AI POWERED NUTRITION ANALYZER FOR FITNESS ENTHUSIASTS

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1.INTROUCTION

1.Project Overview

In this project, datasets name is fruit dataset are collected.The collected datasets are trained and tested with deep learning neural network named Convolutional Neural Networks (CNN). First, the fruit dataset is trained and then tested with CNN. It has 6 classes and all the classes are trained and tested. The software used for training and testing of datasets is Python. All the Python codes are first written in Jupyter notebook supplied along with Anaconda Python and then the codes are tested in IBM cloud. Finally a web based framework is designed with help Flask a Python library. There are 2 html files are created in templates folder along with their associated files in static folder. The Python program 'app.py' used to interface with these two webpages is written in Spyder-Anaconda python and tested.

1.2 Purpose

This project is to detect the drowsiness of a person and suggest nutrition containing fruits,fibers and other related nutrition .By this type of intake a person can able to be healthier.

2. LITERATURE SURVEY

2.1 Existing problem

This section initially provides a description of the components that an idealized AI nutrition recommender system would have. Each component is then compared to state-of-the-art methods and an assessment of its feasibility with current technology is provided.Finally, recent literature and EU-funded projects relevant to this task are presented, including the approach followed by the PROTEIN project, in which the authors of this work participate.To begin with, an ideal AI nutrition recommender system would be able to identify the type of food consumed by the user, providing as detailed a description as possible. For example, identifying a dish as Chicken Salad with Wild Rice instead of Salad. This field of study has received the most attention from the research community and is in a mature state, with standardized large-scale data-sets being available for evaluation purposes. Although recent approaches in food category recognition have reported results above the 90% mark in Food, good evaluation results on a data-set equivalent in scale to Image Net, such as Recipe1M, would be needed in order to get closer in fulfilling this requirement.

2.2 References

[1] Oscar Beijbom, Neel Joshi, Dan Morris, Scott Saponas, and Siddharth Khullar.2015. Menu-match: Restaurant-specific Food Logging from Images. In Proceedings of the 2015 IEEE Winter Conference on Applications of Computer Vision. IEEE.

[2] Yin Bi, Mingsong Lv, Chen Song, Wenyao Xu, Nan Guan, and Wang Yi. 2016.Autodietary: A Wearable Acoustic Sensor System for Food Intake Recognition in Daily Life. IEEE Sensors Journal 16, 3 (2016).

[3] Jens Blechert, Adrian Meule, Niko A Busch, and Kathrin Ohla. 2014. Food-pics:An Image Database for Experimental Research on Eating and Appetite. Frontiers in Psychology 5 (2014), 617.

[4] Lukas Bossard, Matthieu Guillaumin, and Luc Van Gool. 2014. Food-101 dining Discriminative Components with Random Forests. In Proceedings of the 2014 European Conference on Computer Vision. Springer.

[5] Steven Cadavid, Mohamed Abdel Mottaleb, and Abdelsalam Helal. 2012. Exploiting Visual Quasi-periodicity for Real-time Chewing Event Detection Using Active Appearance Models and Support Vector Machines. Personal and Ubiquitous Computing 16, 6 (2012).

2.3 Problem Statement Definitions

Making the commitment to exercise regularly is a terrific start to getting fit. However, without sound nutritional guidance, achieving your goals may be impossible. Tough workouts demand the right kind of fuel — and that fuel comes from the foods and beverages you consume. If you're serious about becoming your strongest and fittest self, eating nutritionally dense foods is essential to your workout plan.

