AI POWERED NUTRITION ANALYZER FOR FITNESS ENTHUSIASTS

DOMAIN : ARTIFICIAL INTELLIGENCE

TEAM ID : PNT2022TMID25338

PROJECT REPORT

Submitted by

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INTRODUCTION

Food is essential for human life and has been the concern of many healthcare conventions. Eating a healthy, well-balanced diet is the most important aspect of living a healthy life. It supports healthy outcomes, aging, normal growth, and the growth of a sense of well-being. Additionally, it lowers the chance of developing cardiac and heart disorders and aids in maintaining a healthy body weight. As a result, nutritionists who are able to evaluate each individual based on the distinctive culinary traditions and lifestyles of that individual are in high demand.Identity and nutrition research are two areas in which artificial intelligence is needed in today's rapidly changing society.At the point when an enormous measure of information is expected for organizing and coordinating the metabolomics, man-made intelligence calculations will assist with determining the confounded non-direct connections in wellness related informational collections.

1.1. PROJECT OVERVIEW

The primary goal of the project is to create a model that will be used to categorise fruits according to their various attributes, such as colour, shape, and texture. Here, users can take pictures of various fruits, which are subsequently uploaded to a trained algorithm for analysis. The algorithm examines the image and determines the nutritious content of fruits such (Sugar, Fibre, Protein, Calories, etc.).

1.2. PURPOSE

Purpose of the AI powered Nutrition Analyzer is to help individuals who needs a proper nutrition assistant to achieve fitness ,to cure diseases through foods or to lead a healthy lifestyle. With the help of Artificial Intelligence , it was

possible to achieve a proper nutrition analyzer which is capable of showing the nutrition content of the food when we give the picture of it.

2.

LITERATURE SURVEY**2.1 EXISTING PROBLEM**

Controlled intake of nutrition is recommended as a condition forbeing a healthy individual. Knowing and monitoring how much food is consumed during the day, following the calorie and nutrition of these foods helps to control healthy nutrition. However there is no proper assistance to achieve it. Nutritional intake is fundamental to human growth and health, and the intake of different types of nutrients and micro-nutrients can affect health. The content of the diet affects the occurrence of disease, with the incidence of many diseases increasing each year while the age group at which they occur is gradually decreasing. The consumption of a wide variety of food items is necessary in order for the human body to obtain the right amounts of nutrients. Failing to follow such a well- balanced diet, in combination with a generally unhealthy way of living, has been shown to increase the risk for cardiovascular disease, type II diabetes and some forms of cancer.

2.2 REFERENCES

1.“Approximate Estimation of the Nutritions of Consumed Food by Deep Learning” by İbrahim Berkan Aydilek Published in 2017 International Conference on Computer Science and Engineering (UBMK), IEEE, 2017.

2.“Validation of a deep learning system for the full automation of bite and meal duration analysis of experimental meal videos”D Konstantinidis, K Dimitropoulos, B Langlet, PDaras… - Nutrients, 2020

3.“Precision Nutrient Management Using Artificial Intelligence Based on Digital Data Collection Framework” by Hsiu-An Lee, Tzu-Ting Huang, Lo-Hsien Yen,

Pin-Hua Wu, Kuan-Wen Chen, Hsin-Hua Kung, Chen-Yi Liu and Chien-Yeh Hsu

2.3 PROBLEM STATEMENT

Food is essential for human life and has been the concern of many healthcare conventions. Nowadays new dietary assessment and nutrition analysis tools enable more opportunities to help people understand their daily eating habits, exploring nutrition patterns and maintaining a healthy diet. Nutritional analysis is the process of determining the nutritional content of food. It is a vital part of analytical chemistry that provides information about the chemical composition, processing, quality control and contamination of food. The main aim of the project is to build a model which is used for classifying the fruit depending on the different characteristics like colour, shape, texture etc. Here the user can capture the images of different fruits and then the image will be sent to the trained model. The model analyzes the image and detects the nutrition based on the fruits like (Sugar, Fiber, Protein, Calories, etc.

To accomplish this, we have to complete all the activities and tasks listed below

- Data Collection.
    - Collect the dataset or Create the dataset
    - Data Preprocessing.
- Import the ImageDataGenerator library
- Configure ImageDataGenerator class
- ApplyImageDataGenerator functionality to Train Set and Test Set
    - Import the model building Libraries
    - Initializing the model
    - Adding Input Layer
    - Adding Hidden Layer
    - Adding Output Layer

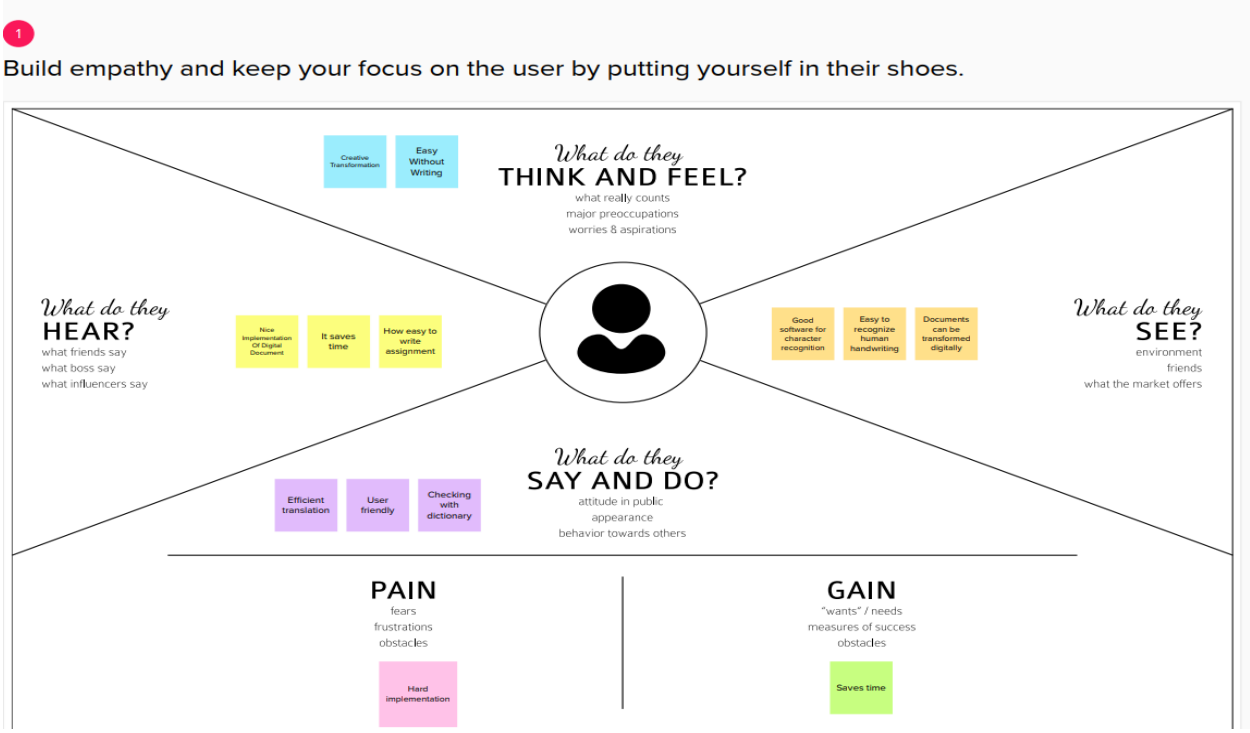
- Configure the Learning Process
- Training and testing the model
- Save the Model

