

# INTEGRATE FLASK WITH SCORING END POINT

Team ID	PNT2022TMID15174
Project Name	Car Resale value Prediction

## INTEGRATE FLASK WITH SCORING END POINT

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import pandas as pd
import numpy as np
from flask import Flask, render_template, Response, request
import pickle
from sklearn.preprocessing import LabelEncoder
import pickle

import requests
import json
# NOTE: you must manually set API_KEY below using information retrieved from your IBM Cloud account.
API_KEY = "hEAn_mcoP3u_-ZjagjeqlxDayqUiETpYVYWdR1OLKAby"
token_response = requests.post('https://iam.cloud.ibm.com/identity/token', data={"apikey":
    API_KEY, "grant_type": 'urn:ibm:params:oauth:grant-type:apikey'})
mltoken = token_response.json()["access_token"]

header = {'Content-Type': 'application/json', 'Authorization': 'Bearer ' + mltoken}

app=Flask(__name__,template_folder='templates/')
@app.route('/')
def index():
    return render_template('index.html')

@app.route('/resaleintro.html')
def p():
    return render_template('resaleintro.html')

@app.route('/predict')
def predict():
    return render_template('resalepredict.html')

@app.route('/y_predict',methods=['GET','POST'])
def y_predict():
    regyear = int(request.form['regyear'])
    powerps = float(request.form['powerps'])
    kms = float(request.form['kms'])
    regmonth = int(request.form.get('regmonth'))
    gearbox = request.form['gearbox']
    damage = request.form['dam']
    model = request.form.get('model_type')
    brand = request.form.get('brand')
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fuelType = request.form.get('fuel')
vehicletype= request.form.get('vehicletype')
new_row =
{'yearOfRegistration':regyear,'powerPS':powerps,'kilometer':kms,'monthOfRegistration':regm
onth,'gearbox':gearbox,'notRepairedDamage':damage,'model':model,'brand':brand,'fuelType':f
uelType,'vehicleType':vehicletype}

print(new_row)
new_df =
pd.DataFrame(columns=['vehicleType','yearOfRegistration','gearbox','powerPS','model','kilo
meter','monthOfRegistration','fuelType','brand','notRepairedDamage'])
new_df = new_df.append(new_row,ignore_index=True)
labels = ['gearbox','notRepairedDamage','model','brand','fuelType','vehicleType']
mapper = {}
for i in labels:
    mapper[i] = LabelEncoder()
    mapper[i].classes_ = np.load(str('classes'+i+'.npy'),allow_pickle=True)
    tr = mapper[i].fit_transform(new_df[i])
    new_df.loc[:,i+'_Labels'] = pd.Series(tr,index=new_df.index)
labeled = new_df[ ['yearOfRegistration','powerPS','kilometer','monthOfRegistration'] +
[x+"_Labels" for x in labels]]

X = labeled.values
print(X)
# return render_template('resalepredict.html',ypred="{:.2f}".format(y_prediction[0]))

payload_scoring = {"input_data": [{"field":
[['vehicleType','yearOfRegistration','gearbox','powerPS','model','kilometer','monthOfRegis
tration','fuelType','brand','notRepairedDamage']], "values": X.tolist()}}

response_scoring = requests.post('https://us-
south.ml.cloud.ibm.com/ml/v4/deployments/816483ac-44ed-4be2-b780-
7f63d68fc7ce/predictions?version=2022-11-17', json=payload_scoring,
headers={'Authorization': 'Bearer ' + mltoken})
print("Scoring response")
predictions = response_scoring.json()
print(predictions['predictions'][0]['values'][0][0])
return
render_template('resalepredict.html',ypred="{:.2f}".format(predictions['predictions'][0]['
values'][0][0]))

if __name__ == '__main__':
    app.run(host='localhost',debug=True,threaded=False)

```

