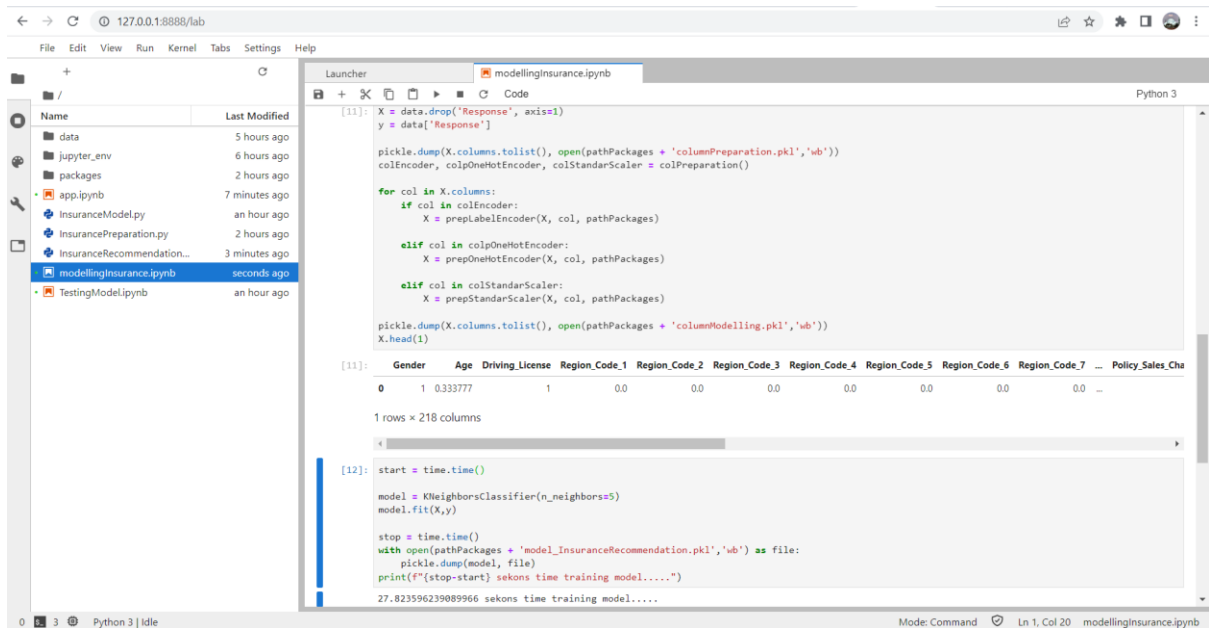


Bangun Septo Raharjo

link github : <https://github.com/bangunsepto/project7DataOps-dan-MLOps>



```
[11]: X = data.drop("Response", axis=1)
      y = data["Response"]

      pickle.dump(X.columns.tolist(), open(pathPackages + 'columnPreparation.pkl', 'wb'))
      colEncoder, colOneHotEncoder, colStandardScaler = colPreparation()

      for col in X.columns:
          if col in colEncoder:
              X = prepLabelEncoder(X, col, pathPackages)

          elif col in colOneHotEncoder:
              X = prepOneHotEncoder(X, col, pathPackages)

          elif col in colStandardScaler:
              X = prepStandardScaler(X, col, pathPackages)

      pickle.dump(X.columns.tolist(), open(pathPackages + 'columnModelling.pkl', 'wb'))
      X.head(1)

[11]: Gender    Age  Driving_License  Region_Code_1  Region_Code_2  Region_Code_3  Region_Code_4  Region_Code_5  Region_Code_6  Region_Code_7  Policy_Sales_Ch
0      1  0.333777              1             0.0          0.0          0.0          0.0          0.0          0.0          0.0  ...
```

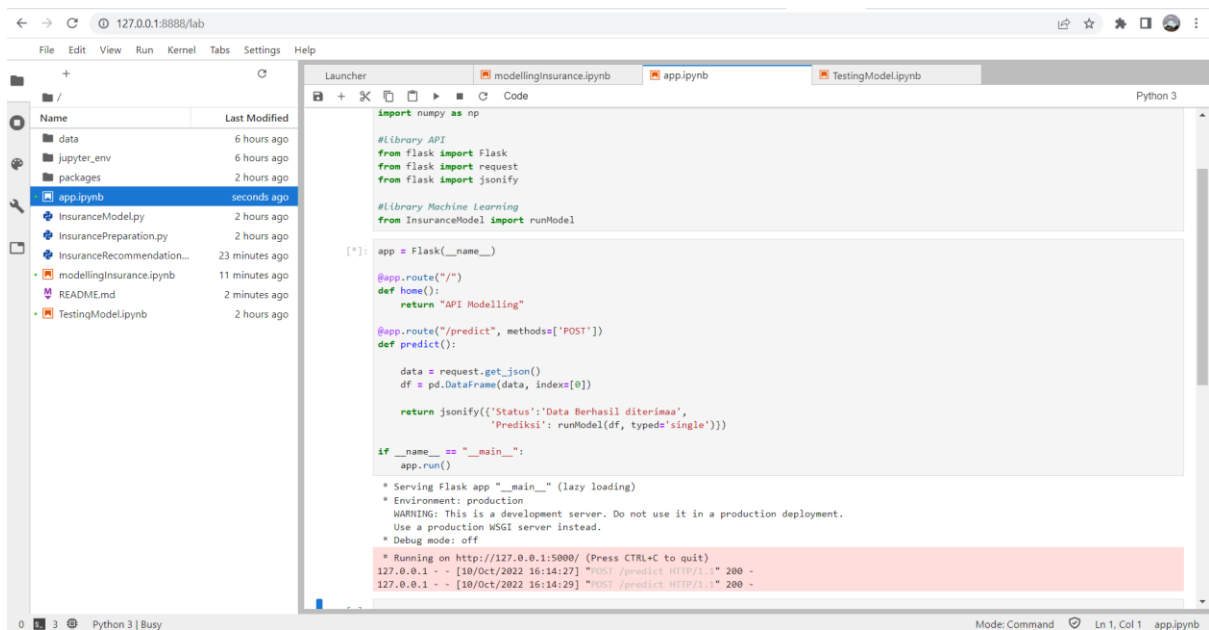
1 rows x 218 columns

```
[12]: start = time.time()

      model = KNeighborsClassifier(n_neighbors=5)
      model.fit(X,y)

      stop = time.time()
      with open(pathPackages + 'model_InsuranceRecommendation.pkl', 'wb') as file:
          pickle.dump(model, file)
      print(f"{stop-start} seconds time training model.....")

      27.823596239089966 seconds time training model.....
```



```
import numpy as np

#library API
from flask import Flask
from flask import request
from flask import jsonify

#library Machine Learning
from InsuranceModel import runModel

[*]: app = Flask(__name__)

@app.route("/")
def home():
    return "API Modelling"

@app.route("/predict", methods=['POST'])
def predict():

    data = request.get_json()
    df = pd.DataFrame(data, index=[0])

    return jsonify({'Status': 'Data Berhasil diterima',
                    'Prediksi': runModel(df, typed='single')})

if __name__ == "__main__":
    app.run()

* 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/ (Press CTRL+C to quit)
127.0.0.1 - - [10/Oct/2022 16:14:27] "POST /predict HTTP/1.1" 200 -
127.0.0.1 - - [10/Oct/2022 16:14:29] "POST /predict HTTP/1.1" 200 -
```