- Application Building
  - Create an HTML file
  - Build Python Code

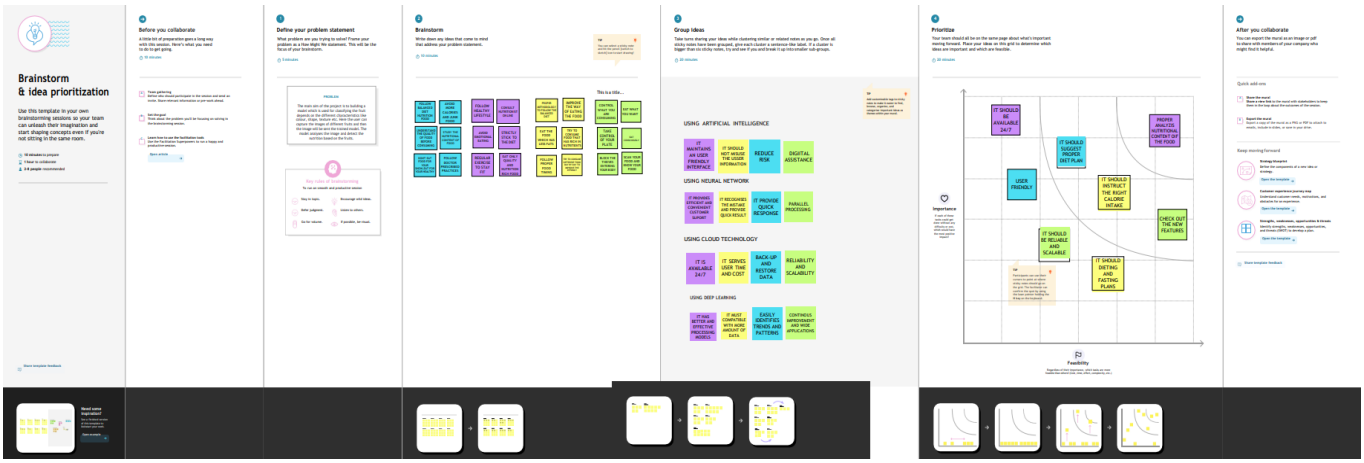
3. IDEATION & PROPOSED SOLUTION

3.1. EMPATHY MAP CANVAS

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviors and attitudes. It is a useful tool to help teams better understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.



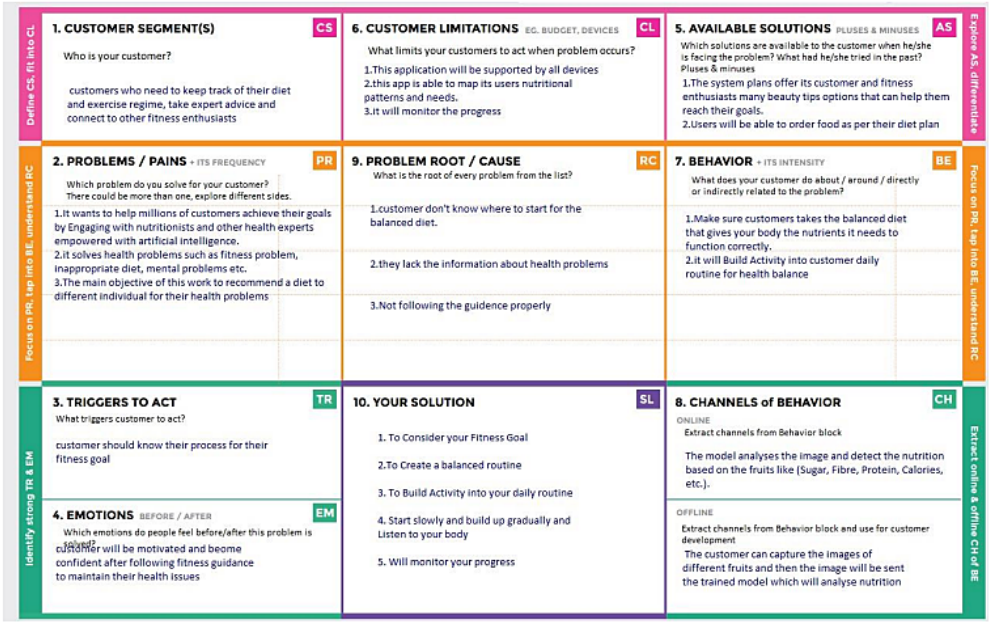
3.2. IDEATION & BRAINSTORMING



3.3. PROPOSED SOLUTION

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	A nutrition analyzer with AI powered fruit classifier based on the features to provide nutritional values like fiber, vitamins, minerals, etc to Fitness Enthusiasts.
2.	Idea / Solution description	Constructing a web interface application to track the nutrient content of fruit and monitor people's health, and assisting people in health status.
3.	Novelty / Uniqueness	CNN based fruit classifier that supports nutrition analyzer that provides nutrition values of the fruit.
4.	Social Impact / Customer Satisfaction	People can concentrate on their regular tasks and jobs by enhancing their health.
5.	Business Model (Revenue Model)	Offering monthly or yearly subscription for premium features.
6.	Scalability of the Solution	For now the nutrition analyzer is limited to mostly fruits only, which can be scaled to other foods.