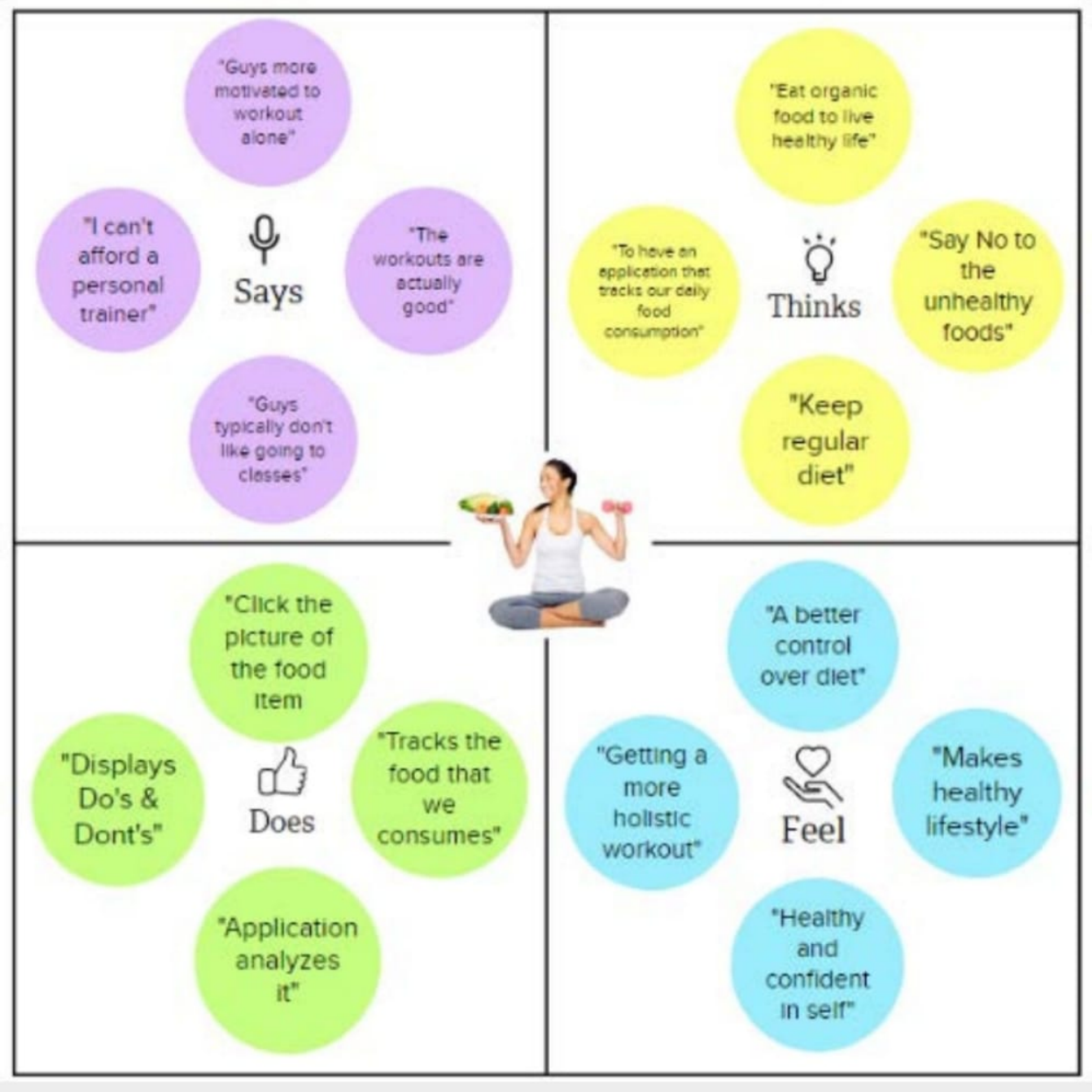
The right nutrition guidance will ensure you provide your body with the clean energy you need to perform your best. A food diary in an application can help you track not just what you eat, but also how much, when and where you ate it.

This app can be downloaded onto your smartphone or tablet, giving you access to the world's largest nutrition and calorie database that includes over 5 million different foods. It provides a simple and quick way to track the calories in the food you eat.

