Data Glacier Internship Week 4

Reeha Khan

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LISUM 01

Creating the pickle file:

Predict the life expectancy using Linear Regression.

In [22]:
```
import numpy as np
import pandas as pd
from flask import Flask, request, render_template, jsonify
import pickle
import json
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
```

In [24]:
```
data_set = pd.read_csv('data_set_uk.csv', sep = ',')
```

In [28]:
```
x = data_set. iloc[:,:-1]. values
y = data_set. iloc[:,1]. values
```

In [29]:
```
X_train, X_test, Y_train, Y_test = train_test_split(x,y)
```

In [34]:
```
regressor = LinearRegression()
regressor.fit(X_train, Y_train)
Y_pred = regressor.predict(X_test)
print(Y_pred)
```

```
[53.95660233 76.66131743 74.57619054 34.26373719 31.483568   37.97062946
 36.58054486 55.34668693 76.1979559  42.37256402 48.16458317 66.46736372
 31.02020647 53.72492157 34.72709873 40.98247942 51.87147544 64.38223682
 52.7981985  34.95877949 59.28525996 39.59239482 63.22383299 41.44584095
 33.80037566 58.12685613 30.32516417 74.112829   40.05575635 57.66349459
 49.78634854 37.04390639 43.99432938 59.51694073 47.93290241 71.56434057
 32.8736526  63.68719452 32.64197183 67.62576755 37.73894869 38.66567176
 75.03955207 45.15273321 56.27341    78.9781251  45.61609475 66.23568295
 38.20231022 30.55684493 33.10533336 75.96627514 62.06542915 77.5880405
 69.01585215]
```

In [35]:
```
pickle.dump(regressor, open('pickle_model.pkl', 'wb'))
```

Model Deployment:

Loading the model and deploying the following code using Flask.

model.py

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

app = Flask (__name__)
model = pickle.load(open("pickle_model.pkl", "rb"))

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

@app.route('/predict', methods = ['POST'])
def predict():
    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='The Life Expectancy will be {} %'.format(output))

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

Running the file on command prompt:

```
Microsoft Windows [Version 10.0.19041.1052]
(c) Microsoft Corporation. All rights reserved.

C:\Users\Reeha Khan\Desktop\sixth semester\Data Glacier Internship\Week 4>python model.py
C:\Users\Reeha Khan\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.9_qbz5n2kfra8p0\LocalCache\local-packages\P
ython39\site-packages\sklearn\base.py:322: UserWarning: Trying to unpickle estimator LinearRegression from version 0.23.
2 when using version 1.0.dev0. This might lead to breaking code or invalid results. Use at your own risk.
  warnings.warn(
 * Serving Flask app 'model' (lazy loading)
 * Environment: production
   WARNING: This is a development server. Do not use it in a production deployment.
   Use a production WSGI server instead.
 * Debug mode: on
 * Restarting with stat
C:\Users\Reeha Khan\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.9_qbz5n2kfra8p0\LocalCache\local-packages\P
ython39\site-packages\sklearn\base.py:322: UserWarning: Trying to unpickle estimator LinearRegression from version 0.23.
2 when using version 1.0.dev0. This might lead to breaking code or invalid results. Use at your own risk.
  warnings.warn(
 * Debugger is active!
 * Debugger PIN: 343-643-319
 * Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

Checking the website: