, including computer science, is fake news. The troublesome thing about today's world is that false information spreads via the media, particularly social media, endangering the credibility of news organizations nationwide.

From the Python-powered Movie Rating Management System, greetings. This project makes it simple for users to rank and arrange their favorite movies. Its robust Python backend, intuitive UI, and fast navigation ensure that both movie enthusiasts and administrators have a great experience with this system. Let's take a look at movies and ratings in a way that is easy to understand.

1.1 PYTHON PROGRAMMING

Python is a well-known, high-level programming language that is highly adaptable and readable. Both beginners and experts like it because it emphasizes code readability and efficiency heavily. Python is compatible with procedural, object-oriented, and functional programming paradigms. Because to its wide standard library and vast ecosystem of third-party packages, developers may finish tasks rapidly. Python is widely used in various domains, such as data analysis, web development, scientific computing, and artificial intelligence. Python is a widely used programming language due to its simple syntax and dynamic typing, which facilitate rapid development and prototyping.

1.2 Basic of Python -

- Variables
- Strings
- Lists
- Data types

- Tuples
- Loops

2. Literature Survey

2.1 There are numerous IEEE papers which provide plans concerning the rating systems. For our system we've got referred papers as follows: . A Rating Classification of Rating Systems analysis the primary paper we tend to refer to may be an analysis paper.

There are only a few articles for image, moving-picture show and television program rating. So, a lot of researches are needed to be studied for this. The approaches exploitation social network analysis ought to be developed within the rating systems as recently social network analysis has been employed in the varied applications.

2.2 A dynamic rating system for shows The author of this paper has introduced "MovieGEN": Professional system for rating motion picture shows with an associate in nursing focus. The two main models of this approach are K-means cluster analysis on information inquiry result sets and Python-based machine learning on coaching knowledge. The algorithm assesses the users' preferences for moving image shows based on their personal data. Afterwards, it groups the movies and creates questions to improve the guidance. Lastly, it makes movie recommendations for the users. Given the nature of the system, evaluating performance is a difficult undertaking because there is no right or wrong recommendation—rather, it is only a matter of opinion. The author's informal assessments, to which the users responded favorably. Significant findings employ this strategy in the Multidisciplinary Journal of Analysis in Engineering and Technology; a larger knowledge base can make a great difference. In order to compare the outcomes, the author would really like to add a variety of machine learning and bunch methods. In the long run, he hopes to put into place an online platform that is primarily focused on training models that are customized for individual users and contain user information.

2.3 A Moving Picture Show's Rating Methodology and Use An information mining program has been provided by the author to facilitate data processing during this endeavor. He performed the moving rating within the prototypes by

applying information mining. After a number of moving-picture show attributes, including writers, producers, actors, actresses, genres, subtitles, and others, were examined, it was discovered that the most successful attributes were the words used in the films and the genre. The methods under study is outlined. The data for motion picture shows is created. After that, the data is cleaned, removed, and edited in "Weka" to create a call tree. The problematic portion involves identifying words from subtitles and short stories, selecting keywords, and classifying keywords based on how they affect the rating. Using genre and word cluster features, the generated model will perform around eightieth accurate. The model is included into the online program that instructs the moving rating and keeps data from moving picture shows. Additionally, the method is expanded to consider other variables and image processing techniques in order to extract material for categorization.

2.4 Python is ideal if you want to experiment with something new and unique that you have never done before. For developers that wish to script websites and applications, it's perfect. Python is free and develops on a community-based paradigm as it is open-source. Python is intended to operate in Linux and Windows environments. Python web scraping is an automated technique that gathers and stores massive volumes of data from websites in an organized manner. Web scraping can be done in a variety of ways, but Python is widely used because of its user-friendliness, abundance of tools, and comprehensible syntax. For data science, corporate intelligence, and investigative reporting, web scraping is incredibly useful. Popular Python libraries for web scraping are Selenium and BeautifulSoup.

2. 5. Frequently, we come across websites that allow users to review and comment on movies. These are known as movie rating websites. The administrator of the website receives these ratings as input. After that, the administrator looks for critic reviews and web ratings for each film. Here, we suggest an online platform that lets users submit and save reviews automatically. Now, the system examines this information to see whether there are any user attitudes linked to each comment. There is a sentiment library in our system. The technology extracts sentiment keywords from user comments. It assigns a sentiment rank to the comment after locating the keywords. Now, the system compiles all of the comments for a certain movie and uses an average ranting to provide a score. Every movie in the system receives this score. This offers a sentiment analysis-based automatic movie rating system.

3. Features and Functionality Overview

1. User Registration/Login - Permit users to safely register for accounts.

- Put in place a login mechanism to allow authorized access.

2. Movie Rating: Provide a scale for users to rate films.

- Gather and preserve user reviews for every film.

3. Search and Recommendation - Provide a search feature that allows users to look for particular movies.

- Make movie recommendations using recommendation algorithms based on user tastes.

4. User Profile: Give users access to a website where they may keep track of the movies they've been rated.

- Present tailored suggestions on the user profile.

5. Admin Panel: To handle movies, user accounts, and reviews, create an admin interface.

- Include moderation tools to guarantee high-quality material.

6. Comments & Feedback - Permit people to share their thoughts and opinions about movies.

Establish a mechanism for reporting offensive material.

7. Responsive Design: Make sure the platform works on a range of screens and gadgets.

- Create an intuitive user interface for easy navigation.

8. Security Measures: Encrypt user information that is sensitive.

Adopt precautions against tampering or unwanted access.

9. Notification System - Disseminate alerts regarding the release of new films, user activity, or system upgrades.

Permit users to alter their settings for receiving notifications.

10. Data Analytics: Use fundamental analytics to monitor user activity and well-liked films. - Use data insights for continuous system improvement.

4. NumPy

4.1 The arrays and their manipulation using NumPy -

- Array attributes
- Array indexing and slicing
- Mathematical operations
- Aggregation functions
- Reshaping and Stacking arrays

4.2 Pandas

Pandas is an open-source software library designed primarily for data analysis and manipulation on top of Python. It provides operations and data structures for robust, adaptable, and user-friendly data analysis and manipulation.

Python is strengthened by Pandas, a famous programming language that allows it to interact with spreadsheet-like data, facilitating important functions including quick loading, aligning, manipulating, and merging. Pandas is well-known for offering extremely efficient efficiency while writing Python or C back-end source code.

4.3 Matplotlib

Matplotlib's compatibility with a wide range of operating systems and graphics backends is one of its key characteristics. Matplotlib is guaranteed to function with every operating system or desired output format because it supports a multitude of backends and output types. Matplotlib's cross-platform, universal approach has proven to be one of its greatest features.

5. WEB SCRAPING –

5.1- Using an HTML Parser for Web Scraping in Python

Create a BeautifulSoup Object Example:- code

```
from bs4 import BeautifulSoup from urllib.request import urlopen
```

```
url = "http://olympus.realpython.org/profiles/dionysus"  
page = urlopen(url)
```

```
html = page.read().decode("utf-8")
```

```
soup = BeautifulSoup(html, "html.parser")
```

5.2 -This program does three things:

1. Use urlopen() from the urllib.request module to open the following URL:
<http://olympus.realpython.org/profiles/dionysus>.

2. Assigns the HTML to the html variable after reading it as a string from the page.

3. Assigns a BeautifulSoup object to the soup variable after creating it.

5.3 – Code

```
import numpy as np
```

```
movie_ids = np.arange(1301, 2301) num_users = 100
```

```
num_movies = 1000
```

```
movies_matrix = np.random.randint(0, 11, size=(num_users, num_movies))
```

```
new_movie_ids = np.arange(2301, 2351)
```

```
new_movie_reviews = np.random.randint(0, 11, size=(10, 50))
```

```
movie_ratings=np.vstack((movie_ids,np.mean(movies_matrix,axis=0),np.sum(movies_matrix,axis=0),np.std(movies_matrix,axis=0)))
```

```
final_movie_ratings = movie_ratings.T
```

```
final_movie_ratings = final_movie_ratings[final_movie_ratings[:, 1].argsort()][::-1]  
min_rating = final_movie_ratings[:, 1].min()
```

```
max_rating = final_movie_ratings[:, 1].max()
```

```
final_movie_ratings[:, 1] = ((final_movie_ratings[:, 1]-min_rating)/(max_rating - min_rating))*10
```

```
print("Movie ID Average Rating Number of Ratings Standard Deviation") for movie in final_movie_ratings:
```

```
print(f"{int(movie[0])}\t\t{movie[1]:.2f}\t\t{int(movie[2])}\t\t{movie[3]:.2f}")
```

OUTPUT

```
In [ ]: #Converting the average of movie ratings to have the range 0 to 10  
x = final_movie_rating[:,1]  
old_range = x.max()-x.min()  
new_range = (10 - 0)  
final_movie_rating[:,1] = ((x - x.min())*(new_range/old_range) + 0)
```

```
In [ ]: final_movie_rating
```

```
Out[68]: array([[1301.000, 6.954, 62.000, 2.987],  
 [1302.000, 3.798, 66.000, 2.800],  
 [1303.000, 6.793, 57.000, 3.290],  
 ...,  
 [2348.000, 4.509, 57.000, 3.241],  
 [2349.000, 2.208, 55.000, 3.366],  
 [2350.000, 5.778, 54.000, 2.723]])
```

```
In [ ]: final_movie_rating.shape
```

```
Out[69]: (1050, 4)
```

6. CONCLUSIONS

To sum up, the Python-based movie rating management system offers a productive approach to arrange and evaluate movie ratings. Users may quickly enter, retrieve, and modify movie ratings data by utilizing Python's features, making the process more efficient and user-friendly for both administrators and users. The use of the system improves the overall effectiveness of organizing and retrieving movie ratings.

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