DATA SCIENCE

Project Proposal

C02 emission predicton using AI & ML

Udyam registration: OD-19-0082248, ministry of micro small and medium enterprises

Office : plot no: 2212,Kalpana Square Flat area, bjb nagar Bhubaneswar , odisha

Simplified computer

Certificate

of training completion

This is to certify that **sidhant panda**

Father name Nabin Chandra panda

has successfully completed the computer course with

basic and advanced python (with numpy , pandas) .

course duration 04-06-2024 to 04-09-2024

candidate has secured A grade.

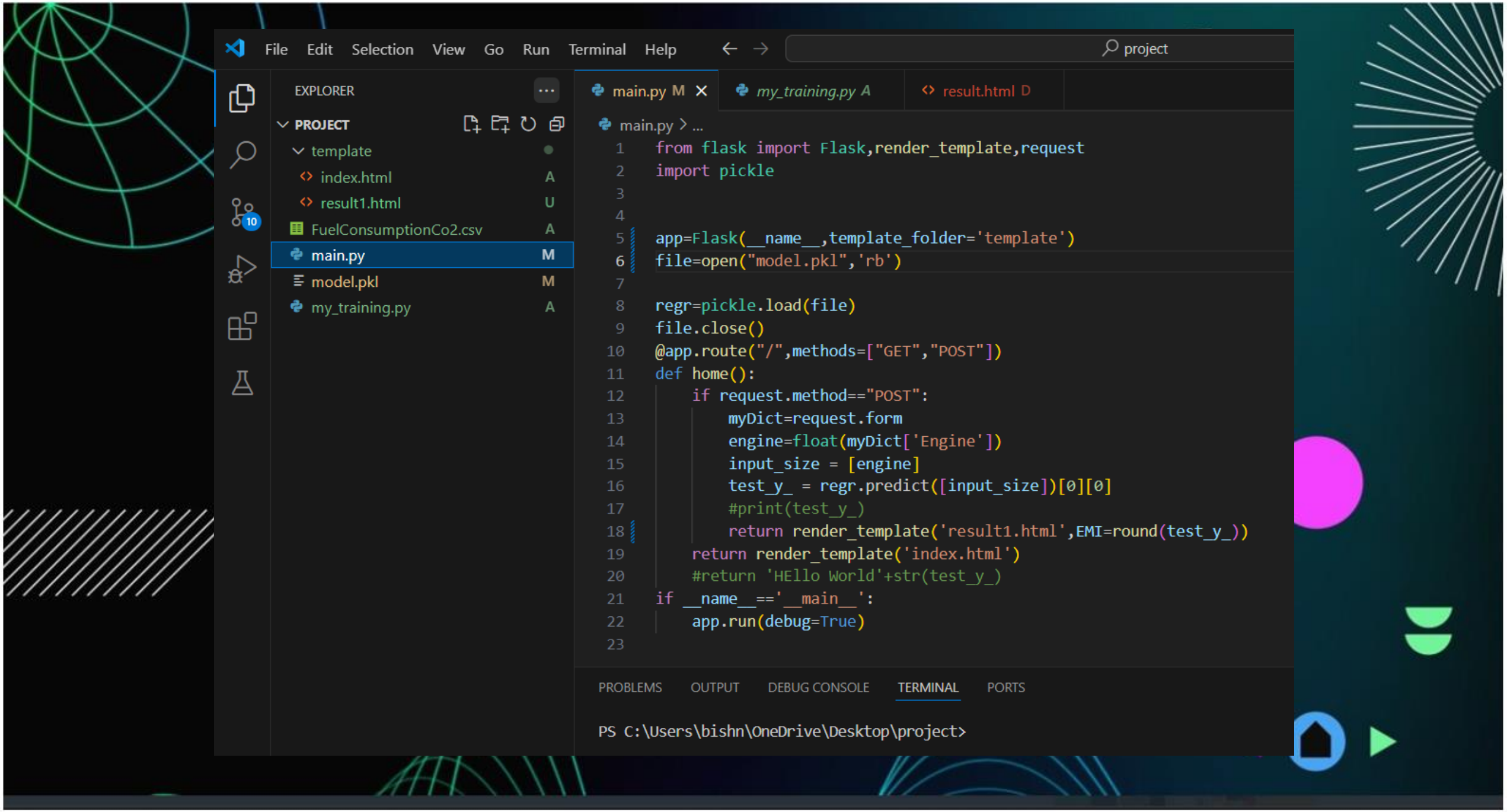
Issue date : 12-09-2024 certificate no: smpcpy001

