

Project Report (Heroku)

Name: 500_Person_Gender_Height_Weight_Index

Report date: September 3, 2021

Internship Batch: LISUM02

Version: 1.0

Project by: Melisa Gözet

Data intake reviewer:

Data storage location: <https://www.kaggle.com/yersever/500-person-gender-height-weight-bodymassindex>

Project Location: https://github.com/melisagozet/BMI_Predict_on_Flask.git

Context

Body mass index is a value derived from the mass and height of a person. The BMI is defined as the body mass divided by the square of the body height, and is expressed in units of kg/m^2 , resulting from mass in kilograms and height in metres.

Content

The dataset contains information about gender, height, weight and BMI index of individuals

Gender : Male / Female

Height : Number (cm)

Weight : Number (Kg)

Index

0 - Extremely Weak

1 - Weak

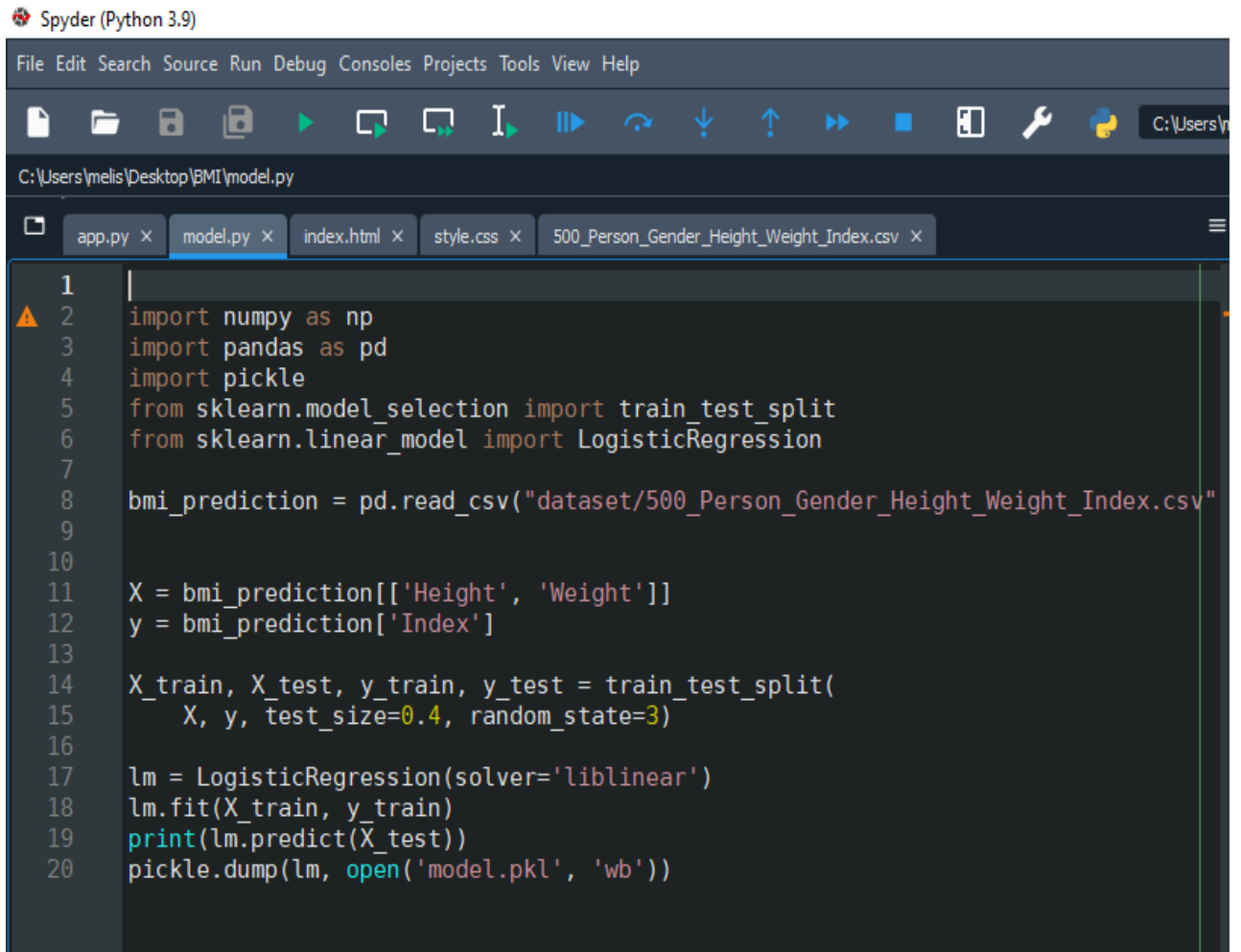
2 - Normal

3 - Overweight

4 - Obesity

5 - Extreme Obesity

1. Modeling the dataset “500_Person_Gender_Height_Weight_Index.csv”

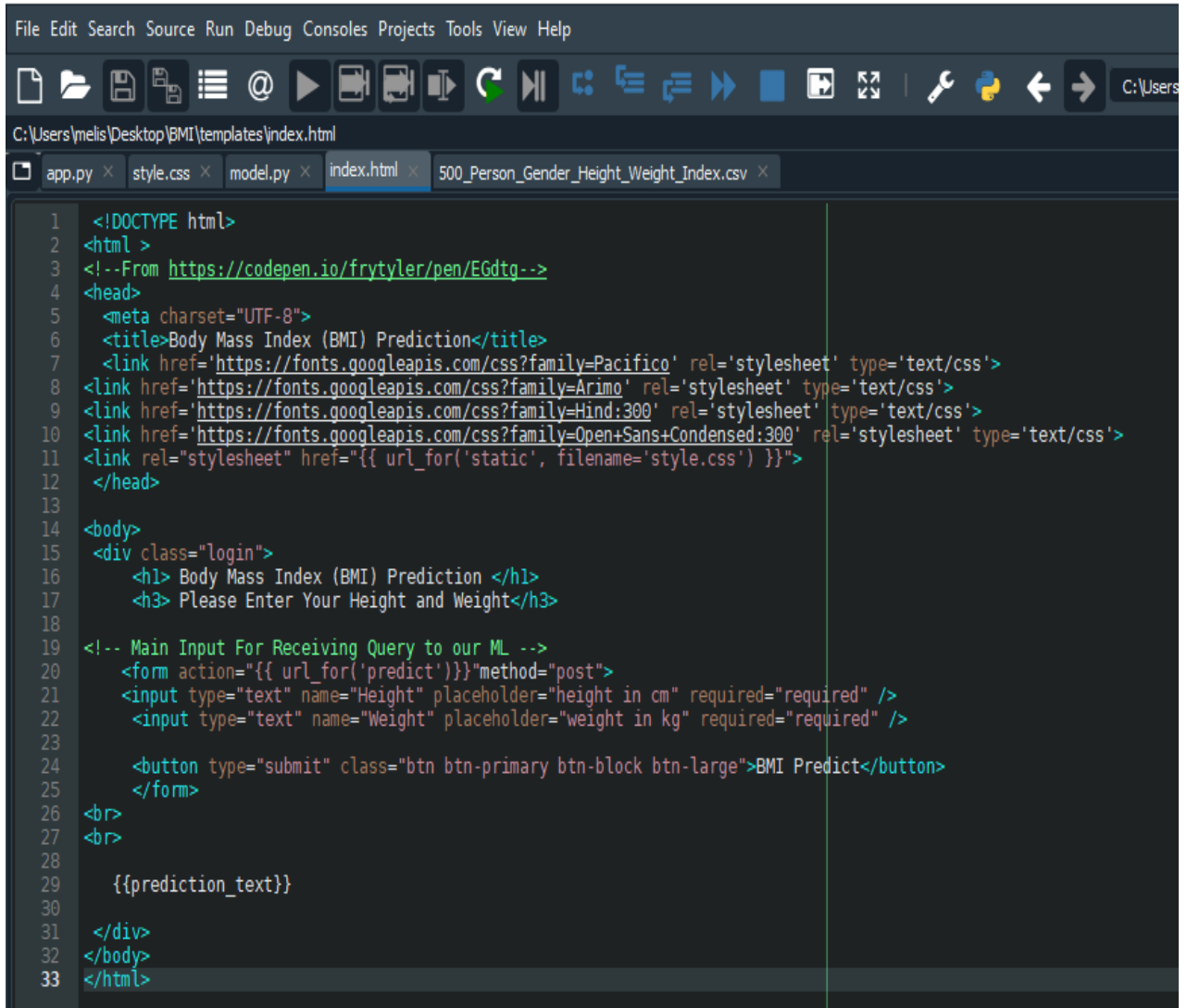