3.4. PROBLEM SOLUTION FIT



4. REQUIREMENTS ANALYSIS

4.1. FUNCTIONAL REQUIREMENTS

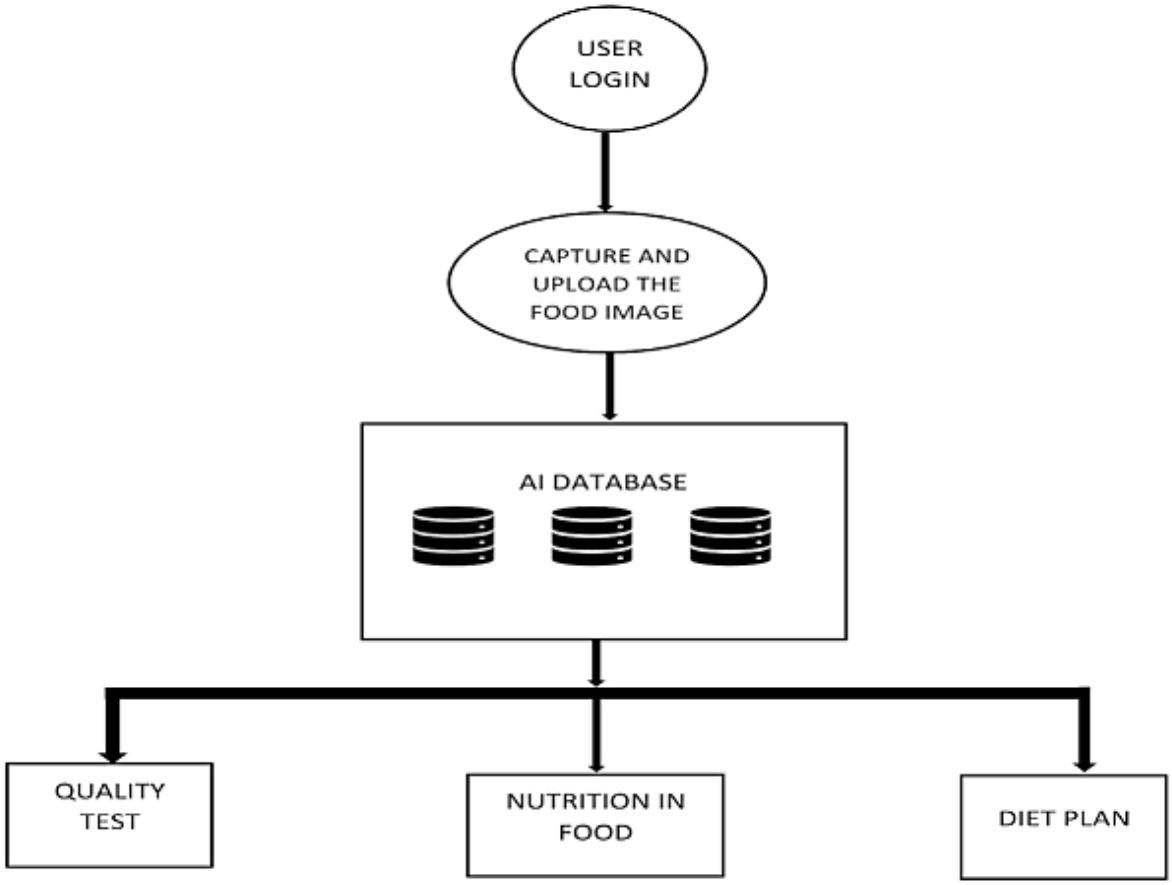
FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	Registration through Form Registration through Gmail Registration through LinkedIN
FR-2	User Confirmation	Confirmation via Email Confirmation via OTP
FR-3	User Profile	Fill the profile page after logging in
FR-4	Scan The Image	Capture the images of the fruits
FR-5	Data Processing	Provide the nutrition contents of the fruits

4.2. NON FUNCTIONAL REQUIREMENTS

FR No.	Non-Functional Requirement	Description
NFR-1	**Usability**	The system allows the users to perform task easily and efficiently
NFR-2	**Security**	Ensuring that all data inside the system is shielded from malware assaults and unauthorised intrusions
NFR-3	**Reliability**	The website takes time to recover from failure as it runs on a single server
NFR-4	**Performance**	Response time is fast
NFR-5	**Availability**	The system will be available most of the time
NFR-6	**Scalability**	It is scalable

5. PROJECT DESIGN

5.1. DATA FLOW DIAGRAM



1. The applictaion starts from the user login. the user must enter their mail id and

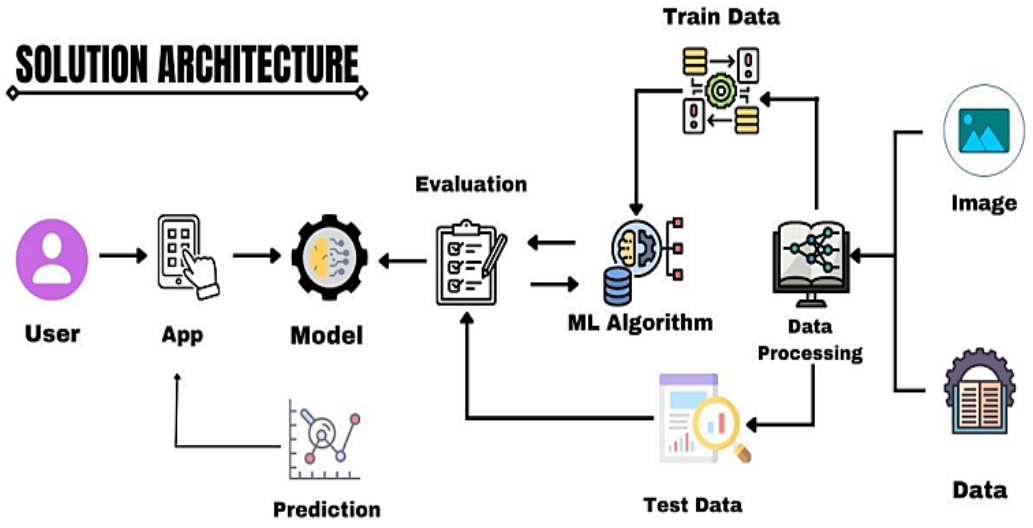
the password to use the nutrition analyzer

2. The next step is user shoud capture the food and upload the food in the specified capture image icon.

3. The third step is click the "Analyze Food" and wait for sometime. The AI database process the image.

4. The tool fuguring out image and page automatically give the information about food such that the quality off the food, Nutrition , then issue the diet and fitness plan for the user.

5.2. SOLUTION AND TECHNICAL ARCHITECTURE



5.3. USER STORIES

Problem Statement 1

Problem Statement 2

Problem Statement 3

6. PROJECT PLANNING AND SCHEDULING

6.1. SPRINT DELIVERY

Sprint	Total Story Points	Duration	Sprint Start Date	Sprint End Date (Planned)	Story Points Completed (as on Planned End Date)	Sprint Release Date (Actual)
Sprint-1	20	6 Days	24 Oct 2022	29 Oct 2022	20	29 Oct 2022
Sprint-2	20	6 Days	31 Oct 2022	05 Nov 2022	20	05 Nov 2022
Sprint-3	20	6 Days	07 Nov 2022	12 Nov 2022	20	12 Nov 2022
Sprint-4	20	6 Days	14 Nov 2022	19 Nov 2022	20	19 Nov 2022

7. CODING & SOLUTIONING

7.1.Feature 1

1. AI-powered Nutrition Analyzer for Fitness Enthusiasts
2. The main aim of the project is to building a model which is used for classifying the fruit depends on the different characteristics like colour, shape, texture etc. Here the user can capture the images of different fruits and then the image will be sent the trained model. The model analyses the image and detect the nutrition based on the fruits like (Sugar, Fibre, Protein, Calories, etc.).

- Languages : Python
- Tools/IDE : Google collaboratory , Spyder
- Libraries : Recommendation

```
from flask import Flask,render_template,request
# Flask-It is our framework which we are going to use to run/serve our application.
#request-for accessing file which was uploaded by the user on our application.
import os
import numpy as np #used for numerical analysis
from tensorflow.keras.models import load_model#to load our trained model
from tensorflow.keras.preprocessing import image
import requests
app = Flask(__name__,template_folder="templates") # initializing a flask app
# Loading the model
model=load_model('nutrition.h5')
print("Loaded model from disk")
@app.route('/')# route to display the home page
def home():
    return render_template('home.html')
```

```
@app.route('/image1',methods=['GET','POST'])# routes to the index html
def image1():
    return render_template("image.html")
@app.route('/predict',methods=['GET', 'POST'])# route to show the predictions in a web UI
def launches():
    if request.methods=='POST':
        f=request.files['file'] #requesting the file
        basepath=os.path.dirname('__file__')#storing the file directory
        filepath=os.path.join(basepath,"uploads",f.filename)#storing the file in uploads folder
        f.save(filepath)#saving the file
        img=image.load_img(filepath,target_size=(64,64)) #load and reshaping the image
        x=image.img_to_array(img)#converting image to an array
        x=np.expand_dims(x,axis=0)#changing the dimensions of the image
        pred=np.argmax(model.predict(x), axis=1)
        print("prediction",pred)#printing the prediction
        index=['APPLES','BANANA','ORANGE','PINEAPPLE','WATERMELON']
        result=str(index[pred[0]])
        x=result
        print(x)
        result=nutrition(result)
        print(result)
        return render_template("0.html",showcase=(result))
import http.client
conn = http.client.HTTPSConnection("calorieninjas.p.rapidapi.com")
headers = {
    'X-RapidAPI-Key': "e5805fbf62mshf8d7308c0600c2dp197087jsn93407e3cce35",
    'X-RapidAPI-Host': "calorieninjas.p.rapidapi.com"
    }
conn.request("GET", "/v1/nutrition?query=Pineapple", headers=headers)
res = conn.getresponse()
data = res.read()
print(data.decode("utf-8"))
import requests
url = "https://calorieninjas.p.rapidapi.com/v1/nutrition"
```

```
querystring = {"query":"Pineapple"}
headers = {
  "X-RapidAPI-Key": "e5805fbf62mshf8d7308c0600c2dp197087jsn93407e3cce35",
  "X-RapidAPI-Host": "calorieninjas.p.rapidapi.com"
}
response = requests.request("GET", url, headers=headers, params=querystring
print(response.text)
if __name__ == "__main__":
# running the app
    app.run(debug=False)
```

7.1.Feature 2

home.html

```
  <!DOCTYPE
  html>
                        <html>
                        <head>
                        <meta charset="UTF-8">
                        <meta name="viewport" content="width=device-width, initial-scale=1.0">
                        <meta http-equiv="X-UA-Compatible" content="ie=edge">
                        <title>Home</title>
                        <link href="https://cdn.bootcss.com/bootstrap/4.0.0/css/bootstrap.min.css"
                        rel="stylesheet">
                        <script src="https://cdn.bootcss.com/popper.js/1.12.9/umd/popper.min.js">
                        </script>
                        <script src="https://cdn.bootcss.com/jquery/3.3.1/jquery.min.js"></script>
                        <script src="https://cdn.bootcss.com/bootstrap/4.0.0/js/bootstrap.min.js"></script>
                        <link href="{{ url_for('static', filename='css/main.css') }}" rel="stylesheet">
                        <style>
                        Body
                        {
                        background-image: url("https://img.freepik.com/free-photo/top-view-healthy-balanced-vegetarian
                        background-size: cover;
                        background-repeat: no-repeat;
                        background-attachment: fixed;
                        background-size: 100% 100% ;
                        }
```

```
.bar
{
margin: 0px;
padding:5px;
background-color: #c0df84;
color:black;
font-family:'Roboto',sans-serif;
font-style: italic;
border-radius:20px;
font-size:25px;
text-align:center;
width: 400px;
}
h3
{
margin: 0px;
padding:5px;
background-color:#c0df84;
width: 400px;
color:#00000;
font-family:'Roboto',sans-serif;
font-style: italic;
border-radius:20px;
font-size:15px;
}
a
{
color:#c0df84;
float:center;
text-decoration:none;
font-style:normal;
padding-right:20px;
}
a:hover{
background-color:black;
color:white;
border-radius:15px;0
font-size:30px;
padding-left:10px;
}
.div1{
```

```
  background-color: lightgrey;
  width: 500px;
  border: 10px solid peach;
  padding: 20px;
  margin: 20px;
  height: 500px;
}




.header {position: relative;
                        top:0;
                        margin:0px;
                        z-index: 1;
                        left: 0px;
                        right: 0px;
                        position: fixed;
                        background-color: #8B008B ;
                        color: white;
                        box-shadow: 0px 8px 4px grey;
                        overflow: hidden;
                        padding-left:20px;
                        font-family: 'Josefin Sans'
                        font-size: 2px;
                        width: 100%;
                        height:8%;
                        text-align: center;
                    }
                    .topnav {
  overflow: hidden;
  background-color: #FCAD98;
}

.topnav-right a {
  float: left;
  color: black;
  text-align: center;
  padding: 14px 16px;
  text-decoration: none;
```

```
  font-size: 10px;
}

.topnav-right a:hover {
  background-color: #FF69B4;
  color: black;
}

.topnav-right a.active {
  background-color: #DA70D6;
  color: black;
}

.topnav-right {
  float: right;
  padding-right:100px;
}
</style>
</head>
<body>

<!--Brian Tracy-->

<div class="header">
<div style="width:50%;float:left;font-size:2vw;text-align:left;color:black; padding-top:1%;
padding-left:5%;">Nutrtion Image Analysis</div>
  <div class="topnav-right"style="padding-top:0.5%;">

  <a class="active" href="{{ url_for('home')}}">Home</a>
  <a   href="{{ url_for('image1')}}">Classify</a>
  </div>
</div>
</div>
<br>
<br>
<br>
<br>
<br>
<br>
<br>
<br>
```

```
                        <h1>

                        <center>

<h3>Food is essential for human life and has been the concern of
many healthcare conventions. Nowadays new dietary assessment
and nutrition analysis tools enable more opportunities to help
people understand their daily eating habits, exploring nutrition
patterns and maintain a healthy diet.Nutritional analysis is the
process of determining the nutritional content of food. It is a
vital part of analytical chemistry that provides information about
the chemical composition, processing, quality control and contamination
of food. It ensures compliance with trade and food laws.</h3>

</center>


</h1>
</body>
</html>
```

