

DEPLOYMENT ON FLASK

Name: Noé Gracida Hernández

Batch code: LISUM06

Submission date: 22-Feb-22

Submitted to: Data Glacier (Canvas)

Head of the data:

	Pregnancies	Glucose	BloodPressure	SkinThickness	Insulin	BMI	DiabetesPedigreeFunction	Age	Outcome
0	6	148	72	35	0	33.6	0.627	50	1
1	1	85	66	29	0	26.6	0.351	31	0
2	8	183	64	0	0	23.3	0.672	32	1
3	1	89	66	23	94	28.1	0.167	21	0
4	0	137	40	35	168	43.1	2.288	33	1

Model:

```
index.html  model.py 2 x
model.py > ...
1 import numpy as np
2 import pandas as pd
3 import pickle
4 from sklearn import tree
5
6 # Loading dataset
7 FileCSV="diabetes.csv"
8 df_diabetes = pd.read_csv(FileCSV,sep=",")
9
10 X = df_diabetes.iloc[:, 0:-1].values
11 y = df_diabetes.iloc[:, -1].values
12
13 # Initialization and fitting of the model
14 clf = tree.DecisionTreeClassifier(criterion="entropy", max_depth=3)
15 clf.fit(X, y)
16
17 # Serialization
18 pickle.dump(clf, open('model.pkl', 'wb'))
19
20 # Deserialization
21 model = pickle.load(open('model.pkl', 'rb'))
22 print(model.predict([[6, 148, 72, 35, 0, 33.6, 0.627, 50]]))
23
```

HTML Template:

```
index.html X
templates > index.html > html > body > div.login
1 <!DOCTYPE html>
2 <html>
3 <head>
4 <meta charset="UTF-8">
5 <title>ML API</title>
6 <link href="https://fonts.googleapis.com/css?family=Pacifico" rel="stylesheet" type="text/css">
7 <link href="https://fonts.googleapis.com/css?family=Arimo" rel="stylesheet" type="text/css">
8 <link href="https://fonts.googleapis.com/css?family=Hind:300" rel="stylesheet" type="text/css">
9 <link href="https://fonts.googleapis.com/css?family=Open+Sans+Condensed:300" rel="stylesheet" type="text/css">
10 <link rel="stylesheet" href="{{ url_for('static', filename='css/style.css') }}">
11
12 </head>
13
14 <body>
15 <div class="login">
16 <h1>Diabetes predictor</h1>
17
18 <!-- Main Input For Receiving Query to our ML -->
19 <form action="{{ url_for('predict') }}" method="post">
20 <input type="text" name="pregnancies" placeholder="Pregnancies" required="required" />
21 <input type="text" name="glucose" placeholder="Glucose" required="required" />
22 <input type="text" name="blood_pressure" placeholder="Blood Pressure" required="required" />
23 <input type="text" name="skin_thick" placeholder="Skin Thickness" required="required" />
24 <input type="text" name="insulin" placeholder="Insulin" required="required" />
25 <input type="text" name="bmi" placeholder="BMI" required="required" />
26 <input type="text" name="diab_pedigree_func" placeholder="Diabetes Pedigree Function" required="required" />
27 <input type="text" name="age" placeholder="Age" required="required" />
28
29 <button type="submit" class="btn btn-primary btn-block btn-large">Predict</button>
30 </form>
31
32 <br>
33 <br>
34 {{ prediction_text }}
35
36 </div>
37 
38
39 </body>
40 </html>
41
```

Flask app:

```
index.html model.py 2 app.py 1 X
app.py > ...
1 import numpy as np
2 from flask import Flask, request, render_template
3 import pickle
4
5 app = Flask(__name__)
6 model = pickle.load(open('model.pkl', 'rb'))
7
8 @app.route('/')
9 def home():
10     return render_template('index.html')
11
12 @app.route('/predict', methods=['POST'])
13 def predict():
14     """
15     For rendering results on HTML GUI
16     """
17     features = [float(x) for x in request.form.values()]
18     features_array = np.array(features)
19
20     prediction = model.predict(features_array)[0]
21
22     if prediction == 0:
23         outcome = 'No diabetes'
24     else:
25         outcome = 'Diabetes'
26
27     return render_template('index.html', prediction_text='The predicted diagnosis is: {}'.format(outcome))
28
29 if __name__ == "__main__":
30     app.run(debug=True)
```

Model deployed on Flask:

Diabetes predictor

Pregnancies

Glucose

Blood Pressure

Skin Thickness


Insulin

BMI

Diabetes Pedigree Function

Age

Predict

 **Data Glacier**
Your Deep Learning Partner

02:24 p. m.

22/02/2022

Diabetes predictor

6

148

72

35


0

33.6

0.627

50

Predict

 **Data Glacier**
Your Deep Learning Partner

02:24 p. m.

22/02/2022

Diabetes predictor

Pregnancies

Glucose

Blood Pressure

Skin Thickness

Insulin


BMI

Diabetes Pedigree Function

Age

Predict

The predicted diagnosis is: Diabetes

 **Data Glacier**
Your Deep Learning Partner

02:24 p. m.

22/02/2022