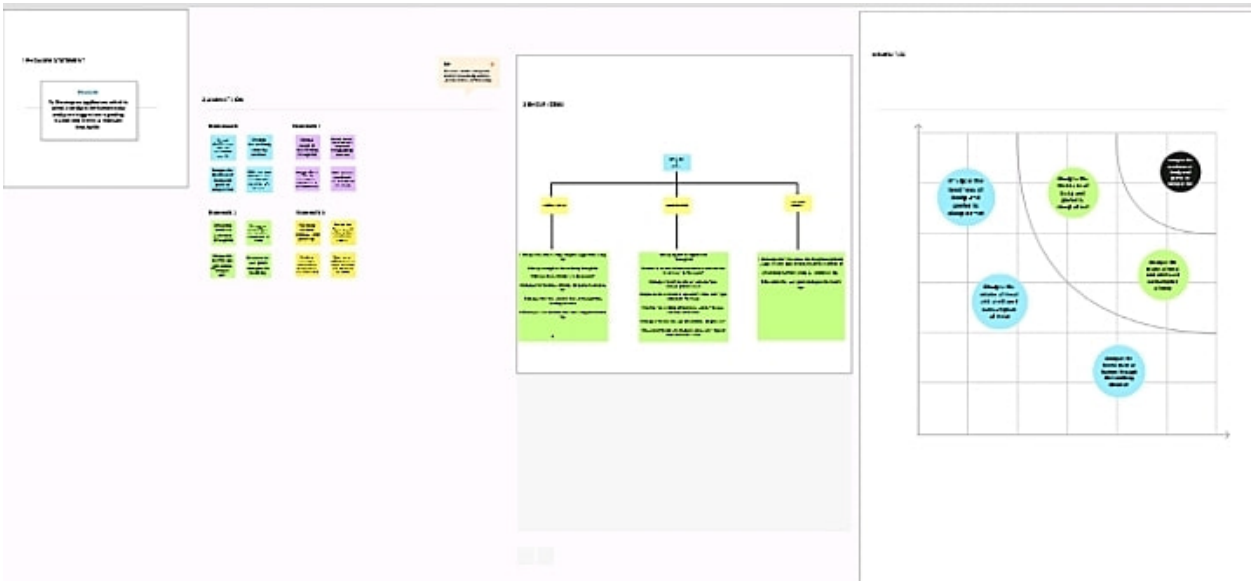
Measuring is a pain at first, but you'll get used to it fast. It will also make you keenly aware of what foods fill you up and what foods just aren't worth the calories. Knowing this will help you make better dietary choices. Consider investing in a food scale — a small scale that measures ounces and grams of food. Words such as "natural" and "healthy" often hide how bad certain foods are for your waistline and heart.

3. IDEATION & PROPOSED SOLUTION

3.1 Emapathy Map Canavas



3.2 Ideation & Brainstroming

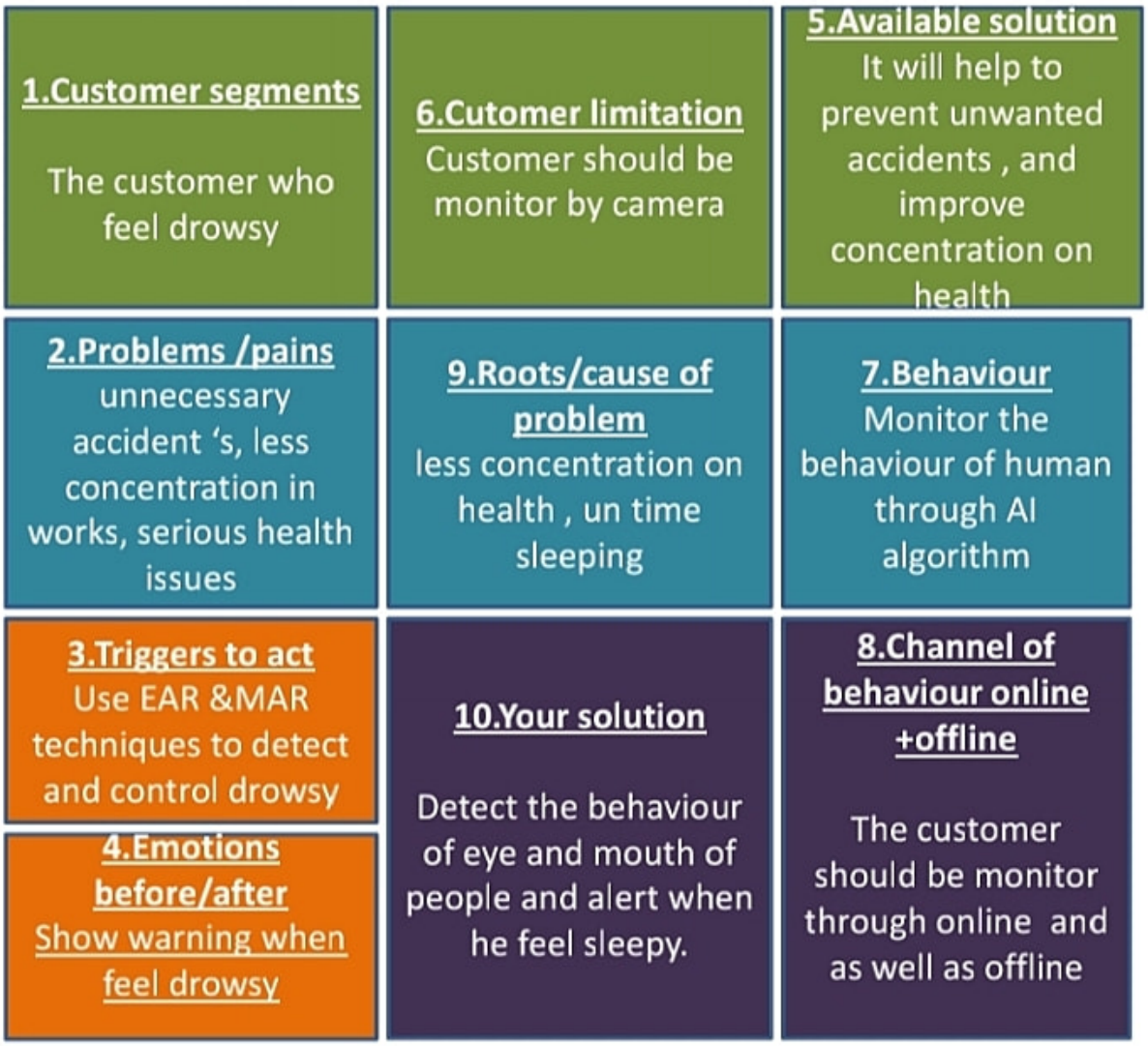


3.3 proposed solution

s.no	Parameter	Description
1.	Problem Statement (problem to be solved)	~ The main objectives of this project is to monitor, detect and alert the drowsiness of the human. ~ The drowsiness can negatively impact people in working and classroom environment as well. Although sleep deprivation and college go hand in hand, drowsiness in the workplace especially while working g with heavy machinery may result in serious injuries similar to those that occur while driving drowsily. ~ Our solution to this problem is to built a detection system that identifies key attributes of drowsiness and triggers an alert when someone is drowsy before it is too late.

