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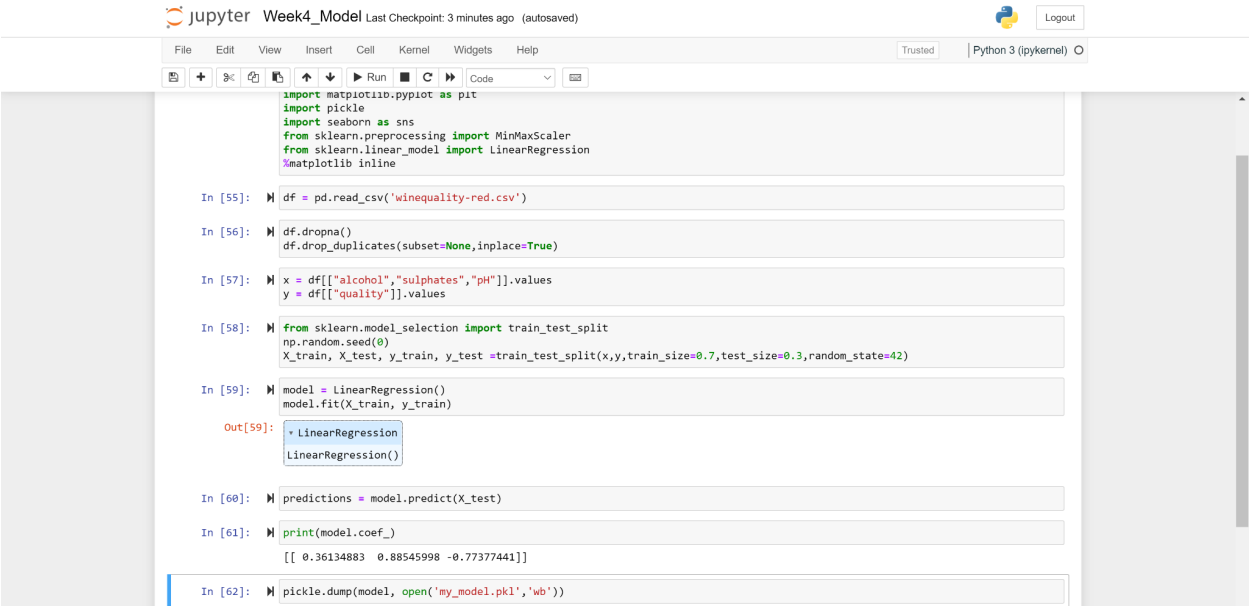
LISUM11: 30
08/03/2022
https://github.com/janecondon/Data-Glacier-Week-5.git

Creating and Saving the Model



jupyter Week4_Model Last Checkpoint: 3 minutes ago (autosaved)

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Trusted | Python 3 (ipykernel)

Run Code

```
import matplotlib.pyplot as plt
import pickle
import seaborn as sns
from sklearn.preprocessing import MinMaxScaler
from sklearn.linear_model import LinearRegression
%matplotlib inline
```

In [55]:
```
df = pd.read_csv('winequality-red.csv')
```

In [56]:
```
df.dropna()
df.drop_duplicates(subset=None,inplace=True)
```

In [57]:
```
x = df[["alcohol","sulphates","pH"]].values
y = df[["quality"]].values
```

In [58]:
```
from sklearn.model_selection import train_test_split
np.random.seed(0)
X_train, X_test, y_train, y_test =train_test_split(x,y,train_size=0.7,test_size=0.3,random_state=42)
```

In [59]:
```
model = LinearRegression()
model.fit(X_train, y_train)
```

Out[59]:
```
LinearRegression
LinearRegression()
```

In [60]:
```
predictions = model.predict(X_test)
```

In [61]:
```
print(model.coef_)
```

```
[[ 0.36134883  0.88545998 -0.77377441]]
```

