Task2_ModelDeployment

1. Commands used for deploying the flask application on the ec2 instance.

Flask code snipped (app.py)

```
import pickle
import numpy as np
import pandas as pd
lr = pickle.load(open("model_age.pkl","rb"))
input_data = pickle.load(open("test_data.pkl","rb"))


from flask import Flask,request,render_template
app =Flask(__name__)



@app.route('/', methods=("POST","GET"))
def predict():
    # Columns or Features accepted by model for evaluation
    testData = input_data.loc[:, ['event_id','group_train', 'device_id', 'day', 'hour',
       'day_name', 'phone_brand', 'device_model', 'app_id', 'is_active',
       'label_id', 'category', 'count_events_perday', 'lat_median',
       'long_median', 'cluster']]
    unique_data = testData.groupby('device_id').head(1).reset_index(drop=True)
    fifty_device_id_data = unique_data.head(50)
    Xtest_dict = fifty_device_id_data.to_dict(orient='records')
    y_pred_final = lr.predict(Xtest_dict)
    df_predict = pd.DataFrame(y_pred_final.round(2), columns = ['age_predict'])
    result = pd.concat([fifty_device_id_data, df_predict], axis=1)
    # Drop unwanted columns
    result.drop(['event_id', 'group_train', 'day', 'hour', 'day_name',
       'phone_brand', 'device_model', 'app_id', 'is_active', 'label_id',
       'category', 'count_events_perday', 'lat_median', 'long_median',
       'cluster'], axis = 1, inplace = True)
    bins= [0,23,33,100]
    offer_labels = ['Bundled smartphone offers','payment wallet offers','cashback offers for Privilege Membership']
    campaigns_labels =['campaign-4','campaign-5','campaign-6']
    result['Campaign - Offers'] = pd.cut(result['age_predict'], bins=bins, labels=offer_labels, right=False)
    result['Campaign'] = pd.cut(result['age_predict'], bins=bins, labels=campaigns_labels, right=False)
    result.drop(['age_predict'], axis = 1, inplace = True)
    return render_template('index.html',  tables=[result.to_html(classes='data')], titles=result.columns.values)



if __name__=="__main__":
    app.run(port=5000,debug=True)
```

EC2 instance steps:

sudo yum install docker

#start to docker service

sudo service docker start

#change the user permissions

sudo usermod -a -G docker ec2-user

Copy files using SCP from AWS EC2 to local

sudo chmod 666 /var/run/docker.sock

docker build -t adAgeRecomenderPrediction

docker run -p 5000:5000 adAgeRecomenderPrediction

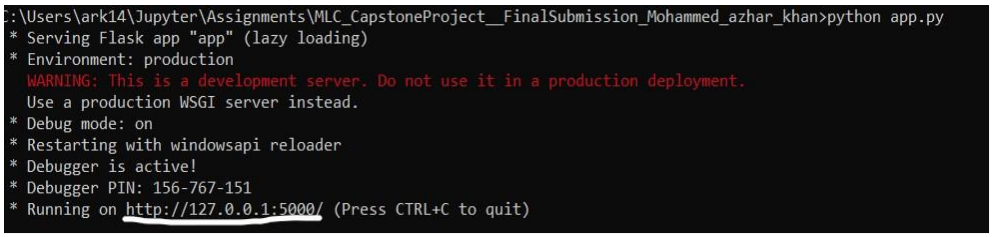
If the above commands don’t work, we can also check the UI and predictions on local system:

Run on Local System:

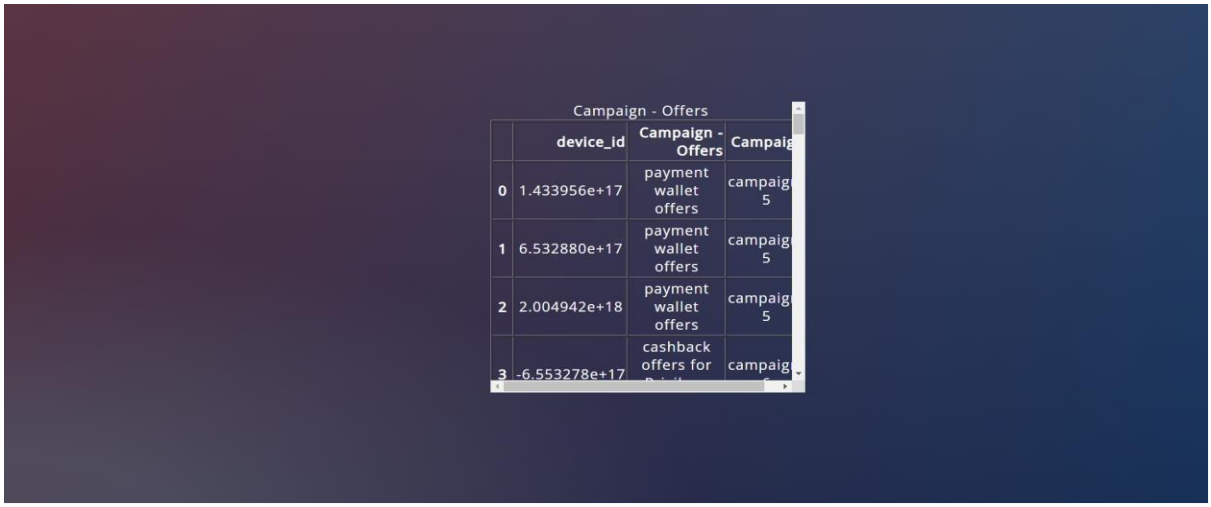
Step-1: open command prompt in location where app.py is locate

Step-2: Run command python app.py

Step-3: command prompt will provide local host line as displayed below. Use the link, hit in any browser



2. The screenshot of the final output for predicting the campaigns for the 50 customers



Campaign - Offers

	device_id	Campaign - Offers	Campaig
0	1.433956e+17	payment wallet offers	campaig 5
1	6.532880e+17	payment wallet offers	campaig 5
2	2.004942e+18	payment wallet offers	campaig 5
3	-6.553278e+17	cashback offers for	campaig

46	-3.562544e+18	cashback offers for Privilege Membership	campaig 6
47	-1.427837e+18	cashback offers for Privilege Membership	campaig 6
48	8.397325e+15	payment wallet offers	campaig 5
49	-1.575782e+16	cashback offers for Privilege Membership	campaig 6