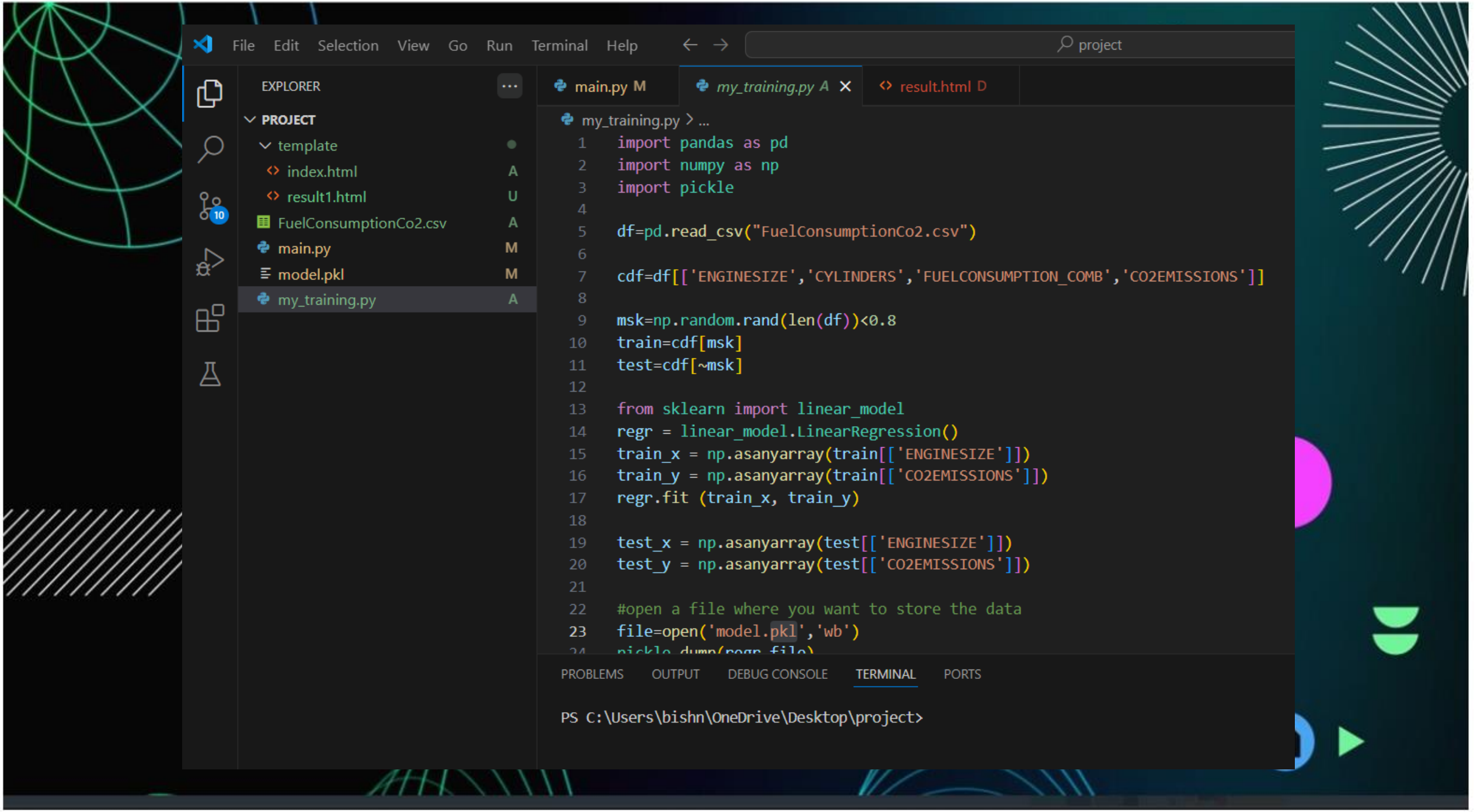
scan verify

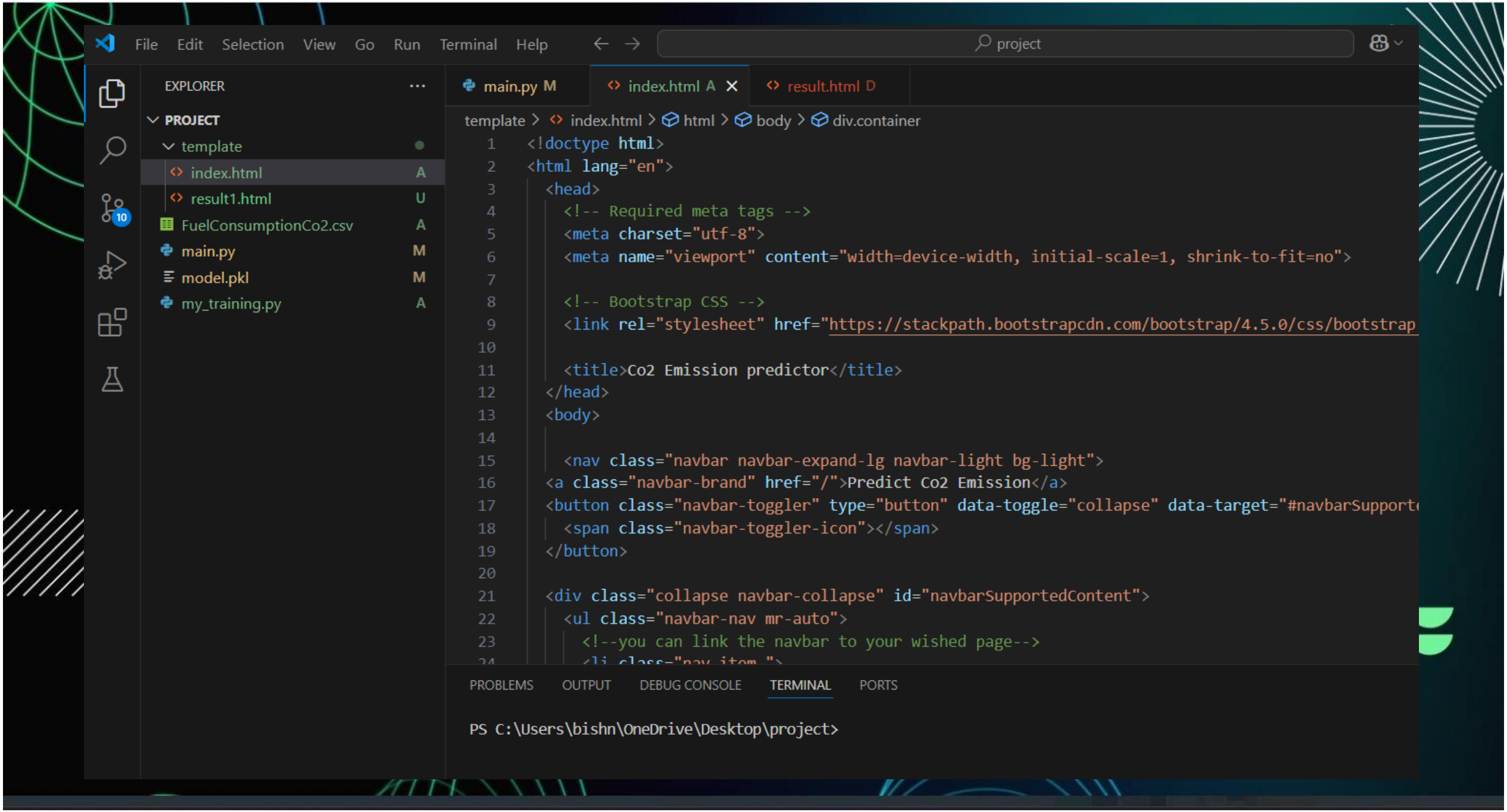
Shuvam Sahoo

Founder

Simplified computer

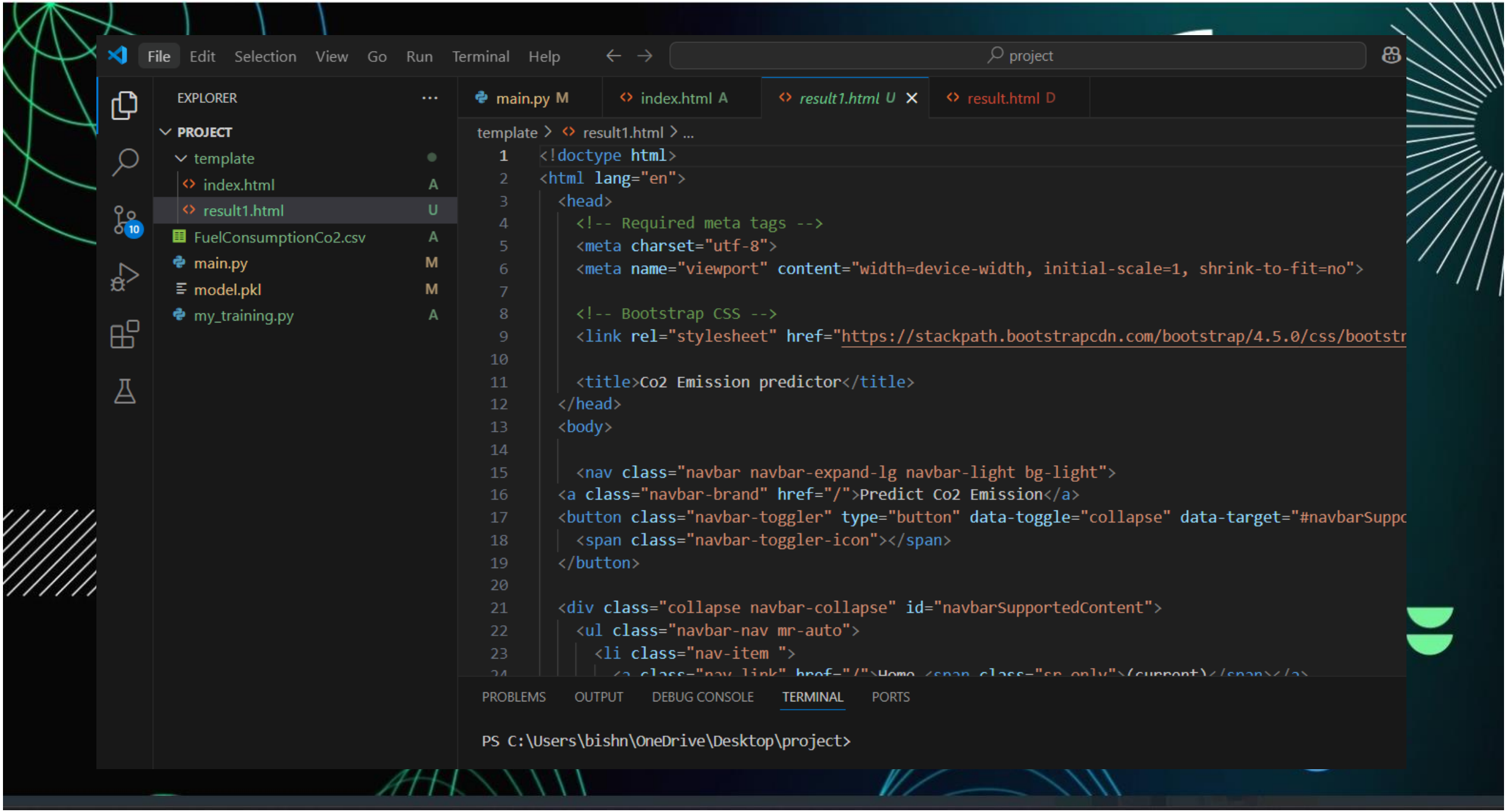

File Edit Selection View Go Run Terminal Help
project
EXPLORER
PROJECT
template
index.html A
result1.html U
FuelConsumptionCo2.csv A
main.py M
model.pkl M
my_training.py A
main.py M
my_training.py A
result.html D
main.py > ...
1 from flask import Flask,render_template,request
2 import pickle
3
4
5 app=Flask(__name__,template_folder='template')
6 file=open("model.pkl",'rb')
7
8 regr=pickle.load(file)
9 file.close()
10 @app.route("/",methods=["GET","POST"])
11 def home():
12 if request.method=="POST":
13 myDict=request.form
14 engine=float(myDict['Engine'])
15 input_size = [engine]
16 test_y_ = regr.predict([input_size])[0][0]
17 #print(test_y_)
18 return render_template('result1.html',EMI=round(test_y_))
19 return render_template('index.html')
20 #return 'HEllo World'+str(test_y_)
21 if __name__=='__main__':
22 app.run(debug=True)
23
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\bishn\OneDrive\Desktop\project>

