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Recommending Popular OTT Platform Using Support Vector Machine Algorithm

This assignment focuses on developing a recommender system leveraging the Support Vector Machine (SVM) algorithm to recommend the most popular OTT platform among the younger generation based on user opinions. The dataset consists of user opinions categorized into three labels: "useful," "moderate," and "can't relate," representing the sentiment towards each OTT platform.

The objective is to build a predictive model that learns from the provided dataset and accurately predicts the most preferred OTT platform for a given user's opinions on the available platforms. By utilizing SVM, known for its robustness in handling complex classification tasks, we aim to achieve high accuracy in recommending the preferred OTT platform

Data Import and Pre-processing:

```
import pandas as pd
alex1=pd.read_csv(r"C:\Users\Admin\Desktop\gifta\OTT PLATFORM SURVEY (Responses) - Form Responses 1.csv")
alex1
```

```
import pandas as pd
alex1=pd.read_csv(r"C:\Users\Admin\Desktop\gifta\OTT PLATFORM SURVEY (Responses) - Form Responses 1.csv")
alex1
```

	Timestamp	Email Address	NAME	GENDER	WHICH OTT PLATFORM YOU GENERALLY PREFER WHEN YOUR BORED?	COMMENT YOUR VIEWS ABOUT OTT	WHAT'S THE KIND OF GENRE YOU GENERALLY PREFER ON OTT ?	ACCORDING TO YOU WHICH OTT PLATFORM IS MORE POPULAR AMONG YOUNGER GENERATION	HOW DO YOU FEEL ABOUT THE PRICE RATE OF OTT ? [netflix]	HOW DO YOU FEEL ABOUT THE PRICE RATE OF OTT ? [amazon prime]	HOW DO YOU FEEL ABOUT THE PRICE RATE OF OTT ? [disney hotstar]	HOW DO YOU FEEL ABOUT THE PRICE RATE OF OTT ? [jio cinema]	HOW DO YOU FEEL ABOUT THE PRICE RATE OF OTT ? [zee 5]	OPINION [netflix]	OPINION [amazon prime]	OPINION [disney hotstar]	OPINION [jio cinema]	OPINION [zee 5]	RATINGS
0	01-10-2024 10:23	judithkavya2002@gmail.com	Judith kavya A	female	netflix	good	thriller	disney hotstar	unfair	reasonable	reasonable	reasonable	reasonable	useful	useful	useful	can't relate	moderate	5
1	01-10-2024 10:24	reyafathima2003@gmail.com	Reya	female	netflix	good	thriller	netflix	reasonable	reasonable	reasonable	reasonable	reasonable	useful	useful	useful	useful	useful	5
2	01-10-2024 10:40	xaviersweety07@gmail.com	X.Arockia santhana sweety	female	netflix	good	thriller	netflix	reasonable	reasonable	reasonable	unfair	unfair	useful	useful	useful	can't relate	can't relate	5
3	01-10-2024 10:51	iswaryared2002@gmail.com	Iswarya	female	netflix	good	romance	netflix	reasonable	unfair	unfair	reasonable	unfair	useful	moderate	moderate	useful	moderate	5
4	01-10-2024 10:59	harinishankar2210@gmail.com	Harini. S	female	disney hotstar	average	thriller	netflix	reasonable	reasonable	reasonable	reasonable	reasonable	useful	useful	useful	moderate	moderate	4
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
58	1/21/2024 16:22:30	423ds00434@mcc.edu.in	DAVIS JENSON I	male	amazon prime	average	thriller	netflix	unfair	reasonable	unfair	reasonable	unfair	moderate	useful	moderate	moderate	moderate	5
59	1/27/2024 10:01:34	benitaselvin2002@gmail.com	benita	female	disney hotstar	good	romance	disney hotstar	reasonable	reasonable	reasonable	reasonable	reasonable	useful	useful	useful	useful	useful	3
60	1/27/2024 11:03:43	aristowighlessg@gmail.com	Aristo Wighles	male	disney hotstar	bad	action	netflix	NaN	NaN	NaN	NaN	NaN	moderate	moderate	useful	can't relate	can't relate	3
61	1/27/2024 12:01:00	christelis2001@gmail.com	Felicia	female	disney hotstar	average	comedy	netflix	unfair	reasonable	reasonable	unfair	reasonable	useful	moderate	useful	moderate	can't relate	4
62	2/19/2024 15:07:24	asgk102002@gmail.com	A.S.GOKULAKRISHNAN	male	disney hotstar	good	romance	netflix	unfair	reasonable	reasonable	unfair	unfair	useful	moderate	moderate	moderate	moderate	3

