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Submitted URL: https://github.com/vidya-ganesan/Week-4-Deployment-of-flask

Deployment on Flask in python

Step 1: Import the necessary python libraries to run the model.

Step 2: Develop ML model.

Select a dataset. Predict the salary of an employee based on years of experience, test score and interview score using linear regression.

In [ ]:
```
#importing necessary libraries
```

In [2]:
```
import pandas as pd
import numpy as np
from sklearn.model_selection import train_test_split
from sklearn.linear_model import LinearRegression
from flask import Flask,request,jsonify
import pickle
import json
```

In [4]:
```
dataset=pd.read_csv('hiring.csv')
dataset.head()
```

Out[4]:

	experience	test_score	interview_score	salary
0	four	8	9	50000
1	one	8	6	45000
2	five	6	7	60000
3	two	10	10	65000
4	seven	9	6	70000

In [6]:
```
def convert_to_int(word):
    word_dict = {'one':1, 'two':2, 'three':3, 'four':4, 'five':5, 'six':6, 'seven':7, 'eight':8,
                 'nine':9, 'ten':10, 'eleven':11, 'twelve':12, 'zero':0, 0: 0}
    return word_dict[word]
X = dataset.iloc[:, :3]

X['experience'] = X['experience'].apply(lambda x : convert_to_int(x))

y = dataset.iloc[:, -1]
```

In [8]:
```
X_train,X_test,y_train,y_test=train_test_split(X,y,test_size=0.33,random_state=0)
```

In [9]:
```
regressor=LinearRegression()
regressor.fit(X_train,y_train)
y_pred=regressor.predict(X_test)
print(y_pred)
```

```
[70059.33250927 52160.69221261 42456.11866502]
```

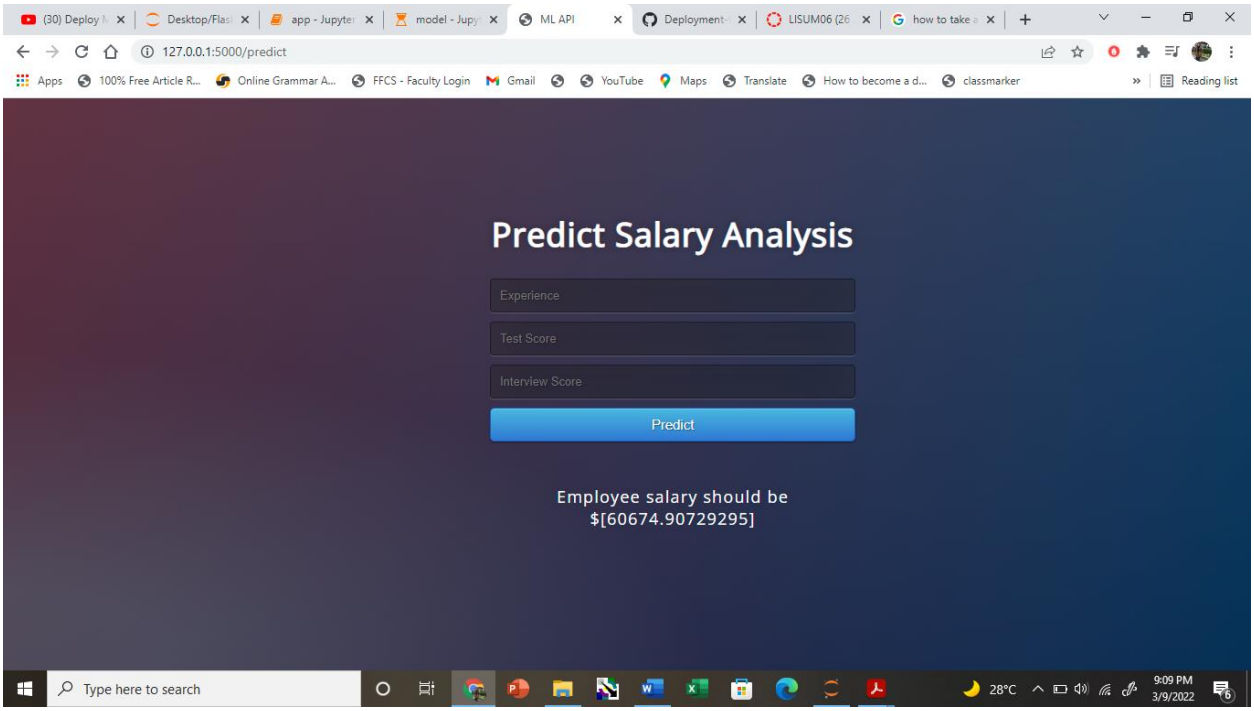
Step 3: Saving the ML model to the disk using pickle library

```
In [ ]: #save the model in disk

In [10]: pickle.dump(regressor, open('model.pkl','wb'))

In [11]: model = pickle.load(open('model.pkl','rb'))
         print(model.predict([[2, 9, 6]]))

         [49589.61681088]
```

Step 4: Deployment of model in flask

```
In [ ]: #deployment of model in flask

In [12]: app = Flask(__name__)
         model = pickle.load(open('model.pkl', 'rb'))

In [13]: @app.route('/')
         def home():
             return render_template('index.html')

In [16]:
         @app.route('/predict',methods=['POST'])
         def predict():
             data = request.get_json(force=True)
             prediction = model.predict([np.array(list(data.values()))])
             output = prediction[0]
             return jsonify(output)

In [*]: if __name__ == "__main__":
            app.run(port=5000)

         * Serving Flask app "__main__" (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: off

         * Running on http://127.0.0.1:5000/ (http://127.0.0.1:5000/) (Press CTRL+C to quit)
```

Step 5: Creating the web app by typing the URL in the browser.


ML API
127.0.0.1:5000/predict
Predict Salary Analysis
Experience
Test Score
Interview Score
Predict
Employee salary should be
$[60674.90729295]
Type here to search
28°C
9:09 PM
3/9/2022