

# Deployment on Flask

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## Step 1: Model Creation

```
/Users/mufunwa/Downloads/Flask Deployment/model.py
1 # Importing the libraries
2 import numpy as np
3 import pandas as pd
4 import pickle
5
6 dataset = pd.read_csv('Student_Performance.csv')
7
8
9
10 X = dataset.iloc[:, :4]
11
12
13 y = dataset.iloc[:, -1]
14
15 from sklearn.linear_model import LinearRegression
16 regressor = LinearRegression()
17
18 #Fitting model with training data
19 regressor.fit(X, y)
20
21
22 # Saving model to disk
23 pickle.dump(regressor, open('model.pkl','wb'))
24
25 # Loading model to compare the results
26 model = pickle.load(open('model.pkl','rb'))
27 print(model.predict([[8, 88, 7,3]]))
```

## Step 2: Index html file creation

```
/Users/mufunwa/Downloads/Flask Deployment/index.html
1 #!/usr/bin/env python3
2 # -*- coding: utf-8 -*-
3 """
4 Created on Tue Nov 28 17:01:52 2023
5
6 @author: mufunwa
7 """
8
9 <!DOCTYPE html>
10 <html>
11 <head>
12 <meta charset="UTF-8">
13 <title>ML API</title>
14 <link href="https://fonts.googleapis.com/css?family=Pacifico" rel="stylesheet" type="text/css">
15 <link href="https://fonts.googleapis.com/css?family=Zalgo" rel="stylesheet" type="text/css">
16 <link href="https://fonts.googleapis.com/css?family=Hind:300" rel="stylesheet" type="text/css">
17 <link href="https://fonts.googleapis.com/css?family=Open+Sans+Condensed:300" rel="stylesheet" type="text/css">
18 <link rel="stylesheet" href="{{ url_for('static', filename='css/style.css') }}">
19
20 </head>
21
22 <body>
23 <div class="login">
24 <h1>Predict Student Performance</h1>
25
26 <!-- Main Input For Receiving Query to our ML -->
27 <form action="{{ url_for('predict')}}" method="post">
28 <input type="text" name="Hours Studied" placeholder="Hours Studied" required="required" />
29 <input type="text" name="Previous Scores" placeholder="Previous Scores" required="required" />
30 <input type="text" name="Sleep Hours" placeholder="Sleep Hours" required="required" />
31 <input type="text" name="Sample Question Papers Practiced" placeholder="Sample Question Papers Practiced" required="required" />
32
33 <button type="submit" class="btn btn-primary btn-block btn-large">Predict</button>
34 </form>
35
36 <br>
37 <br>
38 {{ prediction_text }}
39
40 </div>
41 
42
43 </body>
44 </html>
```

### Step 3: App creation

```
/Users/mufunwa/Downloads/Flask Deployment/app.py
X app.py X model.py X index.html
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     int_features = [int(x) for x in request.form.values()]
18     final_features = [np.array(int_features)]
19     prediction = model.predict(final_features)
20
21     output = round(prediction[0], 1)
22
23     return render_template('index.html', prediction_text='Student Performance should be {}'.format(output))
24
25 if __name__ == "__main__":
26     app.run(port=5000, debug=True)
```

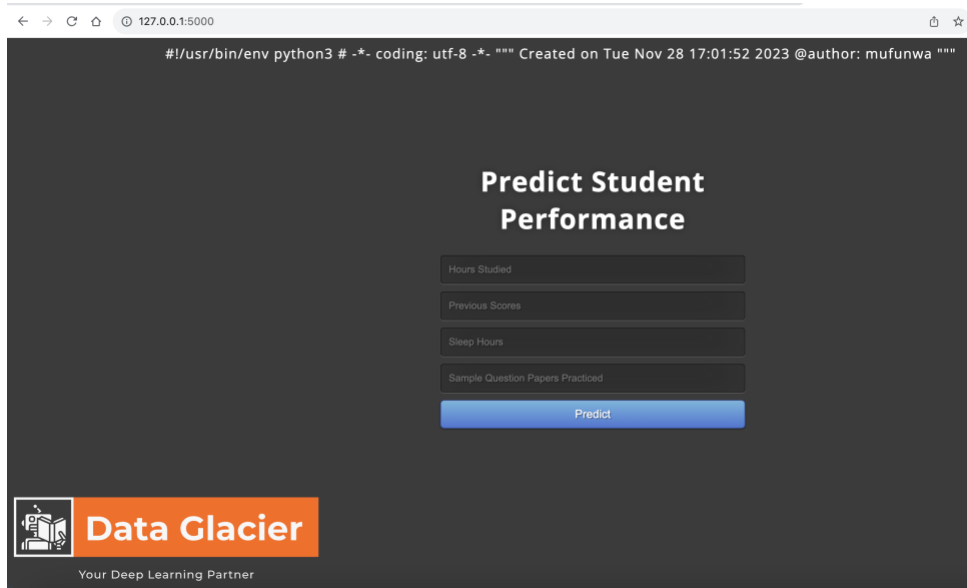
### 4. Deploying on Flask

```
X Console 1/A
Python 3.9.13 (main, Aug 25 2022, 18:29:29)
Type "copyright", "credits" or "license" for more information.

IPython 7.31.1 -- An enhanced Interactive Python.

In [1]: runfile('/Users/mufunwa/Downloads/Flask Deployment/app.py', wdir='/Users/mufunwa/Downloads/Flask Deployment')
* Serving Flask app "app" (lazy loading)
* Environment: production
  WARNING: This is a development server. Do not use it in a production deployment.
  Use a production WSGI server instead.
* Debug mode: on
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
* Restarting with watchdog (fsevents)
* Debugger is active!
* Debugger PIN: 136-276-908
127.0.0.1 - - [28/Nov/2023 22:01:22] "GET / HTTP/1.1" 500 -
Traceback (most recent call last):
  File "/Users/mufunwa/opt/anaconda3/lib/python3.9/site-packages/flask/app.py", line 2464, in __call__
    return self.wsgi_app(environ, start_response)
  File "/Users/mufunwa/opt/anaconda3/lib/python3.9/site-packages/flask/app.py", line 2450, in wsgi_app
    response = self.handle_exception(e)
```

### 5. Testing on web server



url to app: <http://127.0.0.1:5000/predict>