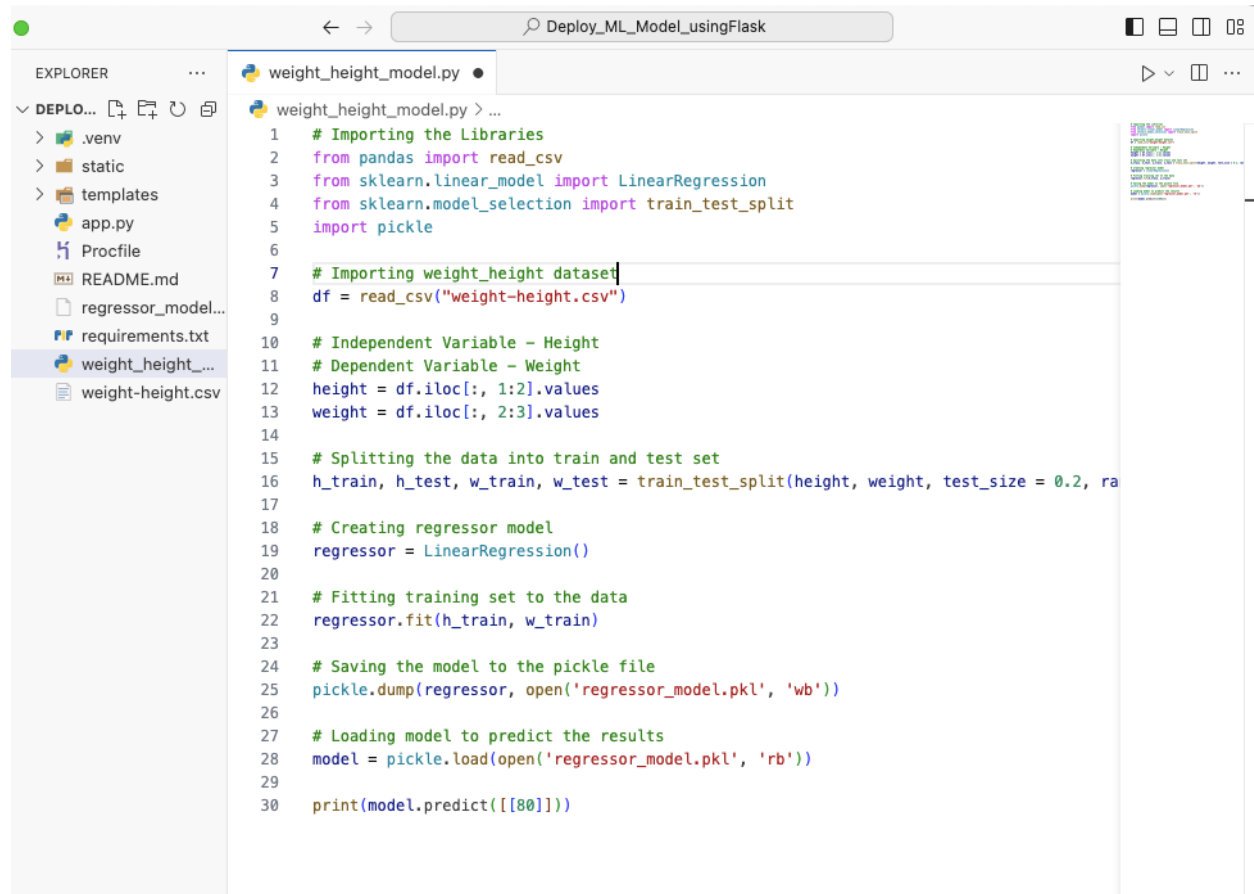


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Submission Date: 07/25/2024
Submitted to: Data Glacier

ML Model Deployment on Flask

Step 1:

Create ML model & Save trained model using pickle library:



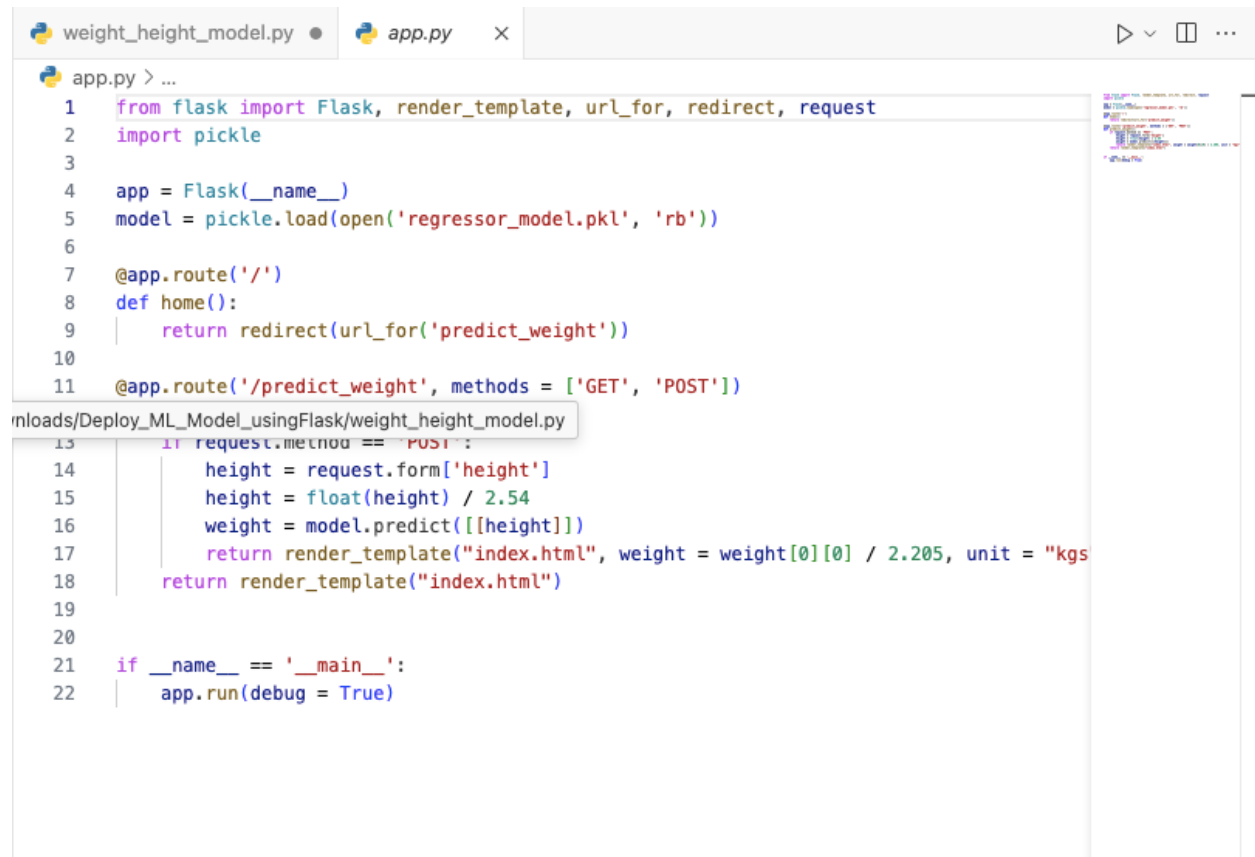
```
weight_height_model.py > ...  
1 # Importing the Libraries  
2 from pandas import read_csv  
3 from sklearn.linear_model import LinearRegression  
4 from sklearn.model_selection import train_test_split  
5 import pickle  
6  
7 # Importing weight_height dataset  
8 df = read_csv("weight-height.csv")  
9  
10 # Independent Variable - Height  
11 # Dependent Variable - Weight  
12 height = df.iloc[:, 1:2].values  
13 weight = df.iloc[:, 2:3].values  
14  
15 # Splitting the data into train and test set  
16 h_train, h_test, w_train, w_test = train_test_split(height, weight, test_size = 0.2, ra  
17  
18 # Creating regressor model  
19 regressor = LinearRegression()  
20  
21 # Fitting training set to the data  
22 regressor.fit(h_train, w_train)  
23  
24 # Saving the model to the pickle file  
25 pickle.dump(regressor, open('regressor_model.pkl', 'wb'))  
26  
27 # Loading model to predict the results  
28 model = pickle.load(open('regressor_model.pkl', 'rb'))  
29  
30 print(model.predict([[80]]))
```

Predicting the weight of a person based on their height using Linear Regression model. The given height & weight unit in csv is inches & pounds. After the training the model, used pickle library to save the model.

Step 2:

Import necessary libraries, created a flask instance named app and loaded the pretrained model. The (‘/’) redirect to the “predict_weight” route whoever tried to access base URL of the app will redirected that route. “/predict_weight” route accepts GET & POST request.

