



FIT PREDICT

PREDICT . PLAN . PROGRESS

who we Are?

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Overview

THIS PROJECT AIMS TO DEVELOP A MACHINE LEARNING MODEL THAT CAN
ANALYSE VARIOUS HEALTH PARAMETERS TO DETECT OBESITY AND ADVICES
WEIGHT MANAGEMENT TECHNIQUES.



MODEL 1

ESTIMATE BODY FAT THAT DO NOT REQUIRE THE INCONVENIENT OR EXPENSIVE ACQUISITION OF AN ACCURATE SCALE.



MODEL 2

EXAMINE THE CORRELATION BETWEEN A VARIETY OF LIFESTYLE FACTORS AND INDIVIDUAL OBESITY LEVELS.



MODEL #3

DELIVER PERSONALIZED EXERCISE PLANS BASED ON INDIVIDUALS' PHYSICAL ATTRIBUTES, AND GENDER TO HELP THEM EFFICIENTLY AND SAFELY REACH THEIR FITNESS GOALS.

AIM OF EACH MODEL

Tech Stack

- PYTHON
- STREAMLIT

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font-size: 5px;
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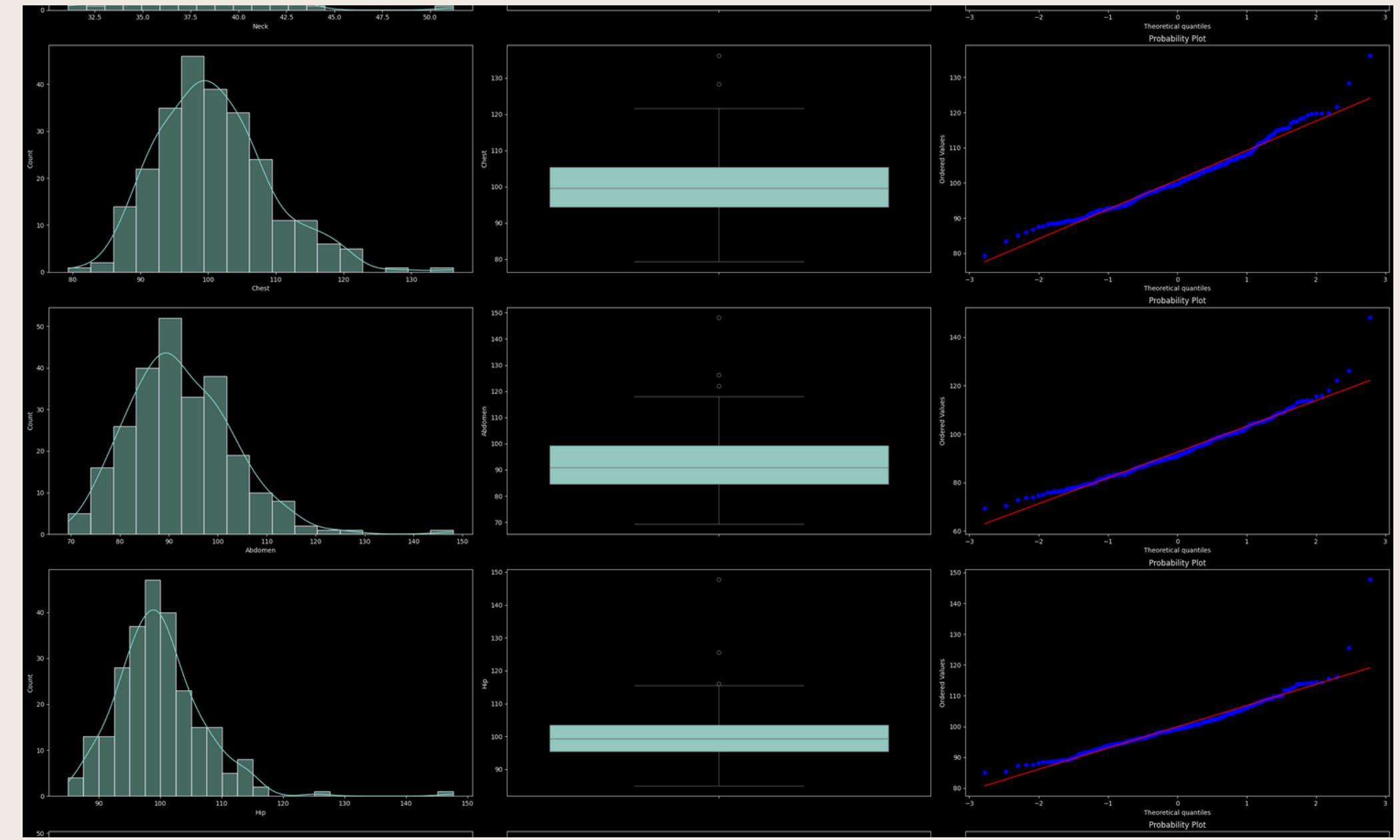
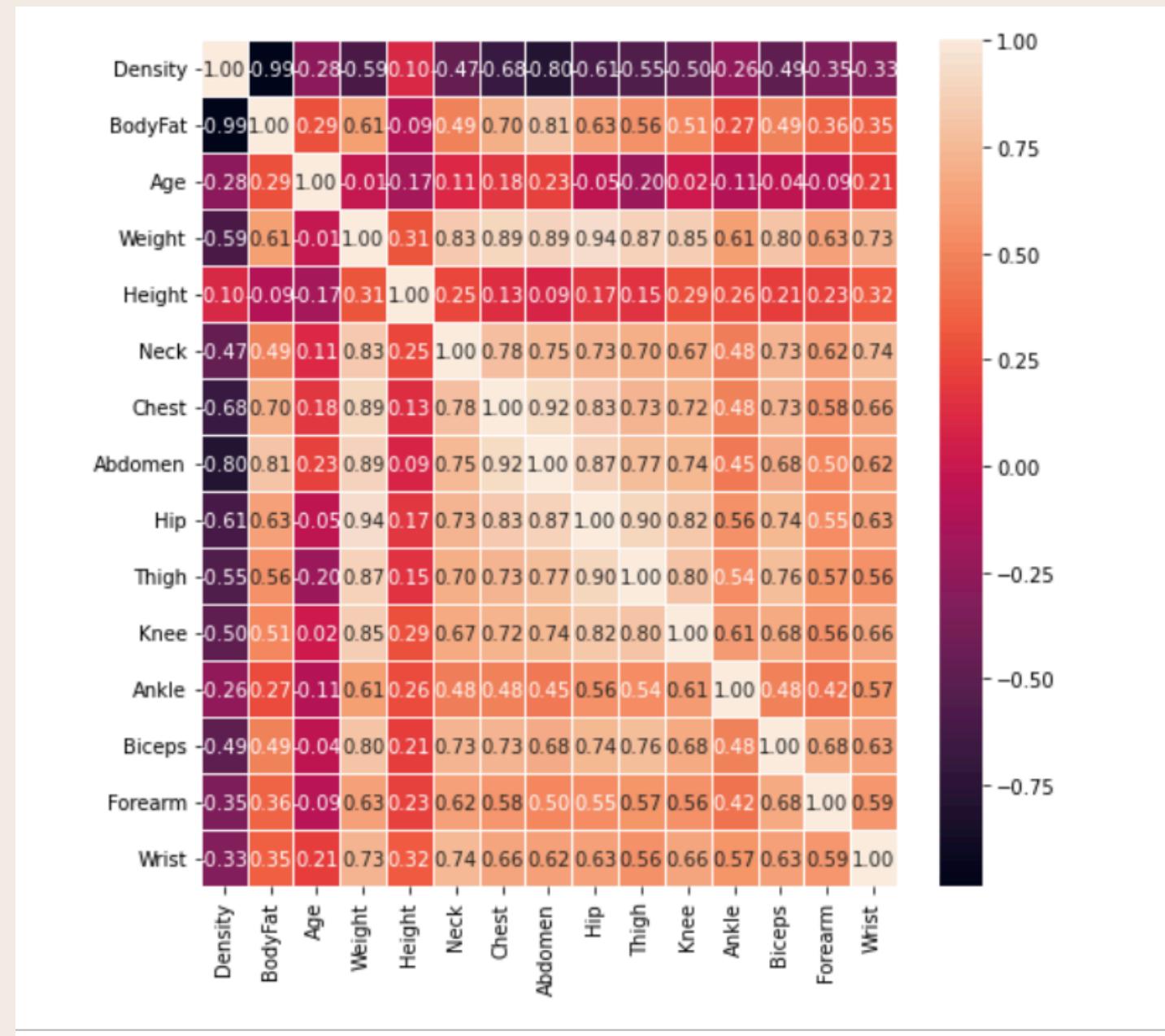
6   }
7   .box{