The image shows the Spyder Python IDE interface. The top menu bar includes File, Edit, Search, Source, Run, Debug, Consoles, Projects, Tools, View, and Help. Below the menu is a toolbar with icons for file operations and execution. The current file path is C:\Users\melis\Desktop\BMI\model.py. The editor shows a Python script with the following code:

```
1 |
2 import numpy as np
3 import pandas as pd
4 import pickle
5 from sklearn.model_selection import train_test_split
6 from sklearn.linear_model import LogisticRegression
7
8 bmi_prediction = pd.read_csv("dataset/500_Person_Gender_Height_Weight_Index.csv")
9
10
11 X = bmi_prediction[['Height', 'Weight']]
12 y = bmi_prediction['Index']
13
14 X_train, X_test, y_train, y_test = train_test_split(
15     X, y, test_size=0.4, random_state=3)
16
17 lm = LogisticRegression(solver='liblinear')
18 lm.fit(X_train, y_train)
19 print(lm.predict(X_test))
20 pickle.dump(lm, open('model.pkl', 'wb'))
```


2. HTML codes (index.html)

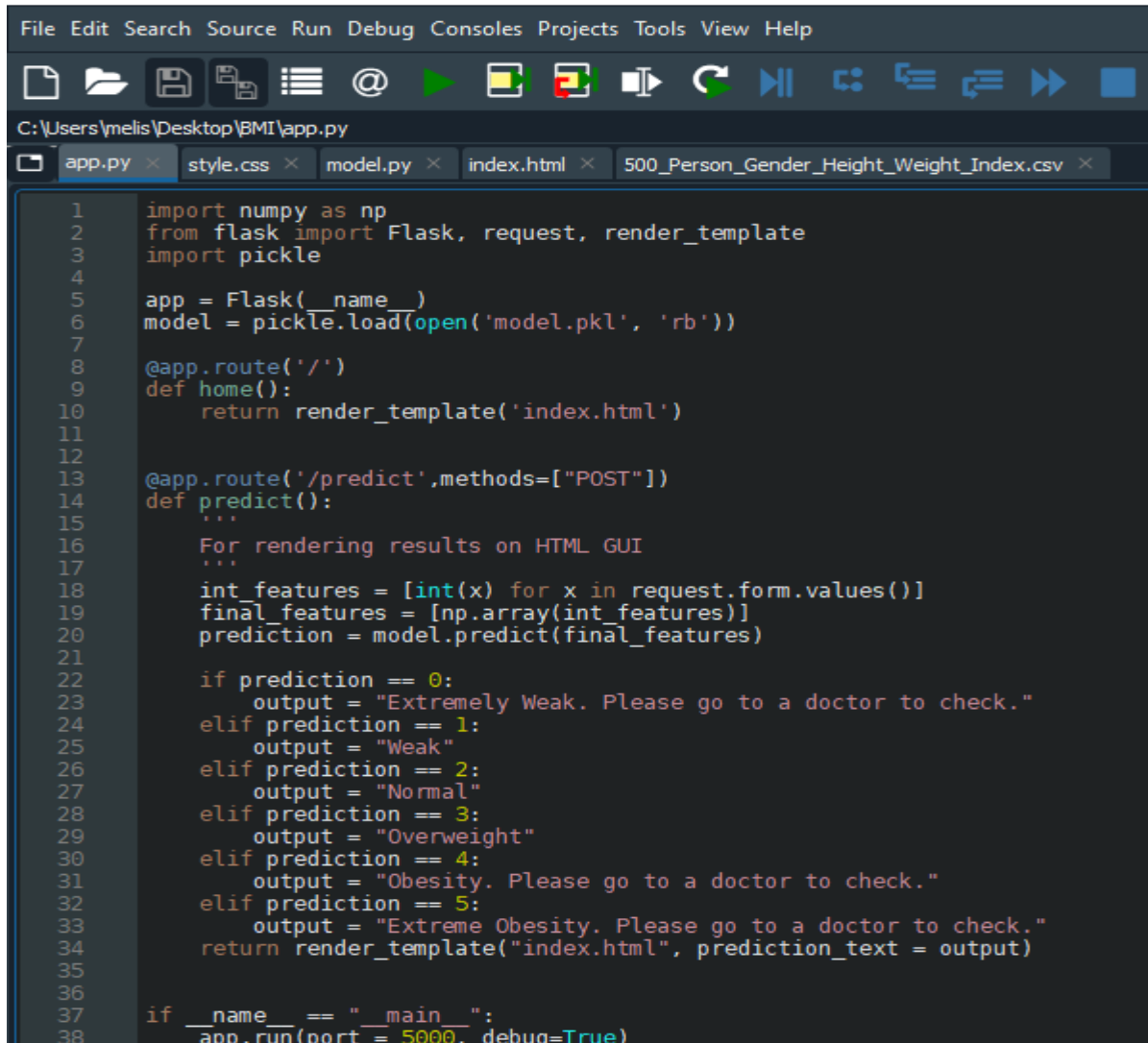
Spyder (Python 3.8)



```
1 <!DOCTYPE html>
2 <html>
3 <!--From https://codepen.io/frytyler/pen/EGdtg-->
4 <head>
5   <meta charset="UTF-8">
6   <title>Body Mass Index (BMI) Prediction</title>
7   <link href='https://fonts.googleapis.com/css?family=Pacifico' rel='stylesheet' type='text/css'>
8   <link href='https://fonts.googleapis.com/css?family=Arimo' rel='stylesheet' type='text/css'>
9   <link href='https://fonts.googleapis.com/css?family=Hind:300' rel='stylesheet' type='text/css'>
10  <link href='https://fonts.googleapis.com/css?family=Open+Sans+Condensed:300' rel='stylesheet' type='text/css'>
11  <link rel="stylesheet" href="{{ url_for('static', filename='style.css') }}">
12 </head>
13
14 <body>
15   <div class="login">
16     <h1> Body Mass Index (BMI) Prediction </h1>
17     <h3> Please Enter Your Height and Weight</h3>
18
19     <!-- Main Input For Receiving Query to our ML -->
20     <form action="{{ url_for('predict')}}" method="post">
21       <input type="text" name="Height" placeholder="height in cm" required="required" />
22       <input type="text" name="Weight" placeholder="weight in kg" required="required" />
23
24       <button type="submit" class="btn btn-primary btn-block btn-large">BMI Predict</button>
25     </form>
26
27     <br>
28     {{prediction_text}}
29
30   </div>
31 </body>
32 </html>
```

