Deployment of Student Performance Prediction Model App on Heroku

Name: Mufunwa Nemushungwa
Batch: LISUM27
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Step 1: Select toy dataset.

Student_Performance

Hours Studied	Previous Scores	Sleep Hours	Sample Question Papers Practiced	Performance Index
7	99	9	1	91.0
4	82	4	2	65.0
8	51	7	2	45.0
5	52	5	2	36.0
7	75	8	5	66.0
3	78	9	6	61.0
7	73	5	6	63.0
8	45	4	6	42.0
5	77	8	2	61.0
4	89	4	0	69.0
8	91	4	5	84.0
8	79	6	2	73.0
3	47	9	2	27.0
6	47	4	2	33.0
5	79	7	8	68.0
2	72	4	3	43.0
8	73	8	4	67.0
6	83	7	2	70.0
2	54	4	9	30.0
5	75	7	0	63.0
1	99	4	3	71.0
6	96	9	0	85.0
9	74	7	6	73.0
1	85	5	6	57.0

Step 2: Training Machine Learning model

/Users/mufunwa/Downloads/Flask Deployment/model.py

app.py | model.py | index.html*

```python
# Importing the libraries
import numpy as np
import pandas as pd
import pickle

dataset = pd.read_csv('Student_Performance.csv')


X = dataset.iloc[:, :4]



y = dataset.iloc[:, -1]

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([[8, 88, 7,3]]))
```