8     position: absolute;
9     top: 50%;
10    left: 50%;
11    transform: translate(-50%, -50%);
12    width: 400px;
13    padding: 40px;
14    background: #fff;
15    box-sizing: border-box;
16    box-shadow: 0 15px 30px 0 #ccc;
17    border-radius: 10px;
18  }
19}
20.box h2{
21  margin: 0 0 30px;
22  padding: 0;
23  color: #fff;
24  text-align: center;
25}
26.box h3{
27  margin: 0 0 10px;
28  padding: 0;
29  color: #fff;
30  text-align: center;
31}
32.box .inputBox{
33  position: relative;
34}
35.box .inputBox input{
```

Model 1

Body Fat Percentage
Prediction

MODEL USED: LINEAR REGRESSION

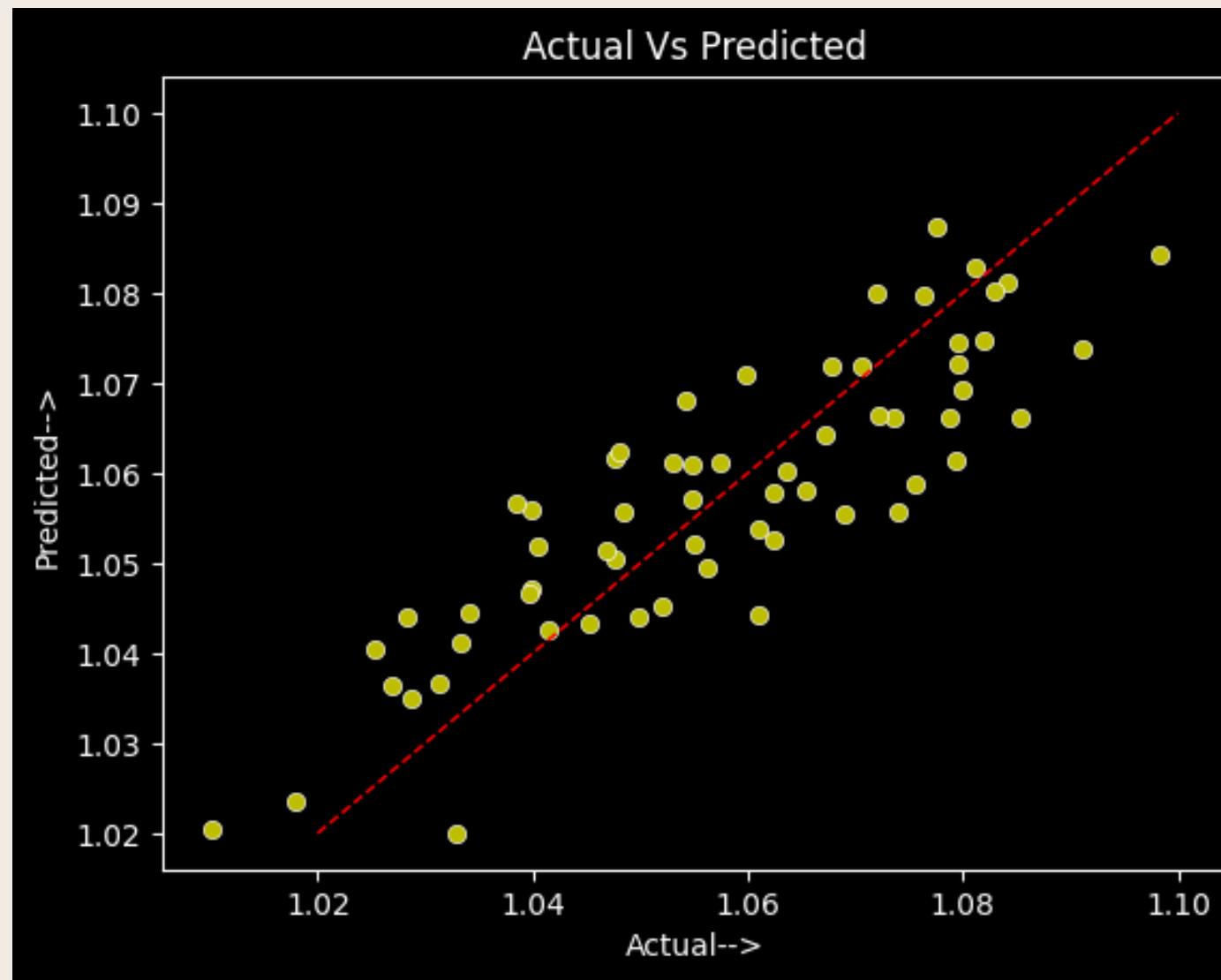
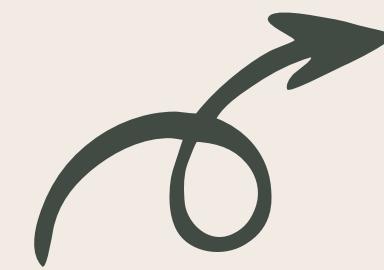
DATA DISTRIBUTION:



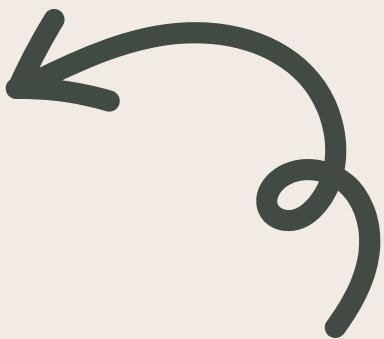
RESULTS

0.7384666193188041
0.010085459553433821

R2 AND RMSE
VALUES



REGRESSION
PLOT

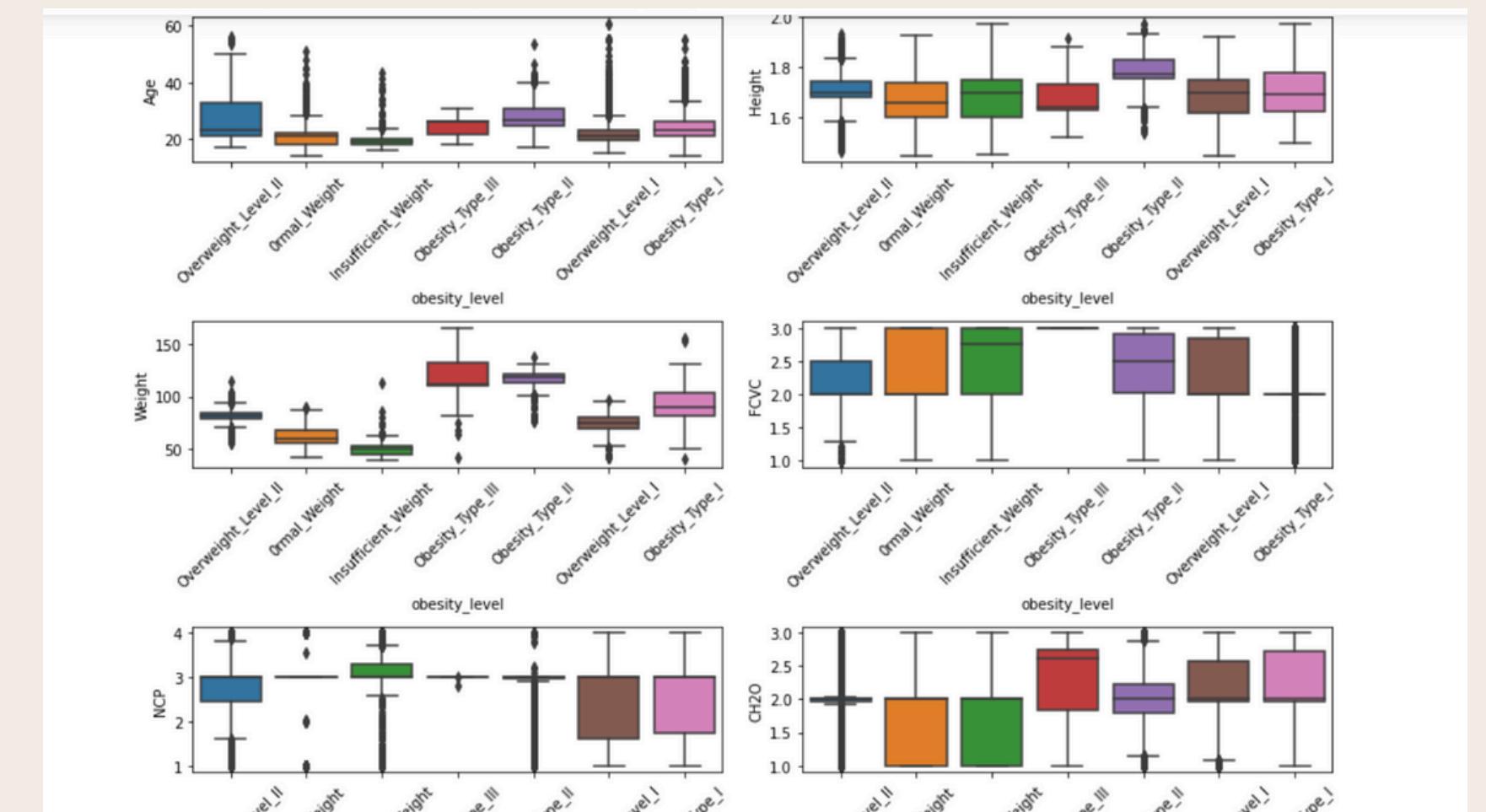
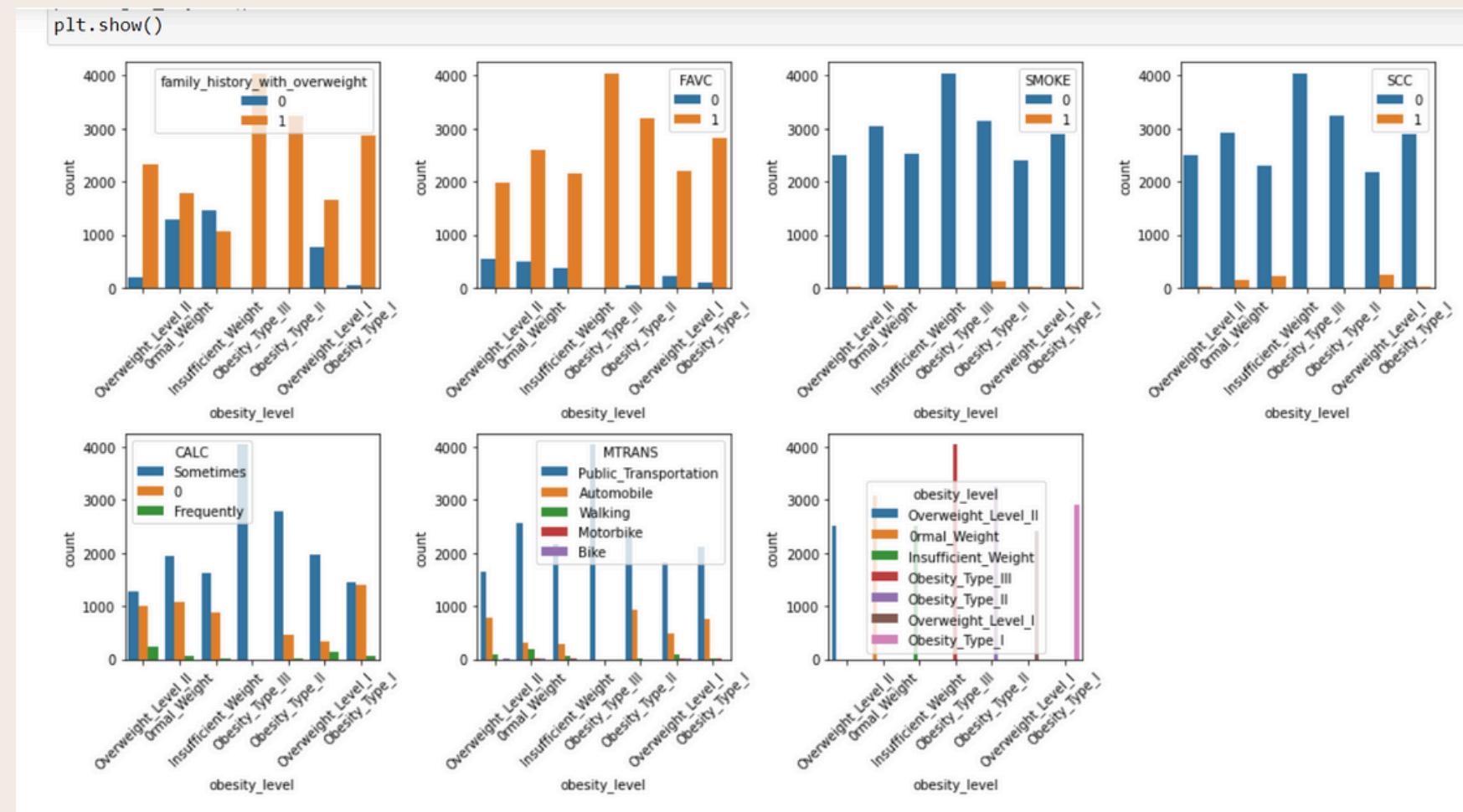


Model 2

Obesity Level Prediction