63 rows × 19 columns

```
alex2=alex1.dropna()
alex2.info()
```

```
<class 'pandas.core.frame.DataFrame'>
Index: 56 entries, 0 to 62
Data columns (total 19 columns):
 #   Column                                                                  Non-Null Count  Dtype 
---  ------                                                                  --------------  ----- 
 0   Timestamp                                                               56 non-null     object
 1   Email Address                                                           56 non-null     object
 2   NAME                                                                    56 non-null     object
 3   GENDER                                                                  56 non-null     object
 4   WHICH OTT PLATFORM YOU GENERALLY PREFER WHEN YOUR BORED?                56 non-null     object
 5   COMMENT YOUR VIEWS ABOUT OTT                                            56 non-null     object
 6   WHAT'S THE KIND OF GENRE YOU GENERALLY PREFER ON OTT ?                  56 non-null     object
 7   ACCORDING TO YOU WHICH OTT PLATFORM IS MORE POPULAR AMONG YOUNGER GENERATION  56 non-null  object
 8   HOW DO YOU FEEL ABOUT THE PRICE RATE OF OTT ? [netflix]                 56 non-null     object
 9   HOW DO YOU FEEL ABOUT THE PRICE RATE OF OTT ? [amazon prime]            56 non-null     object
 10  HOW DO YOU FEEL ABOUT THE PRICE RATE OF OTT ? [disney hotstar]          56 non-null     object
 11  HOW DO YOU FEEL ABOUT THE PRICE RATE OF OTT ? [jio cinema]              56 non-null     object
 12  HOW DO YOU FEEL ABOUT THE PRICE RATE OF OTT ? [zee 5]                   56 non-null     object
 13  OPINION [netflix]                                                       56 non-null     object
 14  OPINION [amazon prime]                                                  56 non-null     object
 15  OPINION [disney hotstar]                                                56 non-null     object
 16  OPINION [jio cinema]                                                    56 non-null     object
 17  OPINION [zee 5]                                                         56 non-null     object
 18  RATINGS                                                                 56 non-null     int64 
dtypes: int64(1), object(18)
memory usage: 8.8+ KB
```

Label Encoding: Mapping Opinions to Numeric Values for SVM Classification:

```
list1=[]
for x1 in alex2["OPINION [netflix]"]:
    if x1=="useful":
        list1.append(1)
    elif x1=="moderate":
        list1.append(2)
    else:
        list1.append(3)
print("1-> Useful\n2-> Moderate\n3-> Can't relate")
dict1={"netflix":list1}
print(dict1)
```

```
1-> Useful
2-> Moderate
3-> Can't relate
{'netflix': [1, 1, 1, 1, 1, 2, 1, 1, 1, 3, 2, 2, 1, 1, 1, 2, 2, 3, 1, 3, 1, 1, 2, 1, 2, 1, 1, 1, 2, 1, 1, 2, 2, 3, 1, 2, 2, 1, 1, 2, 3, 1, 1, 1, 1, 2, 1, 1, 1, 3, 2, 1, 2, 1, 1, 1]}
```

```
list2=[]
for x2 in alex2["OPINION [amazon prime]"]:
    if x2=="useful":
        list2.append(1)
    elif x2=="moderate":
        list2.append(2)
    else:
        list2.append(3)
print("1-> Useful\n2-> Moderate\n3-> Can't relate")
dict2={"amazon prime":list2}
print(dict2)
```

```
1-> Useful
2-> Moderate
3-> Can't relate
{'amazon prime': [1, 1, 1, 2, 1, 1, 1, 1, 1, 3, 2, 2, 3, 3, 1, 1, 1, 3, 1, 3, 1, 1, 2, 2, 1, 2, 2, 1, 2, 1, 1, 2, 2, 3, 1, 2, 1, 1, 1, 1, 2, 1, 1, 1, 1, 2, 2, 1, 2, 3, 2, 1, 1, 1, 2, 2]}
```

```
list3=[]
for x3 in alex2["OPINION [disney hotstar]"]:
    if x3=="useful":
        list3.append(1)
    elif x3=="moderate":
        list3.append(2)
    else:
        list3.append(3)
print("1-> Useful\n2-> Moderate\n3-> Can't relate")
dict3={"disney hotstar":list3}
print(dict3)
```

```
1-> Useful
2-> Moderate
3-> Can't relate
{'disney hotstar': [1, 1, 1, 2, 1, 1, 1, 1, 2, 3, 2, 2, 1, 2, 1, 1, 1, 1, 1, 3, 1, 1, 2, 1, 1, 1, 1, 1, 2, 2, 2, 2, 2, 1, 2, 2, 2, 1, 1, 1, 3, 2, 1, 1, 1, 1, 2, 2, 2, 3, 2, 1, 2, 1, 1, 2]}
```

```
list4=[]
for x4 in alex2["OPINION [jio cinema]"]:
    if x4=="useful":
        list4.append(1)
    elif x4=="moderate":
        list4.append(2)
    else:
        list4.append(3)
print("1-> Useful\n2-> Moderate\n3-> Can't relate")
dict4={"jio cinema":list4}
print(dict4)
```

```
1-> Useful
2-> Moderate
3-> Can't relate
{'jio cinema': [3, 1, 3, 1, 2, 1, 3, 2, 1, 3, 3, 2, 3, 2, 3, 3, 2, 3, 3, 3, 2, 3, 3, 3, 2, 3, 1, 1, 2, 3, 3, 2, 2, 1, 2, 2, 1, 3, 2, 3, 3, 2, 2, 1, 1, 2, 2, 2, 3, 3, 2, 2, 2, 1, 2, 2]}
```

```
list5=[]
for x5 in alex2["OPINION [zee 5]"]:
    if x5=="useful":
        list5.append(1)
    elif x5=="moderate":
        list5.append(2)
    else:
        list5.append(3)
print("1-> Useful\n2-> Moderate\n3-> Can't relate")
dict5={"zee 5":list5}
print(dict5)
```

```
1-> Useful
2-> Moderate
3-> Can't relate
{'zee 5': [2, 1, 3, 2, 2, 1, 3, 2, 2, 3, 3, 2, 3, 3, 3, 3, 2, 3, 1, 3, 2, 3, 3, 3, 3, 3, 3, 1, 2, 3, 3, 2, 2, 3, 2, 2, 3, 2, 2, 1, 3, 2, 2, 1, 1, 2, 2, 1, 3, 3, 2, 2, 2, 1, 3, 2]}
```

```
dummy1=pd.DataFrame(dict1)
dummy2=pd.DataFrame(dict2)
dummy3=pd.DataFrame(dict3)
dummy4=pd.DataFrame(dict4)
dummy5=pd.DataFrame(dict5)
dummy6=pd.concat([dummy1,dummy2,dummy3,dummy4,dummy5],axis=1)
dummy6
```