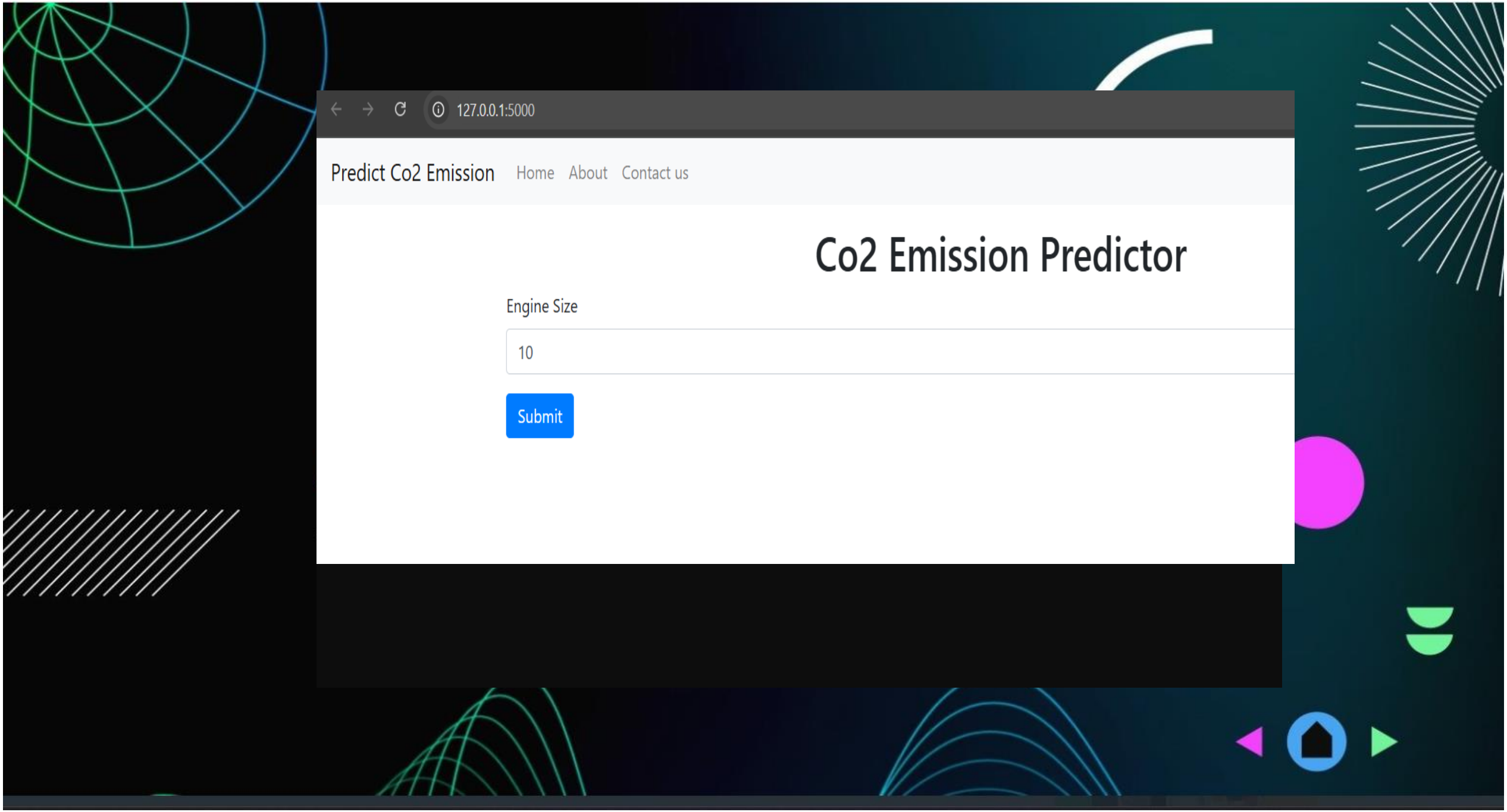

File Edit Selection View Go Run Terminal Help
project
EXPLORER
PROJECT
template
index.html A
result1.html U
FuelConsumptionCo2.csv A
main.py M
model.pkl M
my_training.py A
main.py M
my_training.py A
result.html D
my_training.py > ...
1 import pandas as pd
2 import numpy as np
3 import pickle
4
5 df=pd.read_csv("FuelConsumptionCo2.csv")
6
7 cdf=df[['ENGINESIZE','CYLINDERS','FUELCONSUMPTION_COMB','CO2EMISSIONS']]
8
9 msk=np.random.rand(len(df))<0.8
10 train=cdf[msk]
11 test=cdf[~msk]
12
13 from sklearn import linear_model
14 regr = linear_model.LinearRegression()
15 train_x = np.asanyarray(train[['ENGINESIZE']])
16 train_y = np.asanyarray(train[['CO2EMISSIONS']])
17 regr.fit (train_x, train_y)
18
19 test_x = np.asanyarray(test[['ENGINESIZE']])
20 test_y = np.asanyarray(test[['CO2EMISSIONS']])
21
22 #open a file where you want to store the data
23 file=open('model.pkl','wb')
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\bishn\OneDrive\Desktop\project>

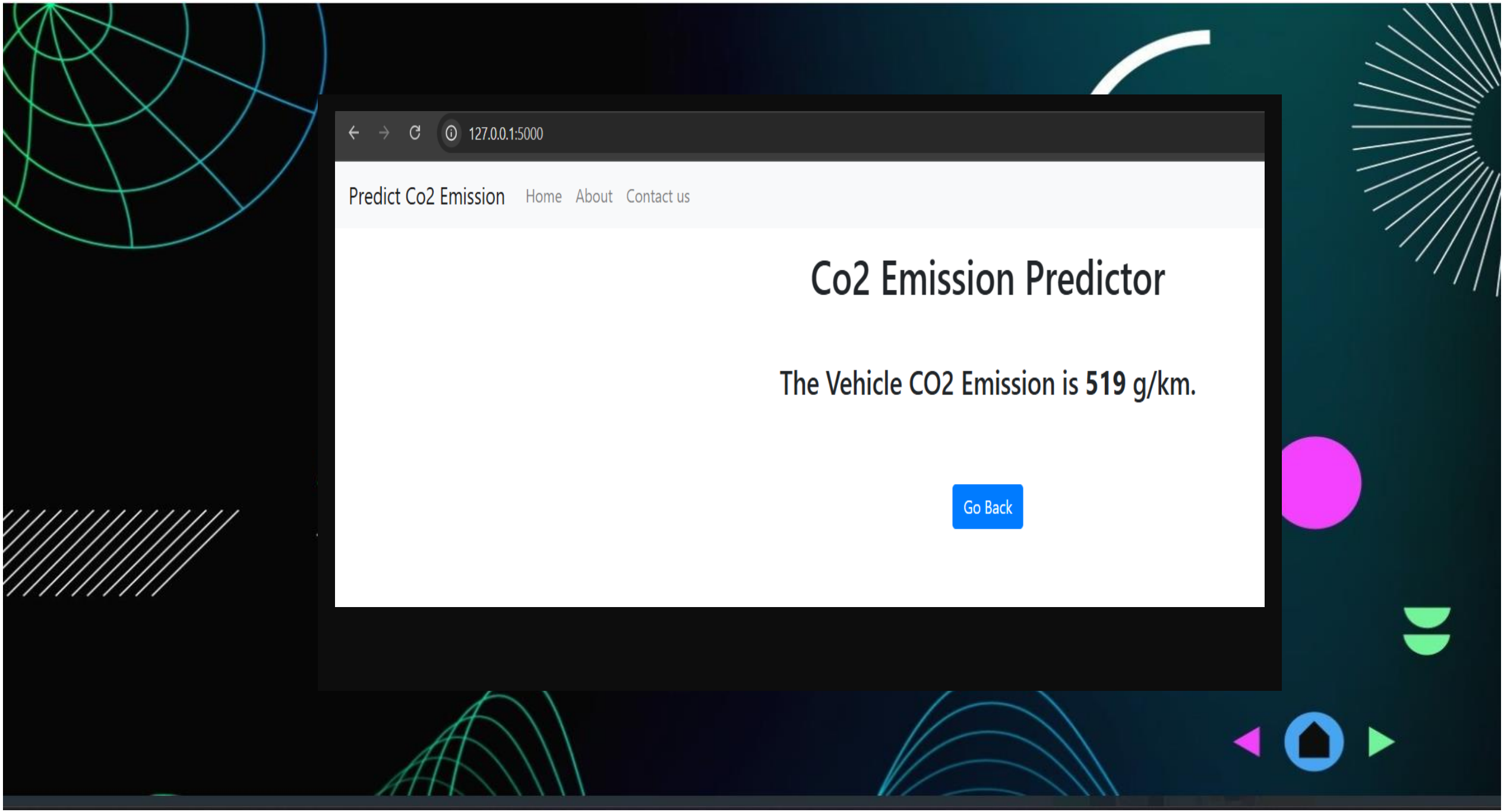

File Edit Selection View Go Run Terminal Help
project
EXPLORER
PROJECT
template
index.html A
result1.html U
FuelConsumptionCo2.csv A
main.py M
model.pkl M
my_training.py A
main.py M
index.html A
result.html D
template > index.html > html > body > div.container
<!doctype html>
<html lang="en">
<head>
<!-- Required meta tags -->
<meta charset="utf-8">
<meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
<!-- Bootstrap CSS -->
<link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstrap
<title>Co2 Emission predictor</title>
</head>
<body>
<nav class="navbar navbar-expand-lg navbar-light bg-light">
Predict Co2 Emission
<button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarSupporte

</button>

<ul class="navbar-nav mr-auto">
<!--you can link the navbar to your wished page-->
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\bishn\OneDrive\Desktop\project>


File Edit Selection View Go Run Terminal Help
project
EXPLORER
PROJECT
template
index.html A
result1.html U
FuelConsumptionCo2.csv A
main.py M
model.pkl M
my_training.py A
main.py M
index.html A
result1.html U
result.html D
template > result1.html > ...
1 <!doctype html>
2 <html lang="en">
3 <head>
4 <!-- Required meta tags -->
5 <meta charset="utf-8">
6 <meta name="viewport" content="width=device-width, initial-scale=1, shrink-to-fit=no">
7
8 <!-- Bootstrap CSS -->
9 <link rel="stylesheet" href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.0/css/bootstr
10
11 <title>Co2 Emission predictor</title>
12 </head>
13 <body>
14
15 <nav class="navbar navbar-expand-lg navbar-light bg-light">
16 Predict Co2 Emission
17 <button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarSuppc
18
19 </button>
20
21
22 <ul class="navbar-nav mr-auto">
23 <li class="nav-item ">
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS C:\Users\bishn\OneDrive\Desktop\project>


127.0.0.1:5000
Predict Co2 Emission
Home
About
Contact us
Co2 Emission Predictor
Engine Size
10
Submit


127.0.0.1:5000
Predict Co2 Emission
Home
About
Contact us
Co2 Emission Predictor
The Vehicle CO2 Emission is 519 g/km.
Go Back