Postman interface showing a REST client request configuration for a POST endpoint: `http://127.0.0.1:5000/predict?`. The request body is a JSON object containing user and vehicle details:

```
{  "Gender": "Male",  "Age": 25,  "Driving_License": 1,  "Region_Code": 11,  "Previously_Insured": 1,  "Vehicle_Age": "< 1 Year",  "Vehicle_Damage": "Yes",  "Annual_Premium": 35786,  "Policy_Sales_Channel": 152,  "Vintage": 53}
```

The response body shows the prediction result:

```
{  "Prediksi": 0,  "Status": "Data Berhasil diterima"}
```

Status: 200 OK, Time: 596 ms, Size: 195 B. The interface also includes a sidebar with collections, environments, and a bottom section with a "Well done! You got the basics." message and a "Got It" button.

```
root@HPG7-016: ~/jupyter
[I 14:34:26.536 LabApp] Saving file at /app.ipynb
[I 14:40:29.490 LabApp] Saving file at /TestingModel.ipynb
[I 14:42:54.704 LabApp] Kernel restarted: ab3d4902-2ad5-485a-8017-1689443450d6
[I 14:44:28.277 LabApp] Saving file at /app.ipynb
[I 15:47:50.522 LabApp] Saving file at /app.ipynb
[I 15:48:59.839 LabApp] Starting buffering for 7f7817c3-a177-4c82-9a0c-153ee8b90d28:b397e54a-99e4-4edb-8d3c-8ef298b444d4
[I 15:49:29.966 LabApp] Kernel shutdown: 7f7817c3-a177-4c82-9a0c-153ee8b90d28
[W 15:49:29.982 LabApp] delete /modellingInsurance2.ipynb
[I 15:51:32.541 LabApp] Starting buffering for 9f7eccd5-9491-4343-be26-25ee97eb3728:7de9ec0b-f5cb-4b98-ac18-d35e97b5bdc
[I 15:51:33.576 LabApp] Starting buffering for 48dee5be-3fd9-415a-8053-b072b230668e:1cc041f9-9e8e-4544-843c-9c42b7afc75e
[I 15:51:34.714 LabApp] Starting buffering for ab3d4902-2ad5-485a-8017-1689443450d6:479613db-3827-4480-82be-908da6a1274c
[I 15:51:51.317 LabApp] Saving file at /InsuranceRecommendation.py
[I 15:54:13.539 LabApp] Saving file at /modellingInsurance.ipynb
[I 15:55:34.264 LabApp] Starting buffering for 9f7eccd5-9491-4343-be26-25ee97eb3728:5e67cd6d-0330-49c4-a6e6-8043845780d9
[I 15:57:39.538 LabApp] Saving file at /app.ipynb
[I 16:00:34.104 LabApp] Kernel restarted: ab3d4902-2ad5-485a-8017-1689443450d6
[I 16:01:32.405 LabApp] Starting buffering for ab3d4902-2ad5-485a-8017-1689443450d6:0750cc5c-4bfd-4fd6-a403-f057758c2d72
[I 16:01:50.914 LabApp] Kernel restarted: 9f7eccd5-9491-4343-be26-25ee97eb3728
[I 16:03:46.548 LabApp] Saving file at /modellingInsurance.ipynb
[I 16:04:44.576 LabApp] Kernel restarted: ab3d4902-2ad5-485a-8017-1689443450d6
[I 16:06:37.436 LabApp] Saving file at /app.ipynb
[I 16:07:33.970 LabApp] Kernel restarted: ab3d4902-2ad5-485a-8017-1689443450d6
[I 16:07:39.430 LabApp] Kernel restarted: ab3d4902-2ad5-485a-8017-1689443450d6
[I 16:08:37.536 LabApp] Saving file at /app.ipynb
[I 16:14:40.548 LabApp] Saving file at /app.ipynb
```