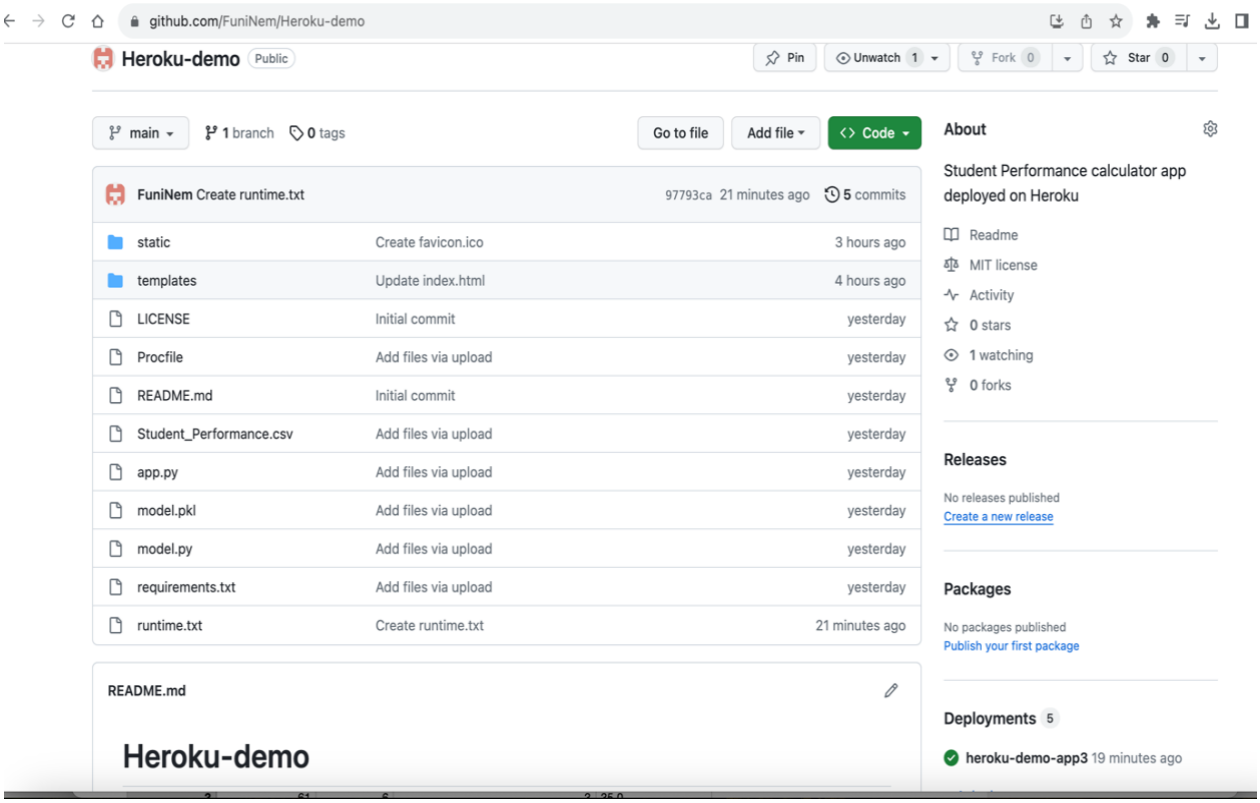
Step 3: Creating Web App

/Users/mufunwa/Downloads/Flask Deployment/app.py

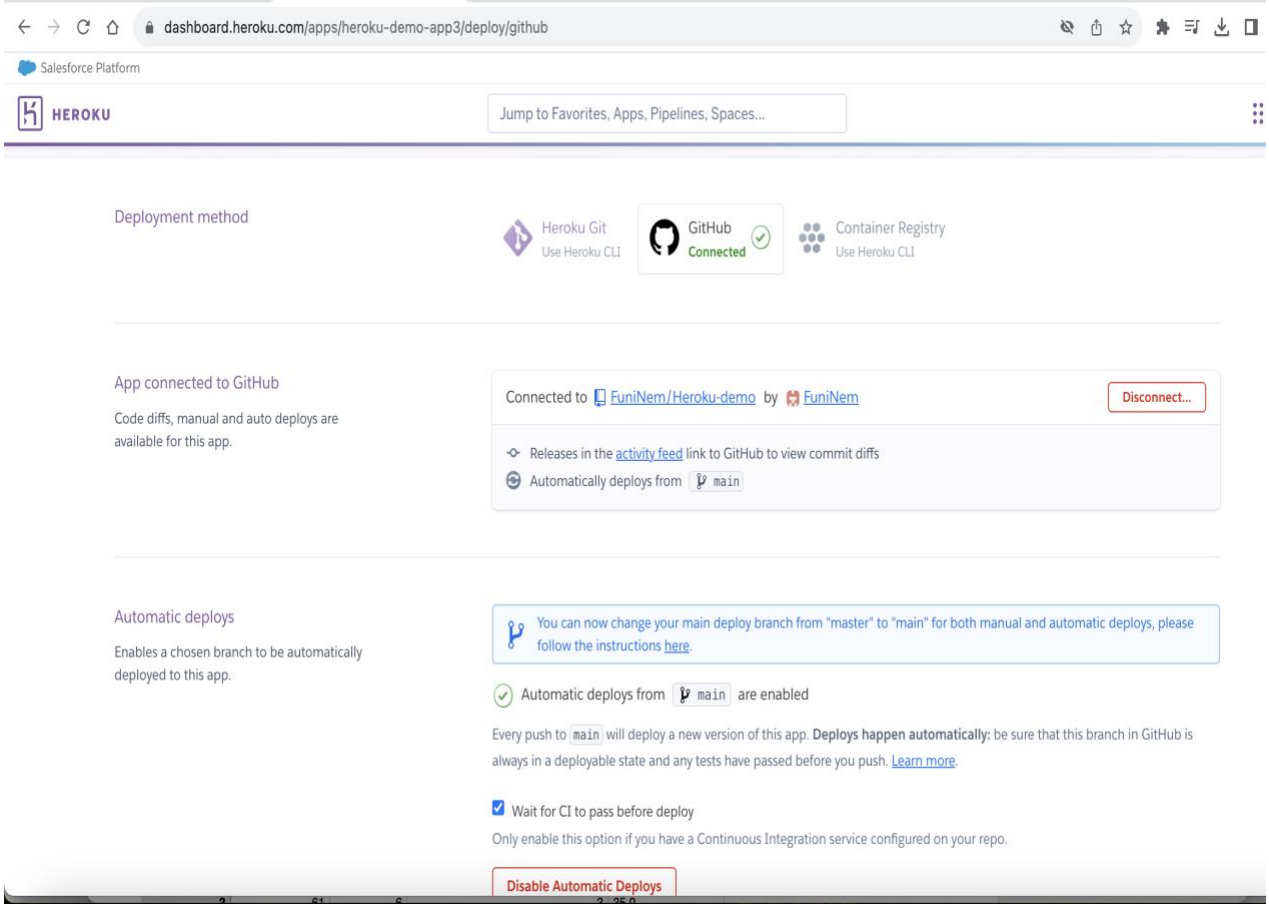
app.py | model.py | index.html*

```python
import numpy as np
from flask import Flask, request,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], 1)

    return render_template('index.html', prediction_text='Student Performance should be {}'.format(output))

if __name__ == "__main__":
    app.run(port=5000,debug=True)
```