CO2 Emission by Vehicles

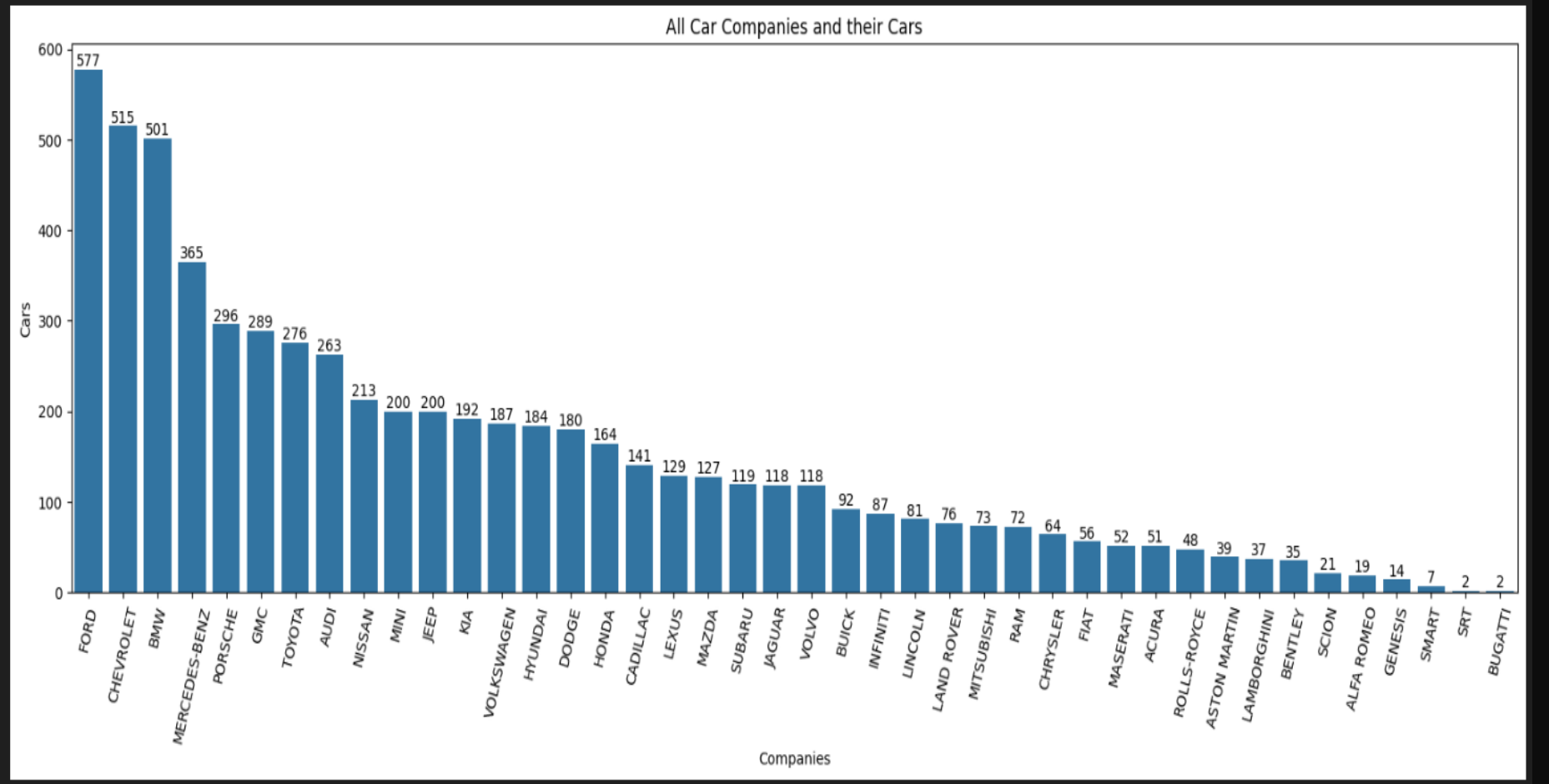
Business Objective

- The fundamental goal here is to model the CO2 emissions as a function of several car engines features.

Data Set Details

The file contains the data for this example. Here the number of variables (columns) is 12, and the number of instances (rows) is 7385. In that way, this problem has the 12 following variables:

- make, car brand under study.
- model, the specific model of the car.
- vehicle_class, car body type of the car.
- engine_size, size of the car engine, in Litres.


All Car Companies and their Cars
Cars
Companies
0
100
200
300
400
500
600
577
515
501
365
296
289
276
263
213
200
200
192
187
184
180
164
141
129
127
119
118
118
92
87
81
76
73
72
64
56
52
51
48
39
37
35
21
19
14
7
2
2
FORD
CHEVROLET
BMW
MERCEDES-BENZ
PORSCHE
GMC
TOYOTA
AUDI
NISSAN
MINI
JEEP
KIA
VOLKSWAGEN
HYUNDAI
DODGE
HONDA
CADILLAC
LEXUS
MAZDA
SUBARU
JAGUAR
VOLVO
BUICK
INFINITI
LINCOLN
LAND ROVER
MITSUBISHI
RAM
CHRYSLER
FIAT
MASERATI
ACURA
ROLLS-ROYCE
ASTON MARTIN
LAMBORGHINI
BENTLEY
SCION
ALFA ROMEO
GENESIS
SMART
SRT
BUGATTI