2.	Idea / Solution DescriptionIdea / Solution Description	~ The primary step of this project idea is to take the input from the camera which is monitor the human fatigue(i.e, eye, mouth) through EAR and MAR techniques. ~ Based on the inputs from the camera it will determine the whether the human is it feel drowsy or not. ~ Through this analyse the alert will be sound like “Are you sleepy?, you are so drowsy take some rest “like that.
3.	Novelty / Uniqueness	~ This model can monitor the behaviour of eye and mouth of human and based on the behaviour values it detect drowsiness. ~ This model collects the input from user through camera and analyse the input the predict the drowsiness. ~ Based on the prediction it will alert the user drowsiness.
4.	Social Impact / Customer satisfaction	~ Helps the fitness enthusiast to find the drowsiness level of human and alert the human to take rest for maintain his/her health in better way. ~ It also prevent the accidents which is made by the human when he is on drowsy.
5.	Business Model (Revenue Model)	~ Data analyses from the camera ~ Prediction ~ Alert the user

3.4 Problem Solution Fit



4. EQUIREMENT ANALYSIS

4.1 Functional Requirements

Following are the functional requirements of the proposed solution:

Fr.No	Functional requirements	Sub Requirement(Story/Subtask)
Fr-1	User registration	Registration through form Registration through Gmail
Fr-2	User conformation	Conformation via OTP Conformation via Email
Fr-3	Captruing image	Capture the image of the Fruit and check the parameter of the captured image
Fr-4	Image processing	Upload the image for the prediction of the fruit nutrition
Fr-5	Fruit Identification	Identify the fruit and predict the nutrition
Fr-6	Image description	List of the nutrition of the fruits

4.2 Non -Functional Requirements:

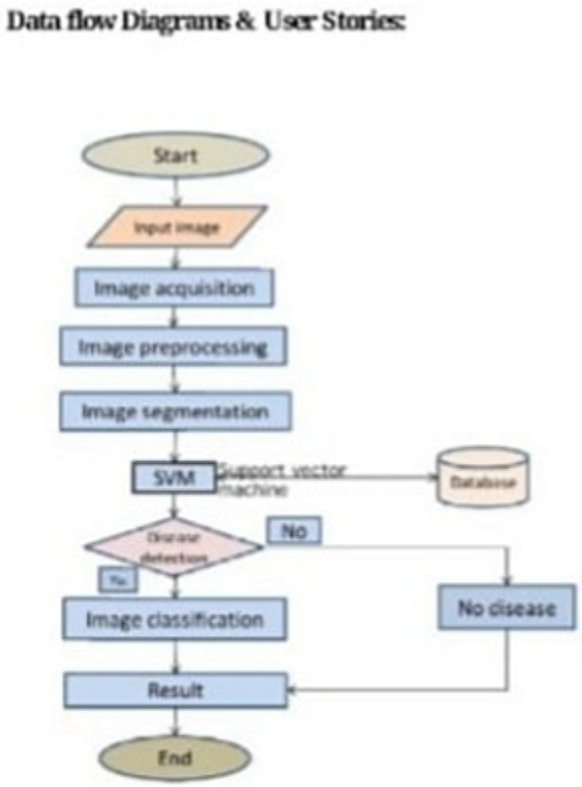
Following are the non Functional Requirements of the Proposed Solution

NFr.No	Non -Functional Requirements	Description
NFr-1	Usability	Datasets of the fruits is used to detecting the nutrition that present in the fruit
NFr-2	Security	The information belongs to the user and fruit are secured highly
NFr-3	Reliablity	The fruit quality is important for predicting the nutrition in the fruit

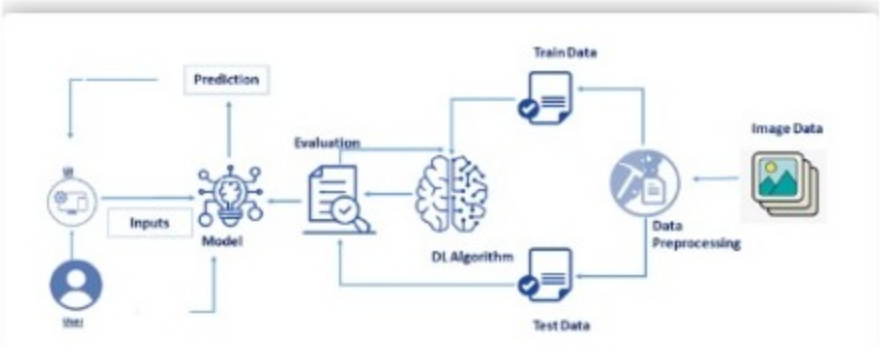
NFr-4	Performance	The performance is based on the quality of the fruit and used for nutrition prediction
NFr-5	Availability	It is available for all users to predict the nutrition in the fruit
NFr-6	Scalability	Increasing the prediction of nutrition in the fruit

