

Name – Apurwa Bhausahab Sontakke

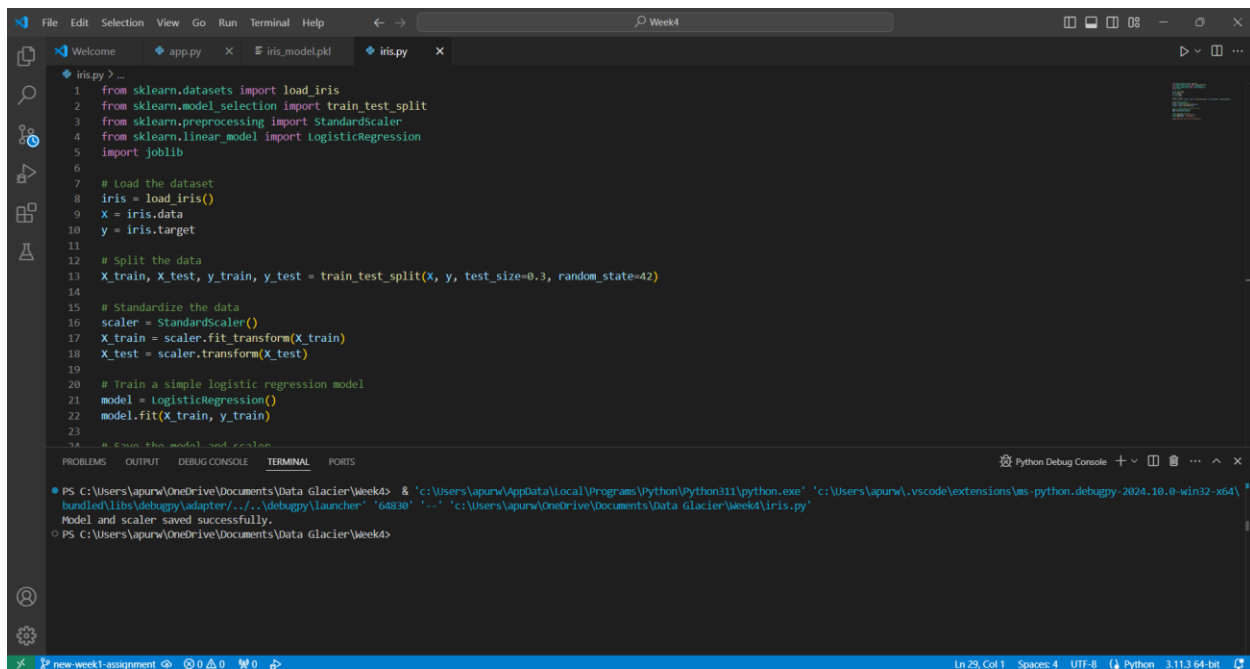
Batch code -LISUM32

Submission date – 03/28/2024

Submitted to – Data Glacier

Snapshots of the Deployment Process

Selected Iris Dataset and used the regression model:



```
1 from sklearn.datasets import load_iris
2 from sklearn.model_selection import train_test_split
3 from sklearn.preprocessing import StandardScaler
4 from sklearn.linear_model import LogisticRegression
5 import joblib
6
7 # Load the dataset
8 iris = load_iris()
9 X = iris.data
10 y = iris.target
11
12 # Split the data
13 X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3, random_state=42)
14
15 # Standardize the data
16 scaler = StandardScaler()
17 X_train = scaler.fit_transform(X_train)
18 X_test = scaler.transform(X_test)
19
20 # Train a simple logistic regression model
21 model = LogisticRegression()
22 model.fit(X_train, y_train)
23
24 # Save the model and scaler
```

Python Debug Console

```
PS C:\Users\apurwa\OneDrive\Documents\Data Glacier\Week4> & 'c:\Users\apurwa\AppData\Local\Programs\Python\Python311\python.exe' 'c:\Users\apurwa\.vscode\extensions\ms-python.debugpy-2024.10.0-win32-x64\
bundled\libs\debugpy\adapter\..\..\debugpy\launcher' '64830' '-' 'c:\Users\apurwa\OneDrive\Documents\Data Glacier\Week4\iris.py'
Model and scaler saved successfully.
PS C:\Users\apurwa\OneDrive\Documents\Data Glacier\Week4>
```

Both the model was saved:

 **iris_model.pkl**

 **scaler.pkl**

Installed and made sure Flask is running properly

```
Windows PowerShell
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows

PS C:\Users\apurw\OneDrive\Documents\Data Glacier\Week4> pip install flask
Requirement already satisfied: flask in c:\users\apurw\appdata\local\programs\python\python311\lib\site-packages (3.0.3)
Requirement already satisfied: Werkzeug>=3.0.0 in c:\users\apurw\appdata\local\programs\python\python311\lib\site-packages (from flask) (3.0.1)
Requirement already satisfied: Jinja2>=3.1.2 in c:\users\apurw\appdata\local\programs\python\python311\lib\site-packages (from flask) (3.1.2)
Requirement already satisfied: itsdangerous>=2.1.2 in c:\users\apurw\appdata\local\programs\python\python311\lib\site-packages (from flask) (2.1.2)
Requirement already satisfied: click>=8.1.3 in c:\users\apurw\appdata\local\programs\python\python311\lib\site-packages (from flask) (8.1.7)
Requirement already satisfied: blinker>=1.6.2 in c:\users\apurw\appdata\local\programs\python\python311\lib\site-packages (from flask) (1.7.0)
Requirement already satisfied: colorama in c:\users\apurw\appdata\local\programs\python\python311\lib\site-packages (from click>=8.1.3->flask) (0.4.6)
Requirement already satisfied: MarkupSafe>=2.0 in c:\users\apurw\appdata\local\programs\python\python311\lib\site-packages (from Jinja2>=3.1.2->flask) (2.1.2)

[notice] A new release of pip is available: 24.0 -> 24.2
[notice] To update, run: python.exe -m pip install --upgrade pip
PS C:\Users\apurw\OneDrive\Documents\Data Glacier\Week4> pip install Flask
Requirement already satisfied: Flask in c:\users\apurw\appdata\local\programs\python\python311\lib\site-packages (3.0.3)
Requirement already satisfied: Werkzeug>=3.0.0 in c:\users\apurw\appdata\local\programs\python\python311\lib\site-packages (from Flask) (3.0.1)
Requirement already satisfied: Jinja2>=3.1.2 in c:\users\apurw\appdata\local\programs\python\python311\lib\site-packages (from Flask) (3.1.2)
Requirement already satisfied: itsdangerous>=2.1.2 in c:\users\apurw\appdata\local\programs\python\python311\lib\site-packages (from Flask) (2.1.2)
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Requirement already satisfied: MarkupSafe>=2.0 in c:\users\apurw\appdata\local\programs\python\python311\lib\site-packages (from Jinja2>=3.1.2->Flask) (2.1.2)
```

Flask app: Created a file named app.py -

```
app.py | home
1 from flask import Flask, request, jsonify
2 import joblib
3 import numpy as np
4
5 # load the model and scaler
6 model = joblib.load('iris_model.pkl')
7 scaler = joblib.load('scaler.pkl')
8
9 app = Flask(__name__)
10
11 @app.route('/')
12 def home():
13     return "Welcome to the sIris Flower Prediction API!"
14
15 @app.route('/predict', methods=['POST'])
16 def predict():
17     try:
18         # Get data from the request
19         data = request.json
20         features = np.array(data['features']).reshape(1, -1)
21
22         # Scale the features
23         features = scaler.transform(features)
24
25         # Make a prediction
26         prediction = model.predict(features)
27         prediction_proba = model.predict_proba(features)
28
29         # Prepare the response
30         response = {
31             'prediction': int(prediction[0]),
32             'probability': prediction_proba.tolist()
33         }
34
35         return jsonify(response)
36
37 except Exception as e:
38     return jsonify({'error': str(e)})
39
40 if __name__ == '__main__':
41     app.run(debug=True)
42
```

Running the Flask App

```
PS C:\Users\apurw\OneDrive\Documents\Data Glacier\Week4> python app.py
* 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 stat
* Debugger is active!
* Debugger PIN: 114-083-693
127.0.0.1 - - [01/Sep/2024 12:17:28] "GET / HTTP/1.1" 200 -
127.0.0.1 - - [01/Sep/2024 12:17:28] "GET /favicon.ico HTTP/1.1" 404 -
* Detected change in 'C:\\Users\\apurw\\OneDrive\\Documents\\Data Glacier\\Week4\\app.py', reloading
* Restarting with stat
* Debugger is active!
* Debugger PIN: 114-083-693
```

Deployment final output on server:

