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Batch code → LISUM36

Submission date → 28TH AUGUST 2024

Submitted to → DATA GLACIER

Report Note: Model Deployment and API Testing Summary

Objective: The goal was to deploy a machine learning model using Flask and test the API to ensure it correctly handles input data and returns predictions.

Model Deployment:

- The model was successfully deployed using a Flask application.

- The Flask server is currently running in development mode, which is appropriate for testing but should be switched to a production-ready server, such as Gunicorn or uWSGI, before moving to a live environment.

API Testing:

- A test script (run.py) was created to send a POST request to the /predict endpoint of the Flask application. The script included sample input data to simulate a real-world prediction request.

- The API responded successfully, returning the expected prediction ({'prediction': 0}), which demonstrates that the model is functioning correctly when integrated into the Flask app.

- It was tested with multiple inputs also with in-datasets value, it performed well in all tests..!

app.py run.py

C: > Users > krish > Documents > week4 > app.py > ...

```python
196
197
198    # In[32]:
199
200
201    from flask import Flask, request, jsonify
202    import numpy as np
203
204
205    # In[35]:
206
207
208    app = Flask(__name__)
209
210    # Load the model
211    with open('model.pkl', 'rb') as f:
212        model = pickle.load(f)
213
214    @app.route('/predict', methods=['POST'])
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
 * Restarting with stat
Accuracy on test data: 0.97
Classification Report:
              precision    recall  f1-score   support
 * 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
Accuracy on test data: 0.97
Classification Report:
              precision    recall  f1-score   support

           0       1.00      1.00      1.00         8
           1       1.00      0.91      0.95        11
 * Running on http://127.0.0.1:5000
Press CTRL+C to quit
 * Restarting with stat
Accuracy on test data: 0.97
Classification Report:
              precision    recall  f1-score   support

           0       1.00      1.00      1.00         8
           1       1.00      0.91      0.95        11
           2       0.92      1.00      0.96        11

    accuracy                           0.97        30
Accuracy on test data: 0.97
Classification Report:
```

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app.py run.py

C: > Users > krish > Documents > week4 > run.py > ...

```python
1    import requests
2
3    url = 'http://127.0.0.1:5000/predict'
4    data = {'input': [5.0, 3.5, 1.4, 0.2]}
5    response = requests.post(url, json=data)
6    print(response.json())
7
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
Collecting idna<4,>=2.5 (from requests)
  Downloading idna-3.8-py3-none-any.whl.metadata (9.9 kB)
Collecting urllib3<3,>=1.21.1 (from requests)
  Using cached urllib3-2.2.2-py3-none-any.whl.metadata (6.4 kB)
Collecting certifi>=2017.4.17 (from requests)
  Downloading certifi-2024.8.30-py3-none-any.whl.metadata (2.2 kB)
Using cached requests-2.32.3-py3-none-any.whl (64 kB)
Downloading certifi-2024.8.30-py3-none-any.whl (167 kB)
Downloading charset_normalizer-3.3.2-cp312-cp312-win_amd64.whl (100 kB)
Downloading idna-3.8-py3-none-any.whl (66 kB)
Using cached urllib3-2.2.2-py3-none-any.whl (121 kB)
Installing collected packages: urllib3, idna, charset-normalizer, certifi, requests
  WARNING: The script normalizer.exe is installed in 'C:\Users\krish\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.12_qbz5n2kfra8p0\LocalCache\local-packages\Python312\Scripts' which is not on PATH.
  Consider adding this directory to PATH or, if you prefer to suppress this warning, use --no-warn-script-location.
Successfully installed certifi-2024.8.30 charset-normalizer-3.3.2 idna-3.8 requests-2.32.3 urllib3-2.2.2
PS C:\Users\krish\Documents\week4> python run.py
{'prediction': 0}
PS C:\Users\krish\Documents\week4> python run.py
{'prediction': 0}
PS C:\Users\krish\Documents\week4>
```

Ln 4, Col 23   Spaces: 4   UTF-8   CRLF   Python

app.py run.py

C > Users > krish > Documents > week4 > app.py > ...

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```

PROBLEMS 9   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS

```
127.0.0.1 - - [03/Sep/2024 21:35:15] "GET / HTTP/1.1" 404 -
 * Debugger is active!
 * Debugger PIN: 392-008-410
127.0.0.1 - - [03/Sep/2024 21:34:44] "GET / HTTP/1.1" 404 -
 * Debugger is active!
 * Debugger PIN: 392-008-410
 * Debugger is active!
 * Debugger PIN: 392-008-410
 * Debugger is active!
 * Debugger is active!
 * Debugger is active!
 * Debugger is active!
 * Debugger PIN: 392-008-410
127.0.0.1 - - [03/Sep/2024 21:34:44] "GET / HTTP/1.1" 404 -
127.0.0.1 - - [03/Sep/2024 21:34:44] "GET /favicon.ico HTTP/1.1" 404 -
127.0.0.1 - - [03/Sep/2024 21:35:15] "GET / HTTP/1.1" 404 -
127.0.0.1 - - [03/Sep/2024 21:35:17] "GET / HTTP/1.1" 404 -
127.0.0.1 - - [03/Sep/2024 21:37:37] "GET / HTTP/1.1" 404 -
127.0.0.1 - - [03/Sep/2024 21:37:40] "GET / HTTP/1.1" 404 -
C:\Users\krish\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.12_qbz5n2kfra8p0\LocalCache\local-packages\Python312\site-packages\sklearn\base.py:493: UserWarning: X does not have valid feature names, but LogisticRegression was fitted w
ith feature names
  warnings.warn(
127.0.0.1 - - [03/Sep/2024 21:45:41] "POST /predict HTTP/1.1" 200 -
127.0.0.1 - - [03/Sep/2024 21:46:43] "GET / HTTP/1.1" 404 -
C:\Users\krish\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.12_qbz5n2kfra8p0\LocalCache\local-packages\Python312\site-packages\sklearn\base.py:493: UserWarning: X does not have valid feature names, but LogisticRegression was fitted w
ith feature names
  warnings.warn(
127.0.0.1 - - [03/Sep/2024 21:47:05] "POST /predict HTTP/1.1" 200 -
```

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