

Instagram Recommendation System with Machine Learning

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In [1]: import pandas as pd
import numpy as np
from sklearn.feature_extraction import text
from sklearn.metrics.pairwise import cosine_similarity

data = pd.read_csv("Instagram data.csv")
print(data.head())
```

	Date	Impressions	From Home	From Hashtags	From Explore	\
0	2021-12-10	3920	2586	1028	619	
1	2021-12-11	5394	2727	1838	1174	
2	2021-12-12	4021	2085	1188	0	
3	2021-12-13	4528	2700	621	932	
4	2021-12-14	2518	1704	255	279	

	From Other	Saves	Comments	Shares	Likes	Profile Visits	Follows	\
0	56	98	9	5	162	35	2	
1	78	194	7	14	224	48	10	
2	533	41	11	1	131	62	12	
3	73	172	10	7	213	23	8	
4	37	96	5	4	123	8	0	

	Conversion Rate	Caption	\
0	5.714286	Here are some of the most important data visua...	
1	20.833333	Here are some of the best data science project...	
2	19.354839	Learn how to train a machine learning model an...	
3	34.782609	Here's how you can write a Python program to d...	
4	0.000000	Plotting annotations while visualizing your da...	

	Hashtags
0	#finance #money #business #investing #investme...
1	#healthcare #health #covid #data #datascience ...
2	#data #datascience #dataanalysis #dataanalytic...
3	#python #pythonprogramming #pythonprojects #py...
4	#datavisualization #datascience #data #dataana...

```
In [2]: data = data[["Caption", "Hashtags"]]
print(data.head())
```

	Caption	\
0	Here are some of the most important data visua...	
1	Here are some of the best data science project...	
2	Learn how to train a machine learning model an...	
3	Here's how you can write a Python program to d...	
4	Plotting annotations while visualizing your da...	

	Hashtags
0	#finance #money #business #investing #investme...
1	#healthcare #health #covid #data #datascience ...
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```
In [6]: captions = data["Caption"].tolist()
uni_tfidf = text.TfidfVectorizer(stop_words="english")
uni_matrix = uni_tfidf.fit_transform(captions)
uni_sim = cosine_similarity(uni_matrix)
```

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def recommend_post(x):
    return ", ".join(data["Caption"].loc[x.argsort()[-5:-1]])

data["Recommended Post"] = [recommend_post(x) for x in uni_sim]
print(data.head())
```

```

Caption \
0 Here are some of the most important data visua...
1 Here are some of the best data science project...
2 Learn how to train a machine learning model an...
3 Here's how you can write a Python program to d...
4 Plotting annotations while visualizing your da...
```

```

Hashtags \
0 #finance #money #business #investing #investme...
1 #healthcare #health #covid #data #datascience ...
2 #data #datascience #dataanalysis #dataanalytic...
3 #python #pythonprogramming #pythonprojects #py...
4 #datavisualization #datascience #data #dataana...
```

```

Recommended Post
0 Here are some of the most important tools that...
1 Here are some of the best data science project...
2 Data Science Use Cases: Here's how Zomato is u...
3 Here's how to write a Python function to rever...
4 Practice these 90+ Data Science Projects For B...
```

```
In [5]: print(data["Recommended Post"][3])
```

Here's how to write a Python function to reverse a string., To calculate the execution time of the program, we need to calculate the time taken by the program from its initiation to the final result. Here's how to calculate the execution time of a Python program., Here's how to calculate execution time of a Python program., Grouping anagrams is one of the popular questions in coding interviews. Here you will be given a list of words, and you have to write an algorithm to group all the words which are anagrams of each other. Here's how to group anagrams using Python.

So this is how you can recommend Instagram posts based on the captions of the posts.

THANK YOU!

Github Link: <https://github.com/anujtiwari21>