image.html

```
<div style="float:left">
                                <br>
                                <br>
                                <h5><font color="black" size="3" font-family="sans-serif">
                                <b>Upload image to classify</b></font></h5><br><br>

                                <div>
                                <form id="upload-file" method="post" enctype="multipart/form-data">
                                <label for="imageUpload" class="upload-label">
                                        Choose...
                                    </label>
                                <input type="file" name="file" id="imageUpload" accept=".png, .jpg, .jpeg">
                                  </form>

                                 <center> <div class="image-section" style="display:none;">
```

```
<div class="img-preview">
<div id="imagePreview">
</div></center>
</div>
<center><div>
<button type="button" class="btn btn-primary btn-lg "
id="btn-predict">Classify</button>
</center></div>
</div>

<div class="loader" style="display:none;margin-left: 450px;"></div>

<h3 id="result">

<span><p style="padding-top: 25px;"><h4>Food Classified is : <h4><b><u>{{showc
</h3>

</div>
</div>
```

ImagePrediction.html

```
!DOCTYPE
html>
<html>
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<meta http-equiv="X-UA-Compatible" content="ie=edge">
<title>Predict</title>
<link href="https://cdn.bootcss.com/bootstrap/4.0.0/css/bootstrap.min.css"
rel="stylesheet">
<script src="https://cdn.bootcss.com/popper.js/1.12.9/umd/popper.min.js">
</script>
<script src="https://cdn.bootcss.com/jquery/3.3.1/jquery.min.js"></script>
<script src="https://cdn.bootcss.com/bootstrap/4.0.0/js/bootstrap.min.js">
</script>
<link href="{{ url_for('static', filename='css/main.css') }}" rel="stylesheet">
```

```
<style>
Body
{
   background-image: url("https://i.pinimg.com/originals/be/21/1a
/be211ad5043a8d05757a3538bdd8f450.jpg");
   background-size: cover;
}
.bar
{
margin: 0px;
padding:20px;
background-color:white;
opacity:0.6;
color:black;
font-family:'Roboto',sans-serif;
font-style: italic;
border-radius:20px;
font-size:15px;
}
a
{
color:grey;
float:right;
text-decoration:none;
font-style:normal;
padding-right:20px;
}
a:hover{
background-color:black;
color:white;
border-radius:15px;0
font-size:30px;
padding-left:10px;
}
.div1{
  background-color: lightgrey;
  width: 500px;
  border: 10px solid peach;
  padding: 20px;
  margin: 20px;
```

```
  height: 500px;
}




.header { position: relative;
                        top:0;
                        margin:0px;
                        z-index: 1;
                        left: 0px;
                        right: 0px;
                        position: fixed;
                        background-color: #8B008B ;
                        color: white;
                        box-shadow: 0px 8px 4px grey;
                        overflow: hidden;
                        padding-left:20px;
                        font-family: 'Josefin Sans';
                        font-size: 2vw;
                        width: 100%;
                        height:8%;
                        text-align: center;
                    }
                    .topnav {
  overflow: hidden;
  background-color: #FCAD98;
}

.topnav-right a {
  float: left;
  color: black;
  text-align: center;
  padding: 14px 16px;
  text-decoration: none;
  font-size: 18px;
}

.topnav-right a:hover {
  background-color: #FF69B4;
```

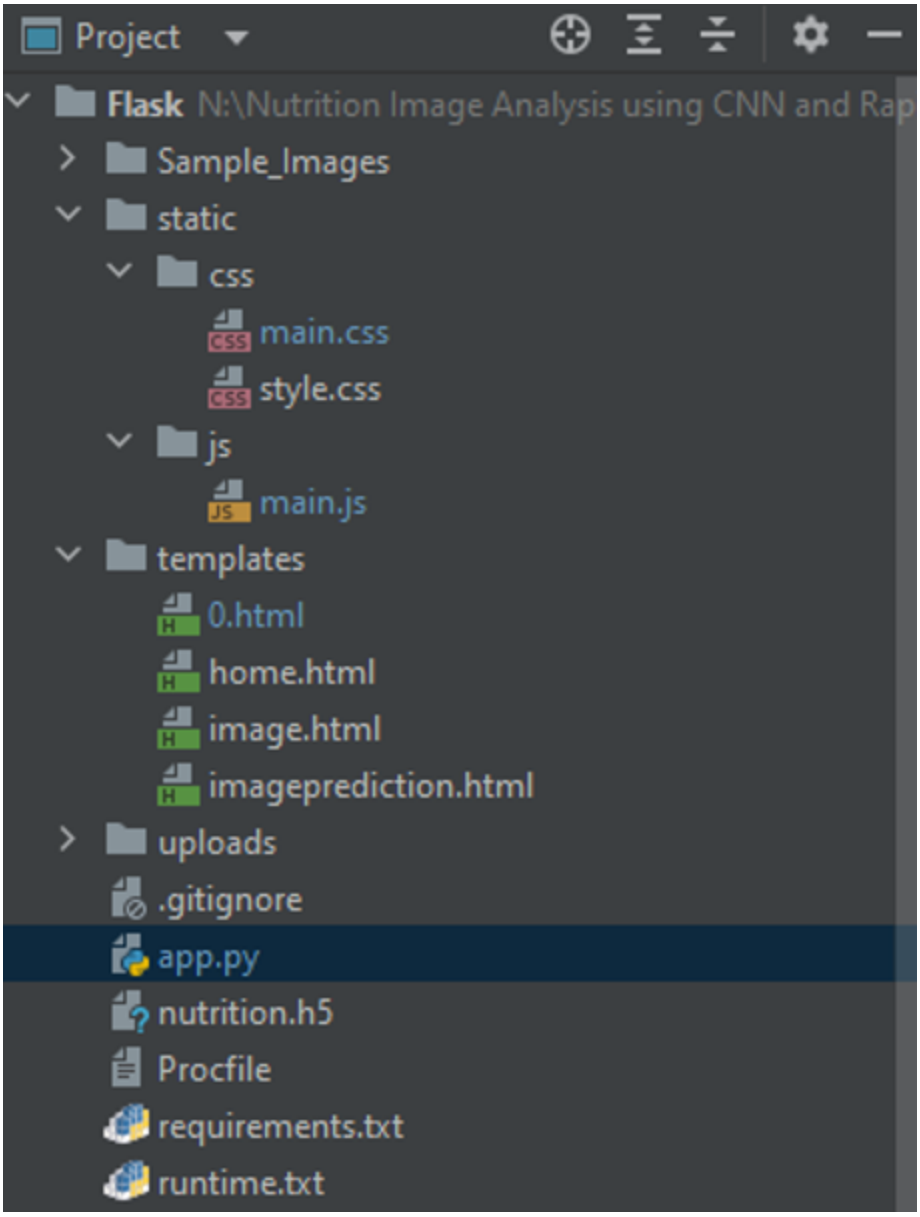
```
  color: black;
}

.topnav-right a.active {
  background-color: #DA70D6;
  color: black;
}

.topnav-right {
  float: right;
  padding-right:100px;
}
</style>
</head>
<body>
<div class="header">
<div style="width:50%;float:left;font-size:2vw;text-align:left;color:black; padding-top:1%;padding
  <div class="topnav-right"style="padding-top:0.5%;">

    <a href="{{ url_for('home')}}">Home</a>
    <a  class="active" href="{{ url_for('image1')}}">Classify</a>
  </div>
</div>
<br>


</div>
<div class="container">
<center>
<div id="content" style="margin-top:2em"></div></center>
</div>
</body>

<footer>
<script src="{{ url_for('static', filename='js/main.js') }}"
type="text/javascript"></script>
</footer>
</html>
```