	netflix	amazon prime	disney hotstar	jio cinema	zee 5
0	1	1	1	3	2
1	1	1	1	1	1
2	1	1	1	3	3
3	1	2	2	1	2
4	1	1	1	2	2
5	2	1	1	1	1
6	1	1	1	3	3
7	1	1	1	2	2
8	1	1	2	1	2
9	3	3	3	3	3
10	2	2	2	3	3

```
dummy7=alex2["WHICH OTT PLATFORM YOU GENERALLY PREFER WHEN YOUR BORED?"]
dummy7
```

```
0          netflix
1          netflix
2          netflix
3          netflix
4    disney hotstar
5    disney hotstar
6            zee 5
8          netflix
```

SVM Model Training: Fitting User Opinions on OTT Platforms and Popular Choices:

```
from sklearn.tree import DecisionTreeClassifier
from sklearn import svm
from sklearn.metrics import accuracy_score as dum
model1=svm.SVC()
model1.fit(dummy6,dummy7)
```

```
SVC
SVC()
```

User Input and Recommendation:

```
print("uesful -> 1\nmoderate -> 2\ncan't relate -> 3")
op1=[]
op2=[]
for xx in alex2["WHICH OTT PLATFORM YOU GENERALLY PREFER WHEN YOUR BORED?"]:
    if xx not in op1:
        op1.append(xx)
print("\n\n")
for yy in op1:
    print(yy)
    inbut=int(input("tell me your opinion on above OTT platform :"))
    if inbut == 1 or inbut == 2 or inbut == 3:
        op2.append(inbut)
    else:
        print("you have entered a wrong digit")
final=model1.predict([op2])
print("\n\n")
for zz in final:
    print("based on the opinions you gave to me, i prefer you to use",zz,". have a nice day :)")
```

Output:

```
uesful -> 1
moderate -> 2
can't relate -> 3



netflix
tell me your opinion on above OTT platform :1
disney hotstar


tell me your opinion on above OTT platform :
```

```
uesful -> 1
moderate -> 2
can't relate -> 3



netflix
tell me your opinion on above OTT platform :1
disney hotstar
tell me your opinion on above OTT platform :2
zee 5


tell me your opinion on above OTT platform :
```

```
uesful -> 1
moderate -> 2
can't relate -> 3



netflix
tell me your opinion on above OTT platform :1
disney hotstar
tell me your opinion on above OTT platform :2
zee 5
tell me your opinion on above OTT platform :2
amazon prime


tell me your opinion on above OTT platform :
```

```
uesful -> 1
moderate -> 2
can't relate -> 3



netflix
tell me your opinion on above OTT platform :1
disney hotstar
tell me your opinion on above OTT platform :2
zee 5
tell me your opinion on above OTT platform :2
amazon prime
tell me your opinion on above OTT platform :3
jio cinema


tell me your opinion on above OTT platform :
```

```
uesful -> 1
moderate -> 2
can't relate -> 3



netflix
tell me your opinion on above OTT platform :1
disney hotstar
tell me your opinion on above OTT platform :2
zee 5
tell me your opinion on above OTT platform :2
amazon prime
tell me your opinion on above OTT platform :3
jio cinema


tell me your opinion on above OTT platform : 1
```

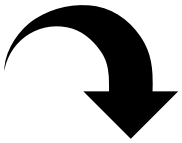
```
uesful -> 1
moderate -> 2
can't relate -> 3



netflix
tell me your opinion on above OTT platform :1
disney hotstar
tell me your opinion on above OTT platform :2
zee 5
tell me your opinion on above OTT platform :2
amazon prime
tell me your opinion on above OTT platform :3
jio cinema
tell me your opinion on above OTT platform :1



based on the opinions you gave to me, i prefer you to use netflix . have a nice day :)
```



```
based on the opinions you gave to me, i prefer you to use netflix . have a nice day :)
```

“ Based on the opinions you gave to me, I prefer you to use netflix. have a nice day :) ”