Model Deployment Using Heroku

Model

ModelDeployment.py

model_deployment > ModelDeployment.py

```python
import pickle

import pandas as pd
from sklearn.preprocessing import StandardScaler
from sklearn.ensemble import RandomForestClassifier
from sklearn.model_selection import train_test_split
import pickle

#import csv data

df = pd.read_csv("iris_flower.csv")

#view data

df.head()

#select the independent and dependent variables
X = df[["Sepal_Length", "Sepal_Width", "Petal_Length", "Petal_Width"]]
y = df["Class"]

#Split data into train and test

X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.3, random_state=50)

#Feature scaling
sc = StandardScaler()
X_train = sc.fit_transform(X_train)
X_test = sc.transform(X_test)

#Instantiate model
classifier = RandomForestClassifier()

#fit model
classifier.fit(X_train, y_train)

#create pickle file of model
pickle.dump(classifier, open("model.pkl", "wb"))
```

APP

```python
import numpy as np
from flask import Flask, request, jsonify, render_template
import pickle

#create flask app

app = Flask(__name__)

#Load pickle model

model = pickle.load(open("model.pkl", "rb"))

#Define method

@app.route("/")
def home():
    return render_template("index.html")

@app.route("/predict",methods=["POST"])
def predict():
    float_features = [float(x) for x in request.form.values()]
    final_features = [np.array(float_features)]
    prediction = model.predict(final_features)

    return render_template("index.html", prediction_text="This iris specie is called {}".format(prediction))

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

Requirements

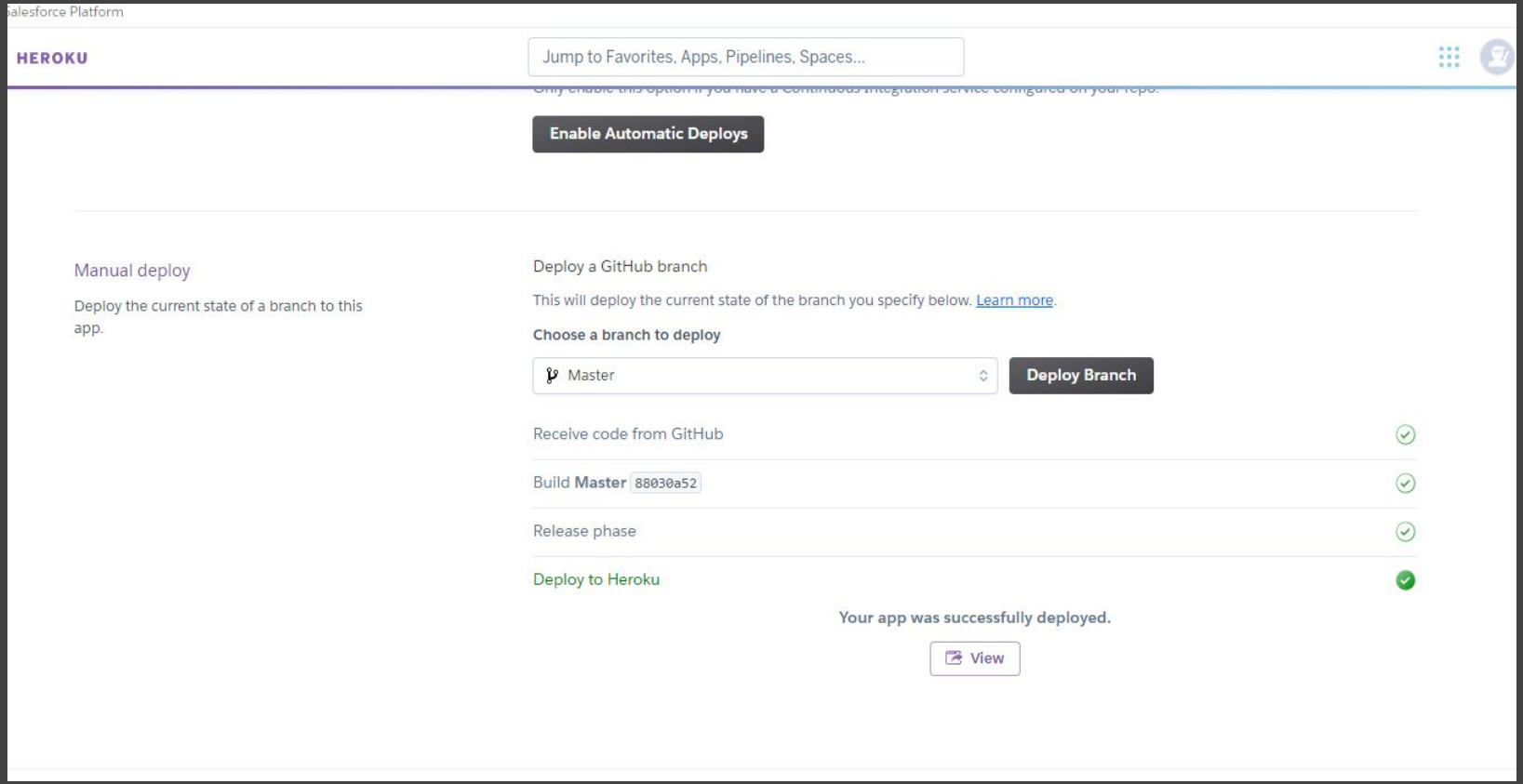
```
flask==1.1.1
gunicorn==19.19.0
itsdangerous==1.1.0
jinja2==2.10.1
MarkupSafe==1.1.1
Werkzeug==0.15.5
numpy>=1.9.2
scipy>=0.15.1
scikit-learn>=0.18
matplotlib>=1.4.3
pandas>=0.19
```

PROCFILE

model_deployment > Procfile

```
1   web: gunicorn app:app
```

Deploying app



Got an application error after deployment of app, please i am working on resolving it,

and will put an update of the resolved version once done. Thank you