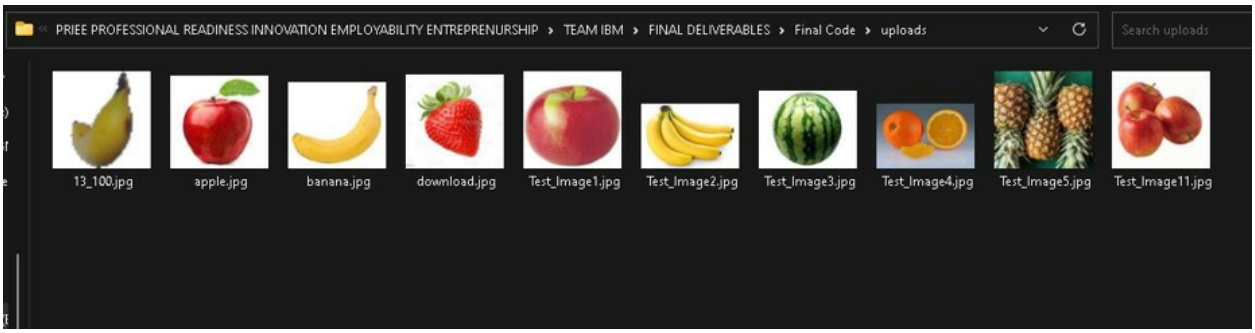
0.html

```
<html lang="en" dir="ltr">
                                    <head>
                                    <style>

                                    </style>
                                    <meta charset="utf-8">
                                    <title>Nutrition Image Analysis</title>
                                    <link rel="shortcut icon" href="{{ url_for('static',
                                    filename='diabetes-favicon.ico') }}">
                                    <link rel="stylesheet" type="text/css" href="{{ url_for('static',
                                    filename='style.css') }}">
                                    <script src="https://kit.fontawesome.com/5f3f547070.js"
                                    crossorigin="anonymous"></script>
                                    <link href="https://fonts.googleapis.com/css2?family=
                                    Pacifico&display=swap" rel="stylesheet">
                                        </head>

                                            <!-- Result -->
                                            <div class="results">
                                    <p style="padding-top: 150px; color:blue;"><h4
                                    style="color:blue;">Food Classified is: <h4><b><h4
                                    style="color:red;"><u>{{showcase1}}<h4><br><h4
                                    style="color:red;"><u>{{showcase}}<h4></p>

                                    </div></div>
                                    </body>
                                    </html>
```

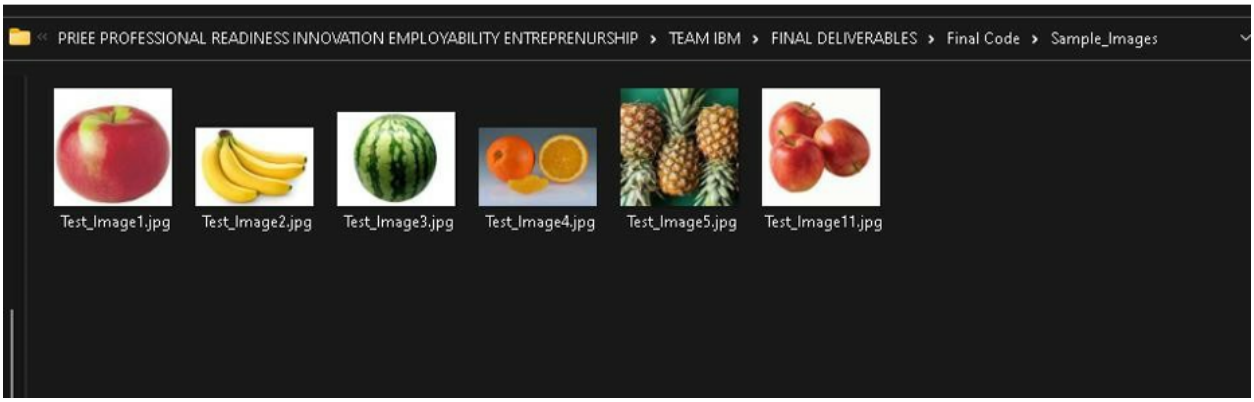
8.TESTING

8.1.TEST CASES


Project
Flask N:\Nutrition Image Analysis using CNN and Rap
Sample_Images
static
css
main.css
style.css
js
main.js
templates
0.html
home.html
image.html
imageprediction.html
uploads
.gitignore
app.py
nutrition.h5
Procfile
requirements.txt
runtime.txt