When the form is submitted (HTTP POST request), it retrieves the height from the form data and converts the height from centimeters to inches. Converts the predicted weight from pounds to kilograms. Renders the index.html template with the predicted weight and the unit (kgs). When accessed via a GET request, it simply renders the index.html template without any prediction result.



```
weight_height_model.py ● app.py ×
app.py > ...
1  from flask import Flask, render_template, url_for, redirect, request
2  import pickle
3
4  app = Flask(__name__)
5  model = pickle.load(open('regressor_model.pkl', 'rb'))
6
7  @app.route('/')
8  def home():
9      return redirect(url_for('predict_weight'))
10
11 @app.route('/predict_weight', methods = ['GET', 'POST'])
12
13     if request.method == 'POST':
14         height = request.form['height']
15         height = float(height) / 2.54
16         weight = model.predict([[height]])
17         return render_template("index.html", weight = weight[0][0] / 2.205, unit = "kgs")
18     return render_template("index.html")
19
20
21 if __name__ == '__main__':
22     app.run(debug = True)
```

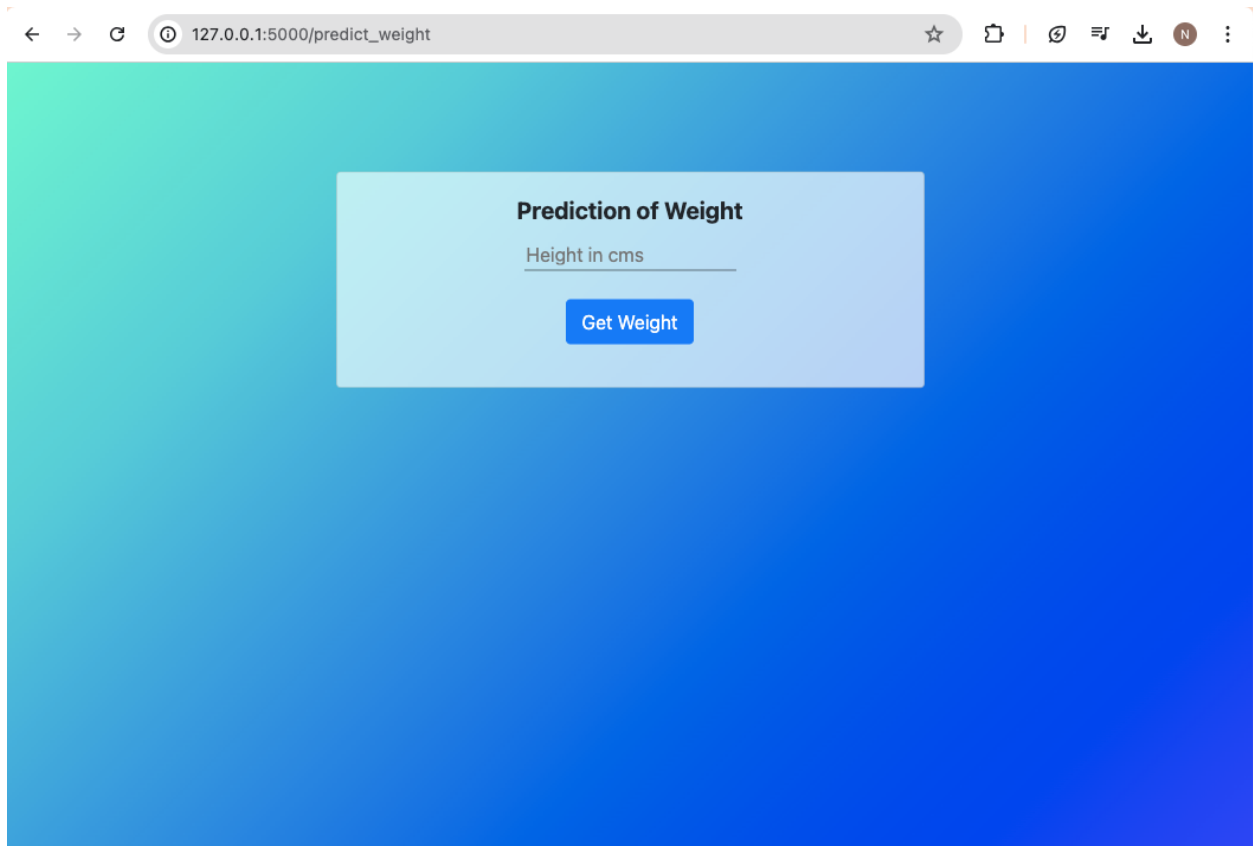
Step 3:

Run app.py in cmd

Deploy_ML_Model_usingFlask — python • python app.py — 80x34

```
Last login: Thu Jul 25 12:10:35 on ttys000
(base) rickynur@Rickys-MacBook-Air ~ % cd Downloads
(base) rickynur@Rickys-MacBook-Air Downloads % cd Deploy_ML_Model_usingFlask
(base) rickynur@Rickys-MacBook-Air Deploy_ML_Model_usingFlask % python app.py
/opt/anaconda3/lib/python3.12/site-packages/sklearn/base.py:376: InconsistentVersionWarning: Trying to unpickle estimator LinearRegression from version 1.5.1 when using version 1.4.2. This might lead to breaking code or invalid results. Use at your own risk. For more info please refer to:
https://scikit-learn.org/stable/model_persistence.html#security-maintainability-limitations
  warnings.warn(
* Serving Flask app 'app'
* Debug mode: on
WARNING: This is a development server. Do not use it in a production deployment. Use a production WSGI server instead.
* Running on http://127.0.0.1:5000
Press CTRL+C to quit
* Restarting with watchdog (fsevents)
/opt/anaconda3/lib/python3.12/site-packages/sklearn/base.py:376: InconsistentVersionWarning: Trying to unpickle estimator LinearRegression from version 1.5.1 when using version 1.4.2. This might lead to breaking code or invalid results. Use at your own risk. For more info please refer to:
https://scikit-learn.org/stable/model_persistence.html#security-maintainability-limitations
  warnings.warn(
* Debugger is active!
* Debugger PIN: 105-293-719
127.0.0.1 - - [25/Jul/2024 12:28:31] "GET / HTTP/1.1" 302 -
127.0.0.1 - - [25/Jul/2024 12:28:31] "GET /predict_weight HTTP/1.1" 200 -
127.0.0.1 - - [25/Jul/2024 12:28:31] "GET /static/css/style.css HTTP/1.1" 200 -
127.0.0.1 - - [25/Jul/2024 12:28:31] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [25/Jul/2024 12:28:39] "POST /predict_weight HTTP/1.1" 200 -
127.0.0.1 - - [25/Jul/2024 12:28:39] "GET /static/css/style.css HTTP/1.1" 304 -
127.0.0.1 - - [25/Jul/2024 12:29:19] "GET / HTTP/1.1" 302 -
```

Outcome:

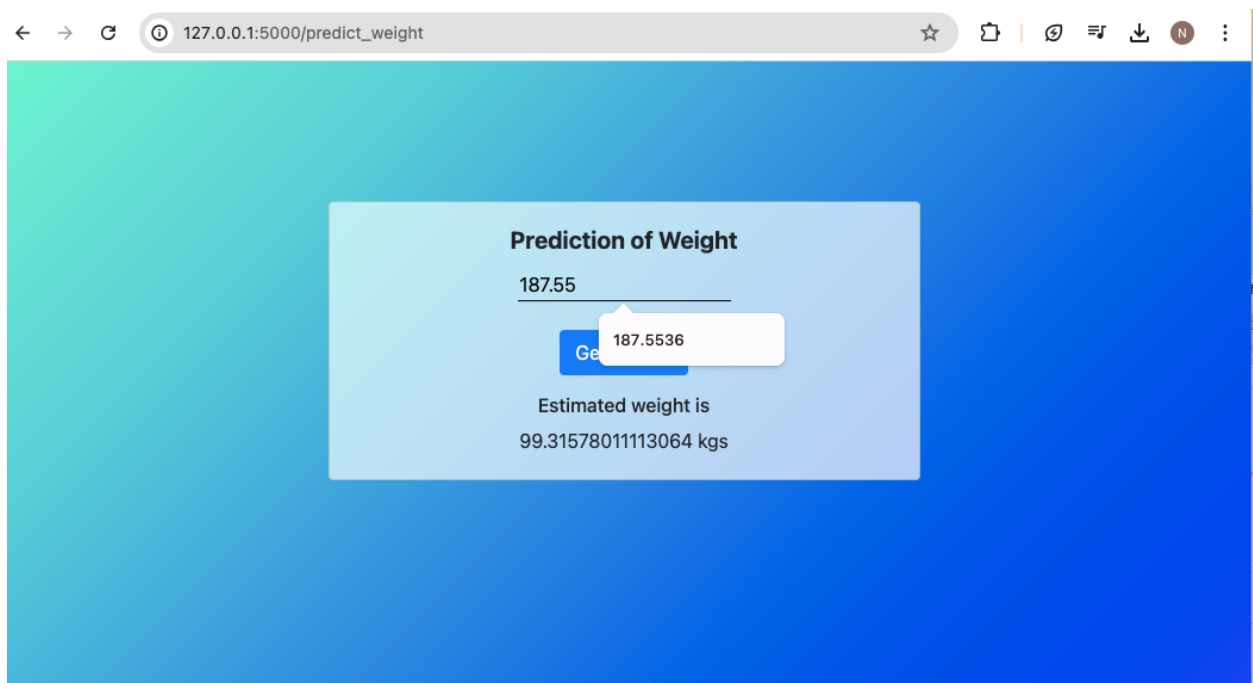


← → ↻ ⓘ 127.0.0.1:5000/predict_weight ☆ 📄 🔍 📄 ⌵ N ⋮

Prediction of Weight

Height in cms

Get Weight



← → ↻ ⓘ 127.0.0.1:5000/predict_weight ☆ 📄 🔍 📄 ⌵ N ⋮

Prediction of Weight

187.55

187.5536

Get Weight

Estimated weight is
99.31578011113064 kgs