5.PROJECT DESIGN

5.1 DataFlow Diagram



5.2 Solution and technical Architecture



6.PROJECT PLANNING AND SCHEDULING

6.1 Sprint planning

1. Planning is a crucial role in project management because it allows team members to schedule their time on the project.

2. This activity demonstrates how the team members assigned and completed various tasks!

3. In Project we can Split into the Four Step of Phrases are

- ➢ Phrase 1: Information Collection and Requirement Analysis
- ➢ Phrase 2: Project Planning and Developing Modules
- ➢ Phrase 3: Implementing the High Accuracy Machine Learning Algorithm to Perform
- ➢ Phrase 4: Deploying the Model on Cloud and Testing the Model and UI

6.2 Estimation

Sprint	Regitration and Image	UserStory Number	User Story /Task	Story Points	Priority	Team Members
Sprint-1	Registration and Login	USN-1	As a user,I can register for the application by entering a unique user I,password ,and confirming my password	8	High	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-1	Main page,About Page	USN-2	Home pag,About Pagg,Navigate Through the application easily	7	High	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-1	Logout	USN-5	As user,I can logout from the application	5	High	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-2	Prediction	USN-3	As a user I can upload picture from the camera and also from the device	4	High	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-2	Anonymous Usage	USN-4	As a User I can access	4	High	N.REVATHI

			the application without signing in			S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-2	Searching Fruits Data Manually	USN-6	As a user I can access information (Nutritional content)about other fruits also in the application	1	Medium	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-2	Motivational Quotes Suggestion	USN-7	As a user I get daily motivational quotes	3	High	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-2	Searching	USN-8	As a user I can get suggestion of fruits based on season and health condition	2	High	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-2	Dashboard	USN-11	As a user I can view the nutrional content of food taken for a day	1	Low	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-2	Report Page	USN-12	As a user I can report any issues through report page	2	High	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR

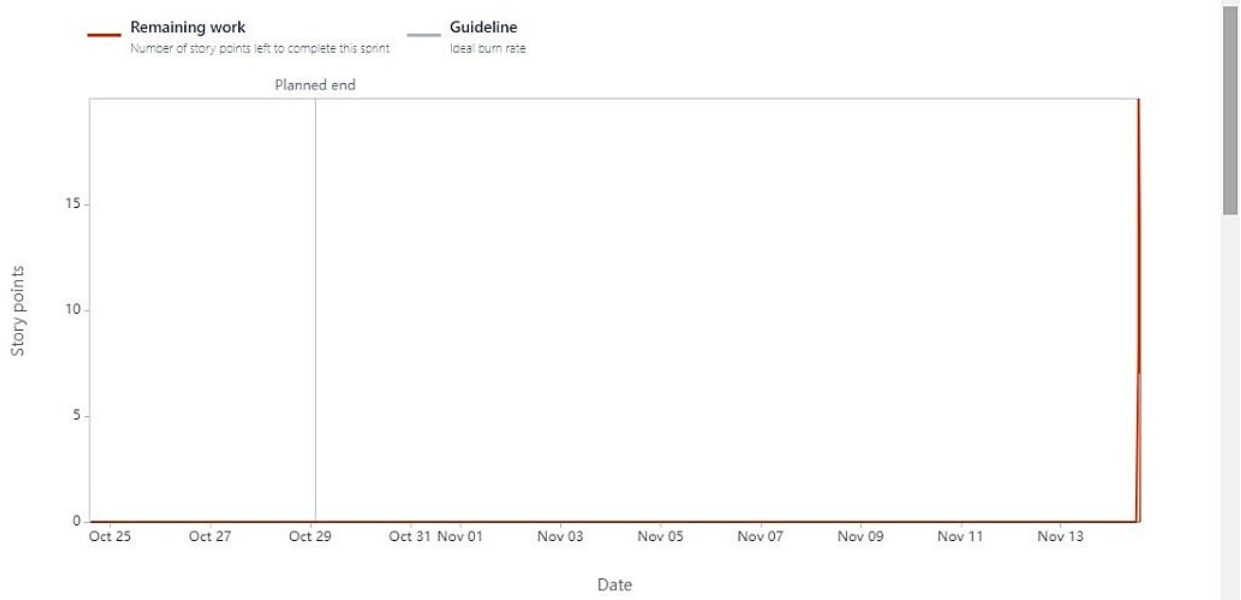
Sprint-2	Dashboard	USN-14	As a user I can view the issues and reports done by common user and the administrator.	3	High	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-3	Monitoring	USN-10	As a user I can monitor my water intake as per my body weight and get periodic reminders.	5	Medium	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-3	Health details management	USN-9	As a user I can manage my health condition details like diabetic details through accesing the health management page.	5	Medium	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-3	Instalable PWA	USN-13	PWA for mobile user	2	Medium	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-3	Dashboard	USN-15	As a administrator I can	2	Medium	N.REVATHI S.RUBAVARSHINI V.PRIYA

			view an manage users contents			V.NAVEENKUMAR
Sprint-3	Feedback page	USN-16	As a user I can give Feedback	2	Medium	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-3	BMI update page	USN-17	As a user I can update and view my BMI	2	Medium	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-3	Storing data	USN-20	As aseer I can store the data which are used to predict the health condition	2	Medium	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-4	Security check	USN-18	As a aministrator I need to comnfirm that the users ata are in secure format	15	Medium	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR
Sprint-4	Grouping users	USN-19	As a user I can join or enroll in a group to get specialised content	5	Low	N.REVATHI S.RUBAVARSHINI V.PRIYA V.NAVEENKUMAR

6.2 Sprint Delivery Schedule

Sprint	Total story points	Duration	Sprint start date	sprint end date(plan ne)	story pointscom pleted(as on planned end date)	Sprint release date(actu al)
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	04 Nov 2022
Sprint-3	20	6 days	07 Nov 2022	12 Nov 2022	20	10 Nov 2022
Sprint-4	20	6 days	14 Nov 2022	19 Nov 2022	20	17 Nov 2022