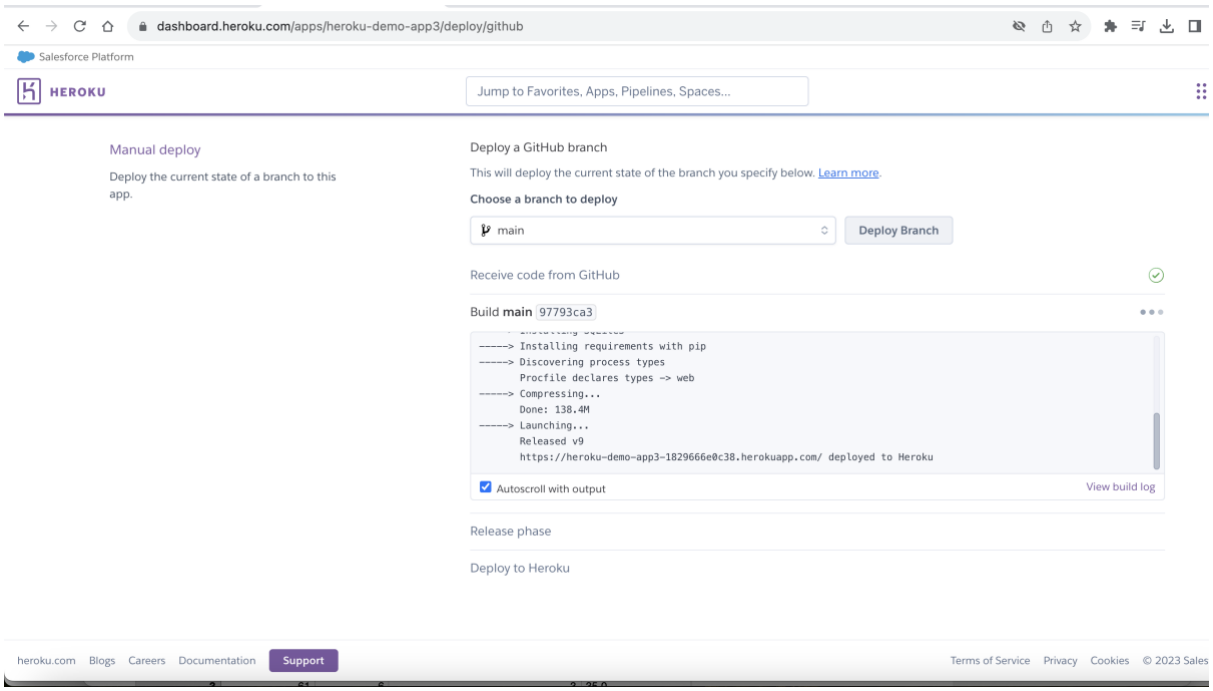
Step 4: Committing code in GitHub.