3. app.py

 Spyder (Python 3.8)



```
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('model.pkl', 'rb'))
7
8 @app.route('/')
9 def home():
10     return render_template('index.html')
11
12
13 @app.route('/predict', methods=["POST"])
14 def predict():
15     """
16     For rendering results on HTML GUI
17     """
18     int_features = [int(x) for x in request.form.values()]
19     final_features = [np.array(int_features)]
20     prediction = model.predict(final_features)
21
22     if prediction == 0:
23         output = "Extremely Weak. Please go to a doctor to check."
24     elif prediction == 1:
25         output = "Weak"
26     elif prediction == 2:
27         output = "Normal"
28     elif prediction == 3:
29         output = "Overweight"
30     elif prediction == 4:
31         output = "Obesity. Please go to a doctor to check."
32     elif prediction == 5:
33         output = "Extreme Obesity. Please go to a doctor to check."
34     return render_template("index.html", prediction_text = output)
35
36
37 if __name__ == "__main__":
38     app.run(port = 5000, debug=True)
```

4. Converting notebook to .py file and running python code

```
Microsoft Windows [Version 10.0.19043.1165]
(c) Microsoft Corporation. Tüm hakları saklıdır.

C:\Users\melis>cd desktop
C:\Users\melis\Desktop>cd BMI
C:\Users\melis\Desktop\BMI>python app.py
* Serving Flask app "app" (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 windowsapi reloader
* Debugger is active!
* Debugger PIN: 280-934-384
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)
```

5. Examples of the model

The top screenshot shows a web browser at 127.0.0.1:5000. The page has a dark blue gradient background. The title is "Body Mass Index (BMI) Prediction". Below the title is the instruction "Please Enter Your Height and Weight". There are two input fields: the first contains "190" and the second contains "85". Below these fields is a blue button labeled "BMI Predict".

The bottom screenshot shows the same web browser at 127.0.0.1:5000/predict. The page displays the same title and instruction. The input fields now contain "height in cm" and "weight in kg". Below these fields is a blue button labeled "BMI Predict". At the bottom of the page, the text "Obesity. Please go to a doctor to check." is displayed.

← → ↻ 🏠 ⓘ 127.0.0.1:5000/predict ☆ 🖨 ⚙ 👤 ⋮

Body Mass Index (BMI) Prediction

Please Enter Your Height and Weight

160

45

BMI Predict

Extremely Weak. Please go to a doctor to check.

← → ↻ 🏠 ⓘ 127.0.0.1:5000/predict ☆ 🖨 ⚙ 👤 ⋮

Body Mass Index (BMI) Prediction

Please Enter Your Height and Weight

172

75

BMI Predict

← → ↻ 🏠 ⓘ 127.0.0.1:5000/predict ☆ 🖨 ⚙ 👤 ⋮

Body Mass Index (BMI) Prediction

Please Enter Your Height and Weight

height in cm

weight in kg

BMI Predict

Normal

6. Heroku

Connecting Heroku with my Github account

← → ↻ 🏠 dashboard.heroku.com/apps/bmi-predict/deploy/github ☆ 🔍 📄 📱

HEROKU Jump to Favorites, Apps, Pipelines, Spaces...

Create a new pipeline or choose an existing one and add this app to a stage in it.

Pipelines let you connect multiple apps together and **promote code** between them. [Learn more](#)

Pipelines connected to GitHub can enable **review apps**, and create apps for new pull requests. [Learn more](#)

Choose a pipeline

Deployment method

Heroku Git Use Heroku CLI

GitHub **Connected**

Container Registry Use Heroku CLI

App connected to GitHub

Code diffs, manual and auto deploys are available for this app.

Connected to [mellsagozet/BMI_Predict_Model_Deployment_in_Heroku](#) by [mellsagozet](#) [Disconnect...](#)

Releases in the [activity feed](#) link to GitHub to view commit diffs

Deploy a GitHub branch

This will deploy the current state of the branch you specify below. [Learn more](#).

Choose a branch to deploy

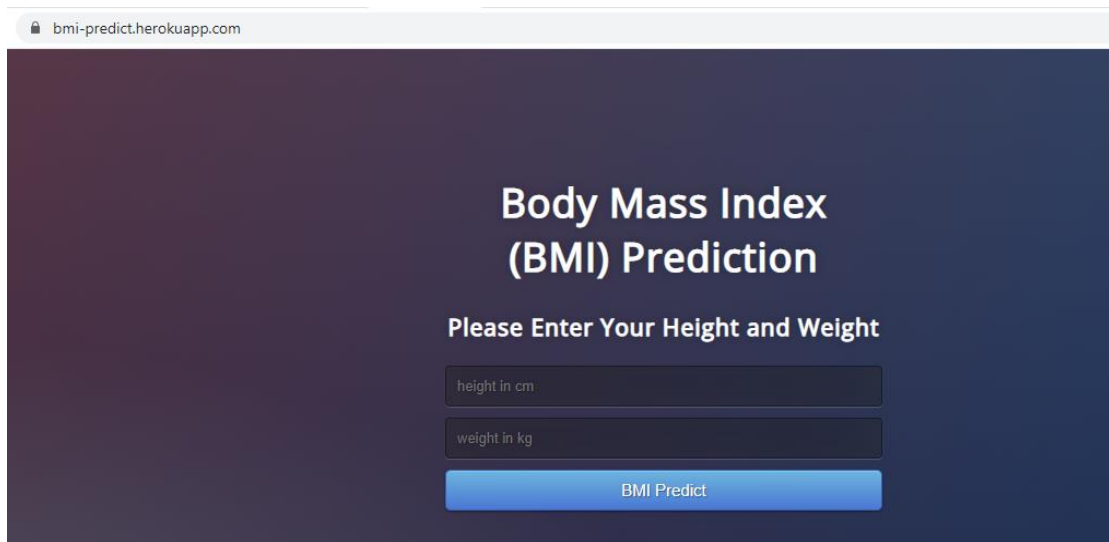
[Deploy Branch](#)

Receive code from GitHub	✓
Build main 18ab00d0	✓
Release phase	✓
Deploy to Heroku	✓

Your app was successfully deployed.

