RINEX ML INTERSHIP

MAJOR PROJECT(s)

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MACHINE

LEARNING PROJECTS

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Code (python) – MAJOR PROJECT 1

(a). Applying Logistic Regression

```
import pandas as ps
from sklearn.model_selection import train_test_split as s
from sklearn.preprocessing import MinMaxScaler
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import accuracy_score

df=ps.read_csv("https://raw.githubusercontent.com/ameenmanna8824/DATASETS/main/Social_Network_Ads.csv")
df_numeric=df.drop(["Gender"],axis=1)
x=df.iloc[:,2:4].values
y=df.iloc[:,4].values
x_train,x_test,y_train,y_test=s(x,y,random_state=0)
print("Size of x_train split=",x_train.shape)
print("Size of x_test split=",x_test.shape)

scaler=MinMaxScaler()
x_train=scaler.fit_transform(x_train)
x_test=scaler.fit_transform(x_test)

model=LogisticRegression()
model.fit(x_train,y_train)
y_pred=model.predict(x_test)

print("Prediction score for the given y prediction and test set=",accuracy_score(y_pred,y_test))
print("Predicted class= ",model.predict([[1110,100]]))
```

Code (python) – MAJOR PROJECT 2

(b). Implementing Face recognition Using OpenCV

```
import cv2

face_cascade=cv2.CascadeClassifier("C:\\Users\\TARUN\\Downloads\\haarcascade_frontalface_default.xml")

img=cv2.imread("Downloads\\Hrithik.jpg")

gray=cv2.cvtColor(img,cv2.COLOR_BGR2GRAY)

f=face_cascade.detectMultiScale(gray,scaleFactor=1.1,minNeighbors=9)

for a,b,c,d in f:

    img=cv2.rectangle(img,(a,b),(a+c,b+d),(0,0,255),5)

cv2.imshow("Faces",img)

cv2.waitKey(0)

cv2.destroyAllWindows()
```

GitHub- https://github.com/TarunJakkula/Rinex-Project

Includes:

- .ipynb files for both the projects
- Report

Output

(a). Logistic Regression

```python
import pandas as ps
from sklearn.model_selection import train_test_split as s
from sklearn.preprocessing import MinMaxScaler
from sklearn.linear_model import LogisticRegression
from sklearn.metrics import accuracy_score


df=ps.read_csv("https://raw.githubusercontent.com/ameenmanna8824/DATASETS/main/Social_Network_Ads.csv")
df_numeric=df.drop(["Gender"],axis=1)
x=df.iloc[:,2:4].values
y=df.iloc[:,4].values

x_train,x_test,y_train,y_test=s(x,y,random_state=0)
print("Size of x_train split=",x_train.shape)
print("Size of x_test split=",x_test.shape)

scaler=MinMaxScaler()
x_train=scaler.fit_transform(x_train)
x_test=scaler.fit_transform(x_test)

model=LogisticRegression()
model.fit(x_train,y_train)
y_pred=model.predict(x_test)

print("Prediction score for the given y prediction and test set=",accuracy_score(y_pred,y_test))
print("Predicted class= ",model.predict([[1110,100]]))
```

```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  JUPYTER

Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\TARUN> python -u "c:\Users\TARUN\Downloads\MajorProject.py"
Size of x_train split= (300, 2)
Size of x_test split= (100, 2)
Prediction score for the given y prediction and test set= 0.89
Predicted class=  [1]
PS C:\Users\TARUN>
```

(b). Image Processing

```python
import cv2
face_cascade=cv2.CascadeClassifier("C:\\Users\\TARUN\\Downloads\\haarcascade_frontalface_default.xml")
img=cv2.imread("Downloads\\Hrithik.jpg")
gray=cv2.cvtColor(img,cv2.COLOR_BGR2GRAY)
f=face_cascade.detectMultiScale(gray,scaleFactor=1.1,minNeighbors=9)
for a,b,c,d in f:
    img=cv2.rectangle(img,(a,b),(a+c,b+d),(0,0,255),5)
cv2.imshow("Faces",img)
cv2.waitKey(0)
cv2.destroyAllWindows()
```