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1 import pandas as pd
2 import numpy as np
3 from flask import Flask,render_template,Response,request
4 import pickle
5 from sklearn.preprocessing import LabelEncoder
6 import pickle
7
8 import requests
9
10 # NOTE: you must manually set API_KEY below using information retrieved from your IBM Cloud account.
11 API_KEY = "OBzxNKUthSA-ldV5x1JTAboTtwk6KHtbWq20PA339A1bI"
12 token_response = requests.post('https://iam.cloud.ibm.com/identity/token', data={"apikey":API_KEY, "grant_type": 'urn:ibm:params:oauth:grant-type:apikey'})
13 mltoken = token_response.json()["access_token"]
14
15 header = {'Content-Type': 'application/json', 'Authorization': 'Bearer ' + mltoken}
16
17
18 app = Flask(__name__)
19 filename = 'resale_model.sav'
20 model_rand = pickle.load(open(filename,'rb'))
21
22 @app.route('/')
23 def index():
24     return render_template('resaleintro.html')
25
26 @app.route('/predict')
27 def predict():
28     return render_template('resalepredict.html')
29
30 @app.route('/y_predict',methods=['GET','POST'])
31 def y_predict():
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32 regyear = int(request.form['regyear'])
33 powerps = float(request.form['powerps'])
34 kms = float(request.form['kms'])
35 regmonth = int(request.form.get('regmonth'))
36 gearbox = request.form['gearbox']
37 damage = request.form['damaged']
38 model = request.form.get('model_type')
39 brand = request.form.get('brand')
40 fuelType = request.form.get('fuel')
41 vehicleType = request.form.get('vehicleType')
42 new_row = {'yearOfRegistration':regyear,'powerPS':powerps,'kilometer':kms,'monthOfRegistration':regmonth,'gearbox':gearbox,'notRepairedDamage':damage,'model':model,'brand':brand}
43
44 print(new_row)
45 new_df = pd.DataFrame(columns=['vehicleType','yearOfRegistration','gearbox','powerPS','model','kilometer','monthOfRegistration','fuelType','brand','notRepairedDamage'])
46 new_df = new_df.append(new_row,ignore_index=True)
47 labels = ['gearbox','notRepairedDamage','model','brand','fuelType','vehicleType']
48 mapper = {}
49 for i in labels:
50     mapper[i] = LabelEncoder()
51     mapper[i].classes_ = np.load(str('classes'+i+'.npy'),allow_pickle=True)
52     tr = mapper[i].fit_transform(new_df[i])
53     new_df.loc[:,i+'_'+Labels] = pd.Series(tr,index=new_df.index)
54 labeled = new_df[ ['yearOfRegistration','powerPS','kilometer','monthOfRegistration'] + [x+"_"+Labels" for x in labels]]
55 X = labeled.values
56 print(X)
57 #y_prediction = model_rand.predict(X)
58 #print(y_prediction)
59 # NOTE: manually define and pass the array(s) of values to be scored in the next line
60 payload_scoring = {"input_data": [{"fields": ['f0','f1','f2','f3','f4','f5','f6','f7','f8','f9'], "values":X.tolist()}}}
61 response_scoring = requests.post('https://us-south.ml.cloud.ibm.com/ml/v4/deployments/d82d5a31-9678-4e51-b9fd-7a638e0e991e/predictions?version=2022-11-20', json=payload_scoring)
62 print("Scoring response")
63 predictions = response_scoring.json()

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64     output = predictions['predictions'][0]['values'][0][0]
65     print(output)
66     return render_template('resalepredict.html',ypred="The resale value predicted is $ "+str(output))
67
68 if __name__ == '__main__':
69     app.run(host='Localhost',debug=True,threaded=False)
```