[View](#)

7. <https://bmi-predict.herokuapp.com/>



bmi-predict.herokuapp.com

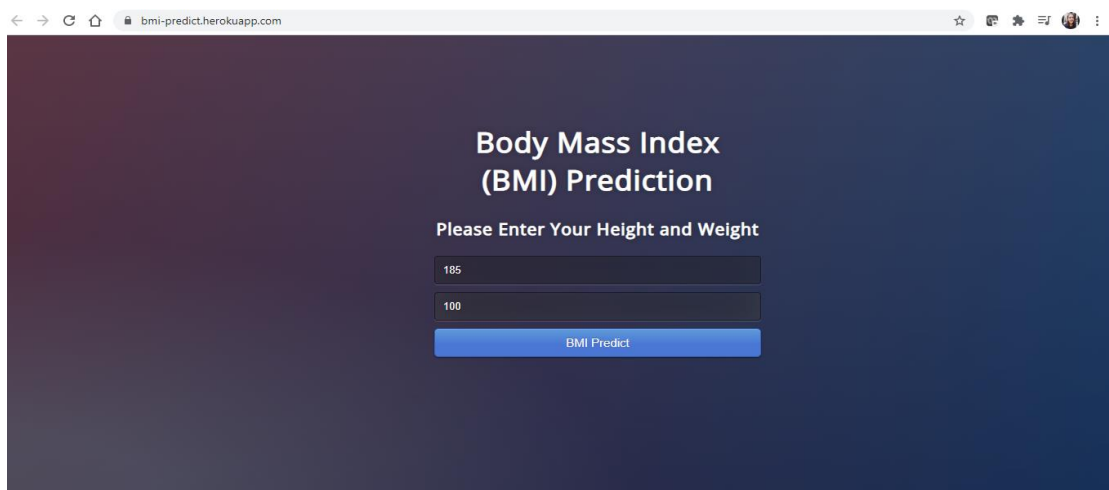
Body Mass Index (BMI) Prediction

Please Enter Your Height and Weight

height in cm

weight in kg

BMI Predict



bmi-predict.herokuapp.com

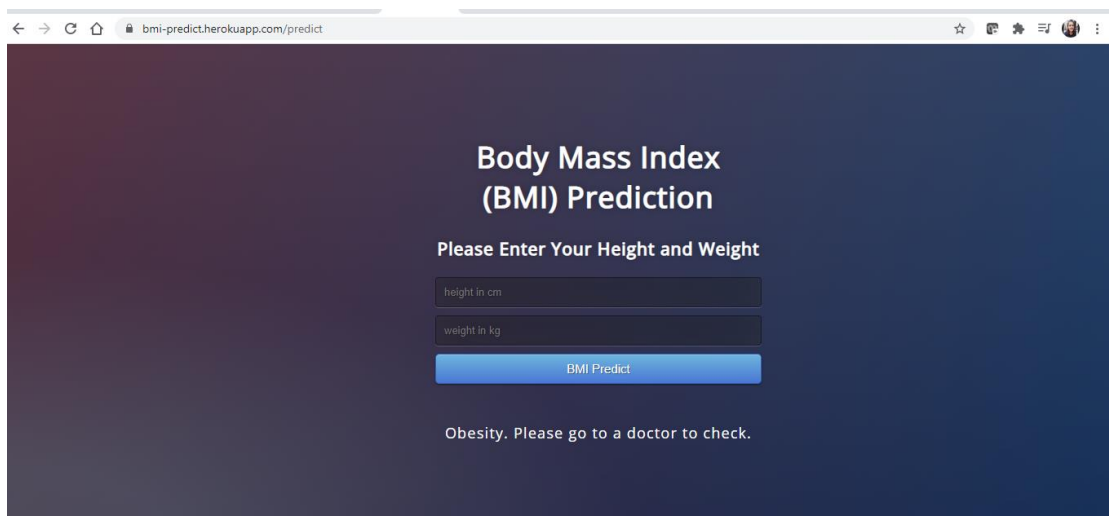
Body Mass Index (BMI) Prediction

Please Enter Your Height and Weight

185

100

BMI Predict



bmi-predict.herokuapp.com/predict

Body Mass Index (BMI) Prediction

Please Enter Your Height and Weight

height in cm

weight in kg

BMI Predict

Obesity. Please go to a doctor to check.