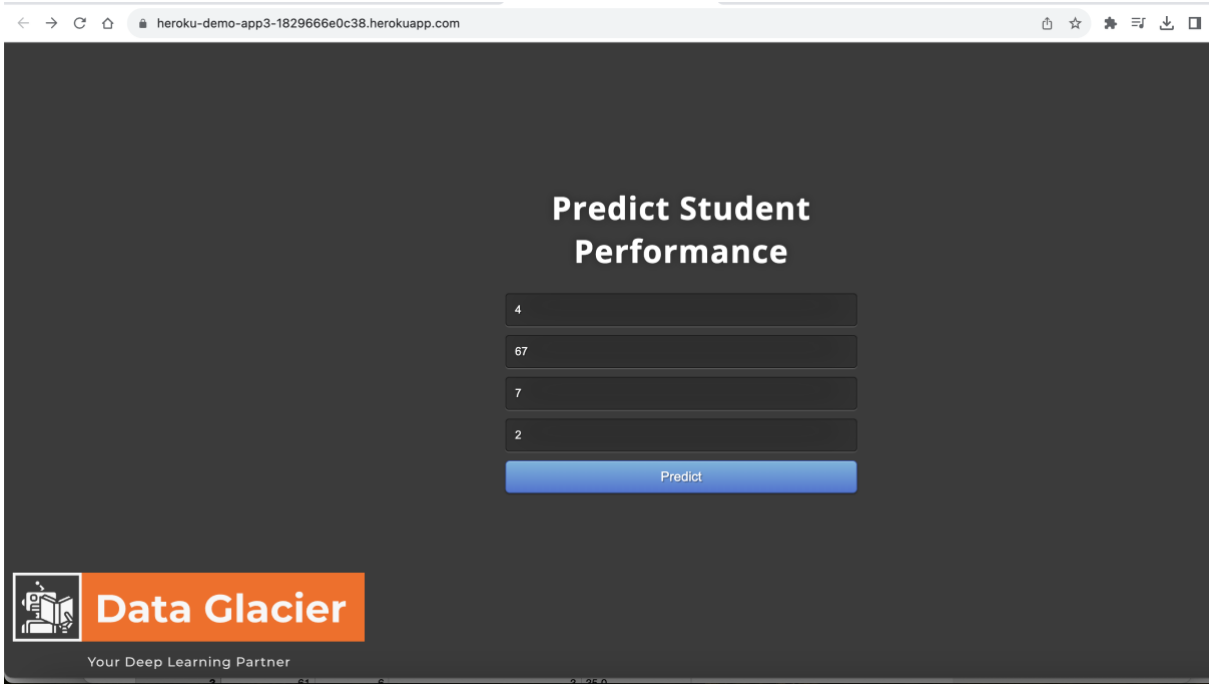
Step 5: Linking GitHub to Heroku

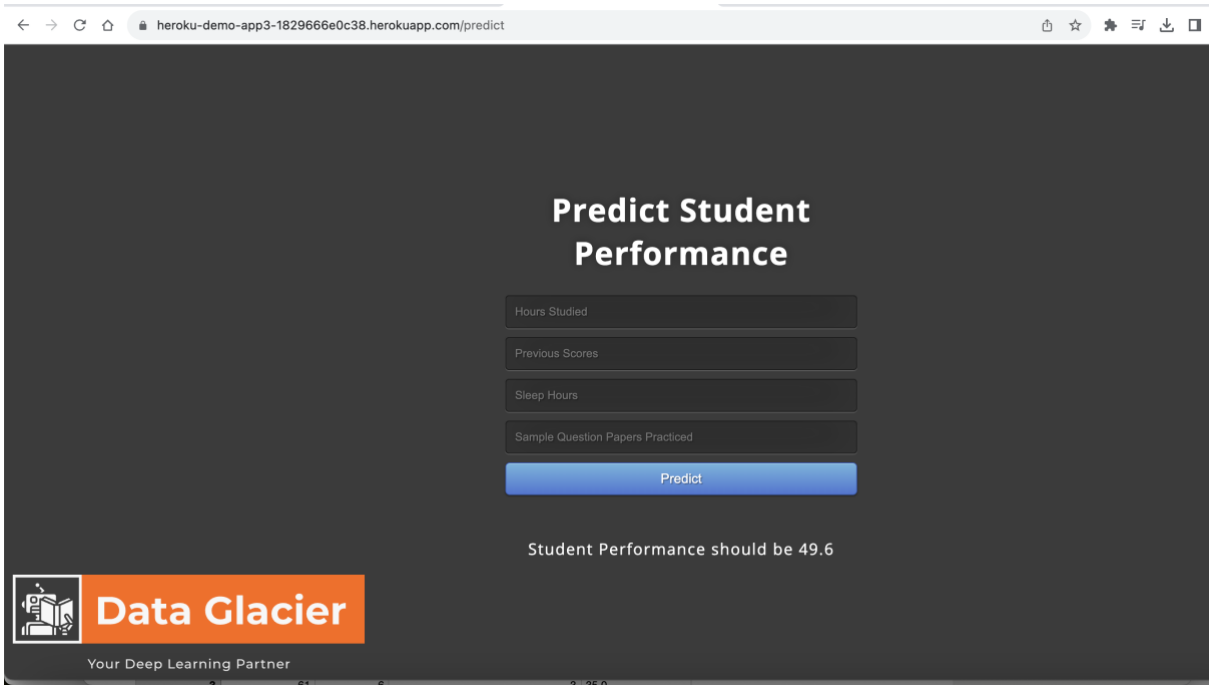


Step 6: Deployment of ML app on Heroku



Step 7: Testing the web app.





App url: https://heroku-demo-app3-1829666e0c38.herokuapp.com/predict