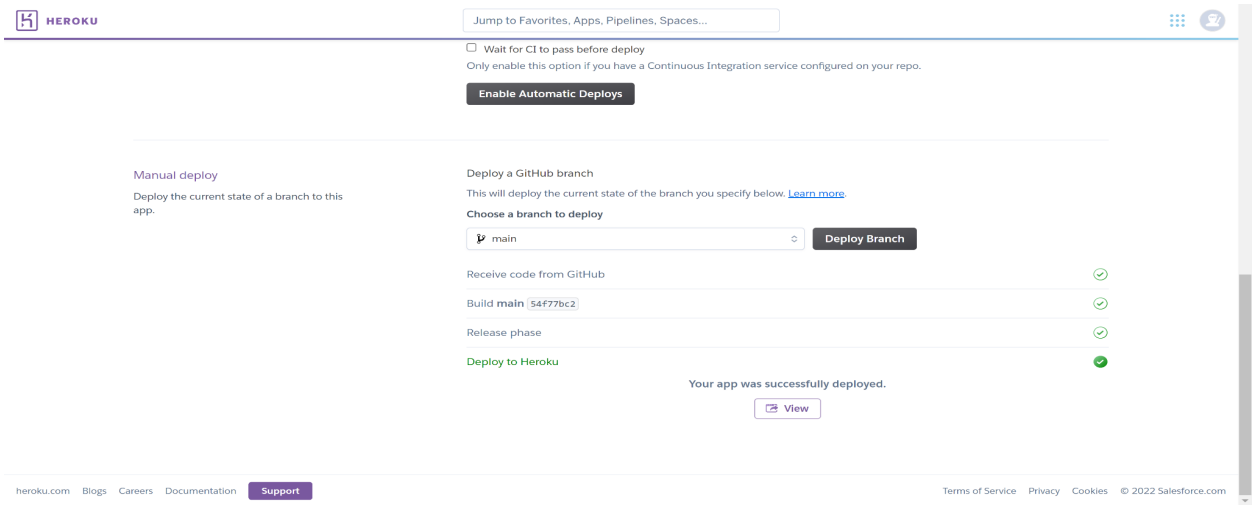
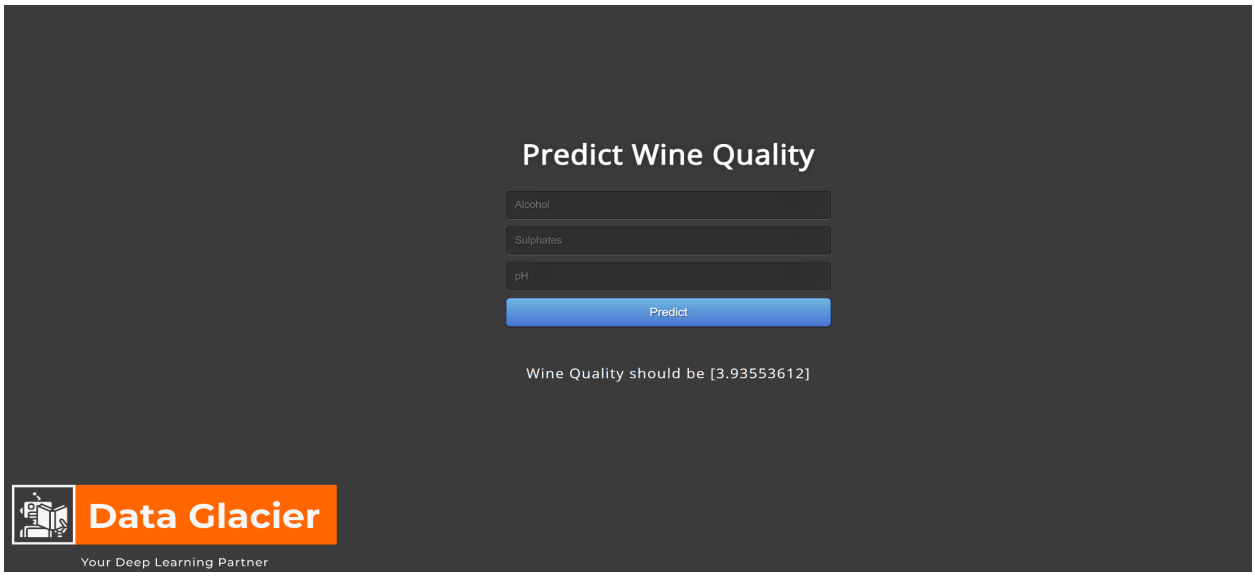
In [62]:
```
pickle.dump(model, open('my_model.pkl','wb'))
```

Creating the Flask Application

app.py

```
1  import numpy as np
2  from flask import Flask, request,render_template
3  import pickle
4
5  app = Flask(__name__)
6  model = pickle.load(open('my_model.pkl', 'rb'))
7
8  @app.route('/')
9  def home():
10     return render_template('index_1.html')
11
12 @app.route('/predict',methods=['POST'])
13 def predict():
14     '''
15     For rendering results on HTML GUI
16     '''
17     int_features = [x for x in request.form.values()]
18     final_features = [np.array(int_features)]
19     prediction = model.predict(final_features)
20
21     output = prediction[0]
22
23     return render_template('index_1.html', prediction_text='Wine Quality should be  {}'.format(outp
24
25 if __name__ == "__main__":
26     app.run(debug=False,use_reloader=False)
```

Deploying on Heroku



Testing the Model