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Batch No: LISUM16

Submission Date: 3rd January 2023

Submitted to: Data Glacier

Title: Flask Deployment on AWS – EC2 Instance (Prediction Salary Analysis)

Salary Prediction Model Deployment on Flask

```
D:\Internship\Data Glacier\Week 5\app.py
   model.py X app.py X index.html X request.py X
        import numpy as np
        from flask import Flask, request, jsonify, render_template
        import pickle
        app = Flask(__name__)
        model = pickle.load(open('model.pkl', 'rb'))
       @app.route('/')
       def home():
            return render_template('index.html')
        @app.route('/predict',methods=['POST'])
        def predict():
            For rendering results on HTML GUI
            int_features = [int(x) for x in request.form.values()]
            final_features = [np.array(int_features)]
            prediction = model.predict(final_features)
            output = round(prediction[0], 2)
            return render_template('index.html', prediction_text='Employee Salary should be $ {}'.format(output))
        if __name__ == "__main__":
  26
            app.run(host='0.0.0.0', port=8080)
```

```
D:\Internship\Data Glacier\Week 5\model.py
model.py X app.py X index.html X request.py X
       # Importing the libraries
       import numpy as np
       import matplotlib.pyplot as plt
       import pandas as pd
       import pickle
       dataset = pd.read_csv('https://raw.githubusercontent.com/ShreyaRamachandra/Deploy-machine-learning-model-using-flask/main/hiring.csv')
       dataset['experience'].fillna(0, inplace=True)
       dataset['test_score'].fillna(dataset['test_score'].mean(), inplace=True)
       X = dataset.iloc[:, :3]
       #Converting words to integer values
       def convert_to_int(word):
           return word_dict[word]
       X['experience'] = X['experience'].apply(lambda x : convert_to_int(x))
       y = dataset.iloc[:, -1]
       #Splitting Training and Test Set
 26
       from sklearn.linear_model import LinearRegression
       regressor = LinearRegression()
       #Fitting model with trainig data
       regressor.fit(X, y)
       # Saving model to disk
       pickle.dump(regressor, open('model.pkl','wb'))
       # Loading model to compare the results
       model = pickle.load(open('model.pkl','rb'))
       print(model.predict([[2, 9, 6]]))
```

Requirements for Model Deployment

Deploment-of-ML-model-in-AWS-EC2-Instance / requirements.txt

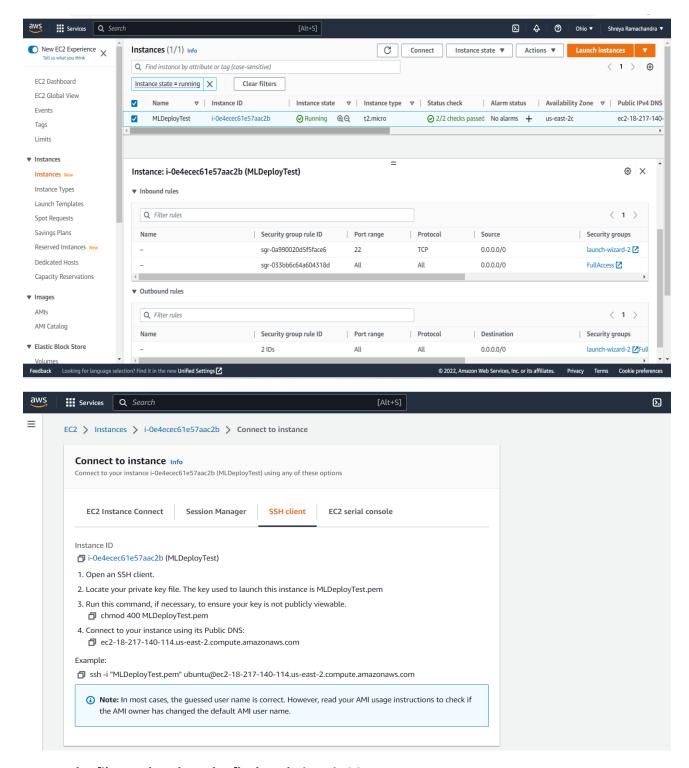
ShreyaRamachandra Create requirements.txt