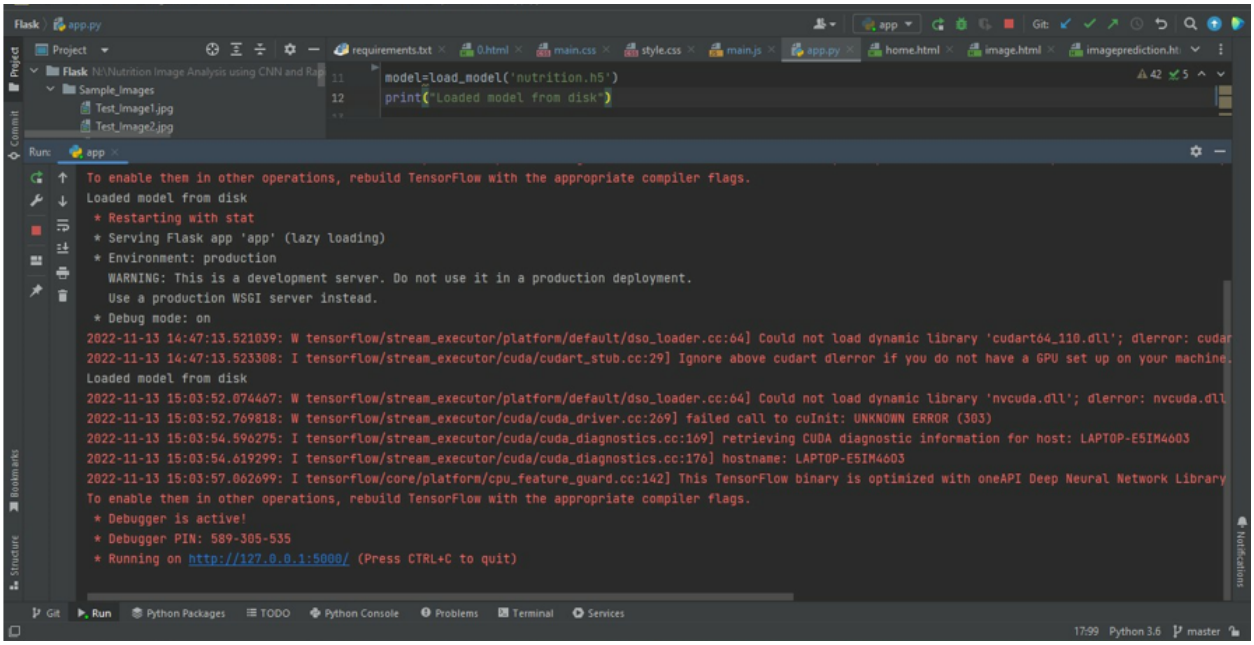


8.2. USER ACCEPTANCE TESTING

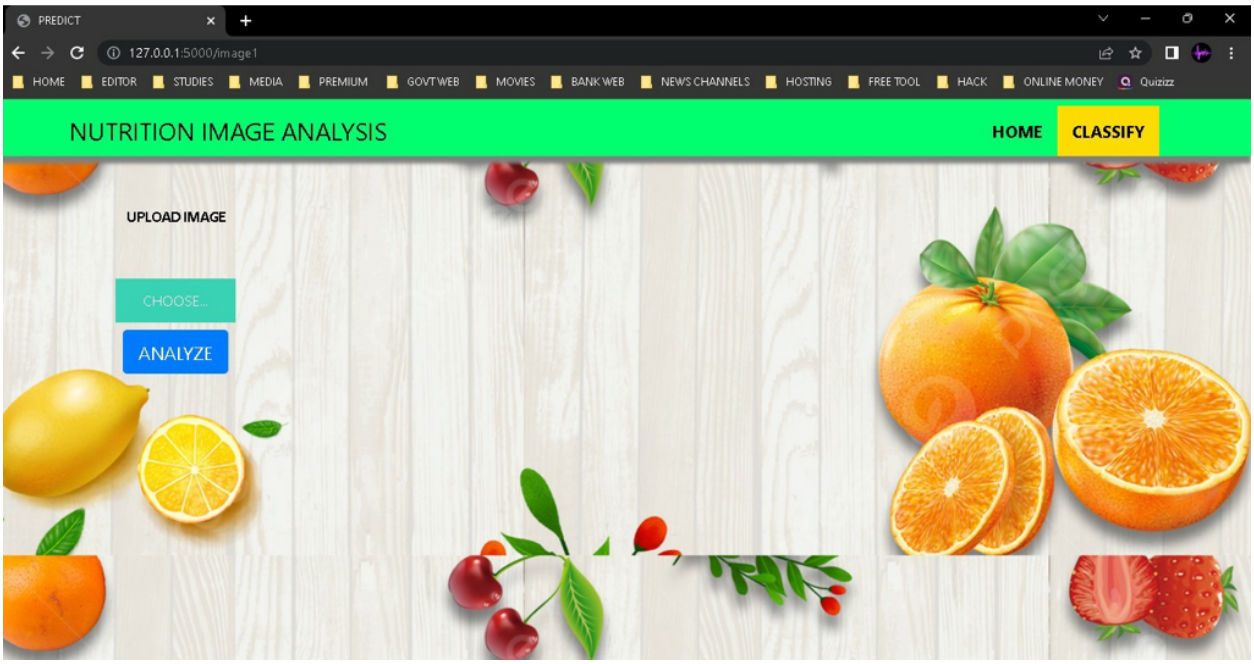


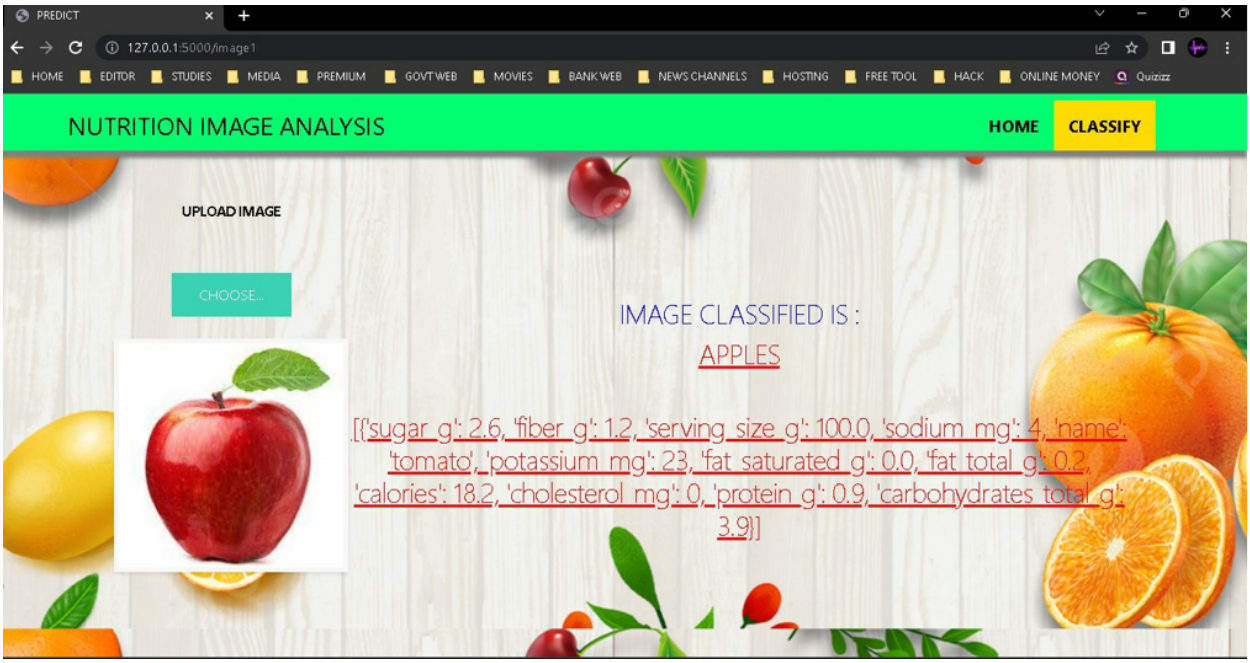
9.RESULTS

9.1. PERFORMANCE METRICS


model=load_model('nutrition.h5')
print("Loaded model from disk")
To enable them in other operations, rebuild TensorFlow with the appropriate compiler flags.
Loaded model from disk
* Restarting with stat
* 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
2022-11-13 14:47:13.521039: W tensorflow/stream_executor/platform/default/dso_loader.cc:64] Could not load dynamic library 'cudart64_110.dll'; dlerror: cudar
2022-11-13 14:47:13.523308: I tensorflow/stream_executor/cuda/cudart_stub.cc:29] Ignore above cudart dlerror if you do not have a GPU set up on your machine.
Loaded model from disk
2022-11-13 15:03:52.074467: W tensorflow/stream_executor/platform/default/dso_loader.cc:64] Could not load dynamic library 'nvcuda.dll'; dlerror: nvcuda.dll
2022-11-13 15:03:52.769818: W tensorflow/stream_executor/cuda/cuda_driver.cc:269] failed call to cuInit: UNKNOWN ERROR (303)
2022-11-13 15:03:54.596275: I tensorflow/stream_executor/cuda/cuda_diagnostics.cc:169] retrieving CUDA diagnostic information for host: LAPTOP-E5IM4603
2022-11-13 15:03:54.619299: I tensorflow/stream_executor/cuda/cuda_diagnostics.cc:176] hostname: LAPTOP-E5IM4603
2022-11-13 15:03:57.062699: I tensorflow/core/platform/cpu_feature_guard.cc:142] This TensorFlow binary is optimized with oneAPI Deep Neural Network Library
To enable them in other operations, rebuild TensorFlow with the appropriate compiler flags.
* Debugger is active!
* Debugger PIN: 589-305-535
* Running on http://127.0.0.1:5000/ (Press CTRL+C to quit)

10.OUTPUT:


PREDICT
127.0.0.1:5000/image1
NUTRITION IMAGE ANALYSIS
HOME
CLASSIFY
UPLOAD IMAGE
CHOOSE...
ANALYZE



11. CONCLUSION

By the end of thisproject we will

1. know fundamental concepts and techniques of Convolutional Neural Network.
2. gain a broad understanding of image data
3. know how to build a web application using the Flask framework.
4. know how to pre-process data and
5. know how to clean the data using different data preprocessing techniques.

12. FUTURE SCOPE

AI is revolutionizing the health industry. It is majorly used in improving

marketing and sales decisions, AI is now also being used to reshape individual habits. In future we don't want to go to gym and do any diets. By using this nutrition fitness analyzer we can maintain our diet plans without any help from others and we can lead a happy and healthy life with good wealth.

AI can easily track health behaviors and repetitive exercise patterns and use the data to guide you towards your fitness journey and diet plans .