MODEL USED: RANDOM FOREST

DATA DISTRIBUTION:



RESULTS

Accuracy: 0.99884				
	precision	recall	f1-score	support
Normal_Weight	1.00	1.00	1.00	780
Insufficient_Weight	1.00	1.00	1.00	640
Obesity_Type_I	1.00	1.00	1.00	685
Obesity_Type_II	1.00	1.00	1.00	825
Obesity_Type_III	1.00	1.00	1.00	1017
Overweight_Level_I	1.00	1.00	1.00	611
Overweight_Level_II	1.00	1.00	1.00	632
accuracy			1.00	5190
macro avg	1.00	1.00	1.00	5190
weighted avg	1.00	1.00	1.00	5190

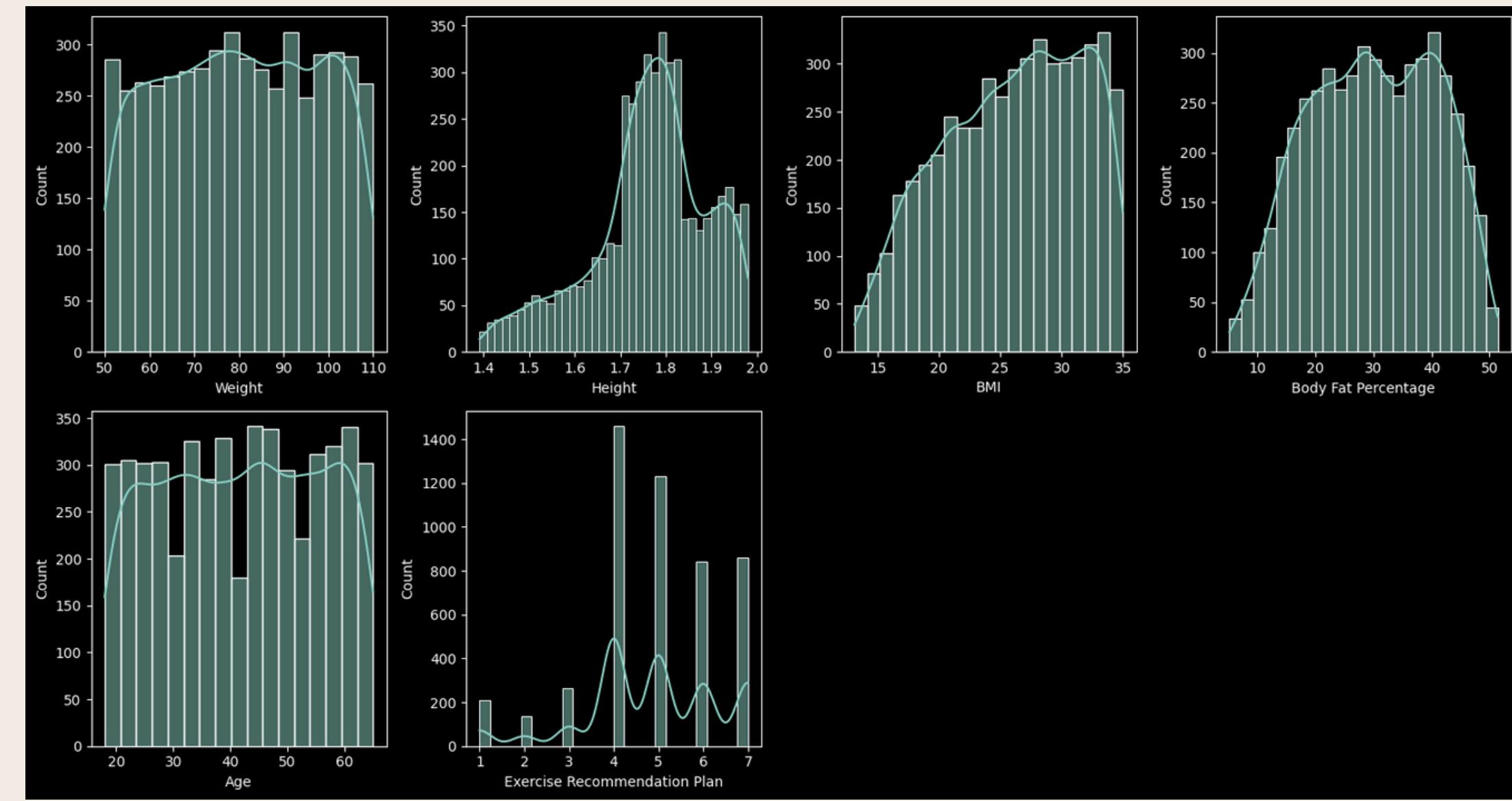
Accuracy = 99.88%

Model 3

Personalized Exercise
Plan Recommendation

MODEL USED: DECISION TREE

DATA DISTRIBUTION:



RESULTS

Accuracy: 0.998				
Classification Report:				
	precision	recall	f1-score	support
1	1.00	1.00	1.00	55
2	1.00	0.94	0.97	31
3	0.96	1.00	0.98	48
4	1.00	1.00	1.00	309
5	1.00	1.00	1.00	237
6	1.00	1.00	1.00	161
7	1.00	1.00	1.00	159
accuracy			1.00	1000
macro avg	0.99	0.99	0.99	1000
weighted avg	1.00	1.00	1.00	1000

Accuracy = 99.8%

INTERFACE

attachmentCircular202405111311 | Streamlit App Run | (1) WhatsApp | app · Streamlit | Obesity Risk Dataset

localhost:8501 Deploy :

Obesity Level Prediction

Age: 21.00

Height: 1.67

Weight: 52.00

FCVC: 2.00

NCP: 2.98

CH2O: 2.76

FAF: 1.95

TUE

30°C Mostly clear | Search | PRE | Mail | Bookmarks | msp | File | Google Sheets | OneDrive | Microsoft Edge | Chrome | Notepad | Word | Excel | ENG IN | 21:13 | 13-05-2024

thank
you!