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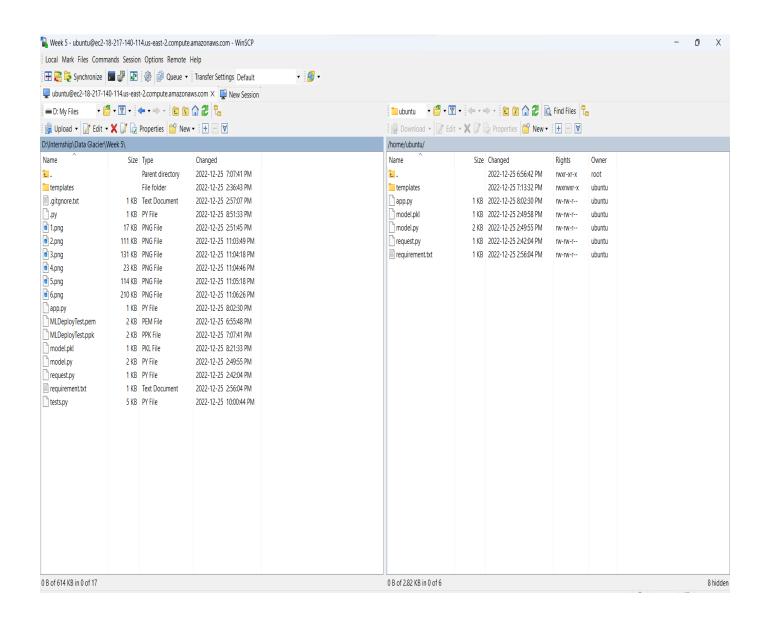
11 lines (11 sloc) | 177 Bytes

- 1 Flask==1.1.1
- 2 gunicorn==19.9.0
- 3 itsdangerous==1.1.0
- 4 Jinja2==2.10.1
- 5 MarkupSafe==1.1.1
- 6 Werkzeug==0.15.5
- 7 numpy>=1.9.2
- 8 scipy>=0.15.1
- 9 scikit-learn>=0.18
- 10 matplotlib>=1.4.3
- 11 pandas>=0.19

Create AWS account and access EC2 Instance



Access the files and update the flask code in WinSCP



```
🗗 ubuntu@ip-172-31-43-215: ~
 Command 'cd-' not found, did you mean:
 command 'cd5' from deb cd5 (0.1-4)
 command 'cde' from deb cde (0.1+git9-g551e54d-1.2)
 command 'cdw' from deb cdw (0.8.1-2)
 command 'cdi' from deb cdo (2.0.4-1)
 command 'cdb' from deb tinycdb (0.78build3)
 command 'cdo' from deb cdo (2.0.4-1)
Try: sudo apt install <deb name>
ubuntu@ip-172-31-43-215:~/.local/lib/python3.10/site-packages/jinja2$ cd -
/home/ubuntu/.local/lib/python3.10/site-packages
ubuntu@ip-172-31-43-215:~/.local/lib/python3.10/site-packages$ cd -
/home/ubuntu/.local/lib/python3.10/site-packages/jinja2
ubuntu@ip-172-31-43-215:~/.local/lib/python3.10/site-packages/jinja2$ cd -
/home/ubuntu/.local/lib/python3.10/site-packages
ubuntu@ip-172-31-43-215:~/.local/lib/python3.10/site-packages$ cd -
/home/ubuntu/.local/lib/python3.10/site-packages/jinja2
ubuntu@ip-172-31-43-215:~/.local/lib/python3.10/site-packages/jinja2$ cd -
/home/ubuntu/.local/lib/python3.10/site-packages
ubuntu@ip-172-31-43-215:~/.local/lib/python3.10/site-packages$ cd..
cd..: command not found
ubuntu@ip-172-31-43-215:~/.local/lib/python3.10/site-packages$ cd
ubuntu@ip-172-31-43-215:~$ python3 app.py
* Serving Flask app "app" (lazy loading)
 * Environment: production
 * Debug mode: off
 * Running on http://0.0.0.0:8080/ (Press CTRL+C to quit)
 Cubuntu@ip-172-31-43-215:~$ python3 app.py
 * Serving Flask app "app" (lazy loading)
* Environment: production
 * Debug mode: off
 * Running on http://0.0.0.0:8080/ (Press CTRL+C to quit)
184.148.57.127 - - [26/Dec/2022 03:35:59] "GET / HTTP/1.1" 200 -
184.148.57.127 - - [26/Dec/2022 03:35:59] "GET /favicon.ico HTTP/1.1" 404 -
/home/ubuntu/.local/lib/python3.10/site-packages/sklearn/base.py:409: UserWarning: X does not have valid feature names, but LinearRegression was fitted with feature names
184.148.57.127 - - [26/Dec/2022 03:36:07] "POST /predict HTTP/1.1" 200 -
 Cubuntu@ip-172-31-43-215:~$ python3 app.py
 * Serving Flask app "app" (lazy loading)
 * Environment: production
 * Debug mode: off
  Running on http://0.0.0.0:8080/ (Press CTRL+C to quit)
```

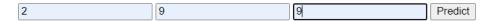
Predict Salary Analysis



Predict Salary Analysis Model deployed on AWS cloud



Predict Salary Analysis



Employee Salary should be \$ 59881.82