APPENDIX

Source Code:

```
from flask import Flask,render_template,request
# Flask-It is our framework which we are going to use to run/serve our application.
#request-for accessing file which was uploaded by the user on our application.
import os
import numpy as np #used for numerical analysis
from tensorflow.keras.models import load_model#to load our trained model
from tensorflow.keras.preprocessing import image
import requests
app = Flask(__name__,template_folder="templates") # initializing a flask app
# Loading the model
model=load_model('nutrition.h5')
print("Loaded model from disk")
@app.route('/')# route to display the home page
def home():
    return render_template('home.html')
@app.route('/image1',methods=['GET','POST'])# routes to the index html
def image1():
    return render_template("image.html")
@app.route('/predict',methods=['GET', 'POST'])# route to show the predictions in a web UI
def launches():
    if request.methods=='POST':
```

```
    f=request.files['file'] #requesting the file
    basepath=os.path.dirname('__file__')#storing the file directory
    filepath=os.path.join(basepath,"uploads",f.filename)#storing the file in uploads folder
    f.save(filepath)#saving the file
    img=image.load_img(filepath,target_size=(64,64)) #load and reshaping the image
    x=image.img_to_array(img)#converting image to an array
    x=np.expand_dims(x,axis=0)#changing the dimensions of the image
    pred=np.argmax(model.predict(x), axis=1)
    print("prediction",pred)#printing the prediction
    index=['APPLES','BANANA','ORANGE','PINEAPPLE','WATERMELON']
        result=str(index[pred[0]])
        x=result
        print(x)
        result=nutrition(result)
        print(result)
        return render_template("0.html",showcase=(result))
        import http.client
        conn = http.client.HTTPSConnection("calorieninjas.p.rapidapi.com")
        headers = {
 'X-RapidAPI-Key': "e5805fbf62mshf8d7308c0600c2dp197087jsn93407e3cce35",
    'X-RapidAPI-Host': "calorieninjas.p.rapidapi.com"
    }
conn.request("GET", "/v1/nutrition?query=Pineapple", headers=headers)
res = conn.getresponse()
data = res.read()
print(data.decode("utf-8"))
import requests
url = "https://calorieninjas.p.rapidapi.com/v1/nutrition"
querystring = {"query":"Pineapple"}
headers = {
  "X-RapidAPI-Key": "e5805fbf62mshf8d7308c0600c2dp197087jsn93407e3cce35",
  "X-RapidAPI-Host": "calorieninjas.p.rapidapi.com"
}
response = requests.request("GET", url, headers=headers, params=querystring
```

```
print(response.text)
if __name__ == "__main__":
# running the app
    app.run(debug=False)
```