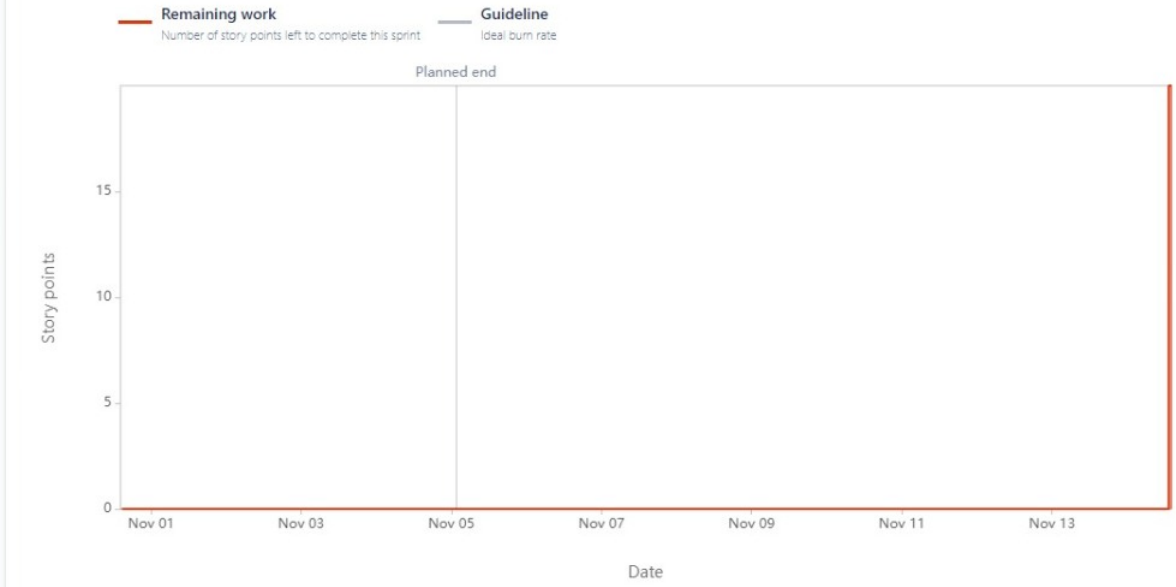
6.3 Reports From JIRA

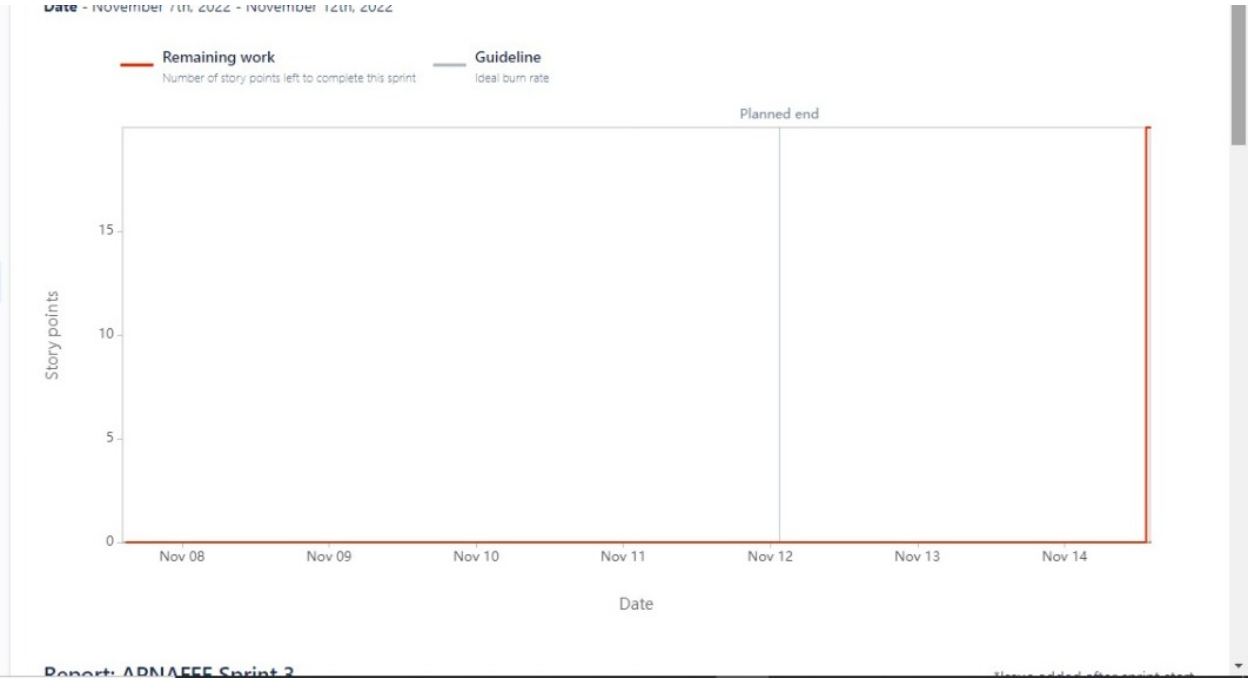


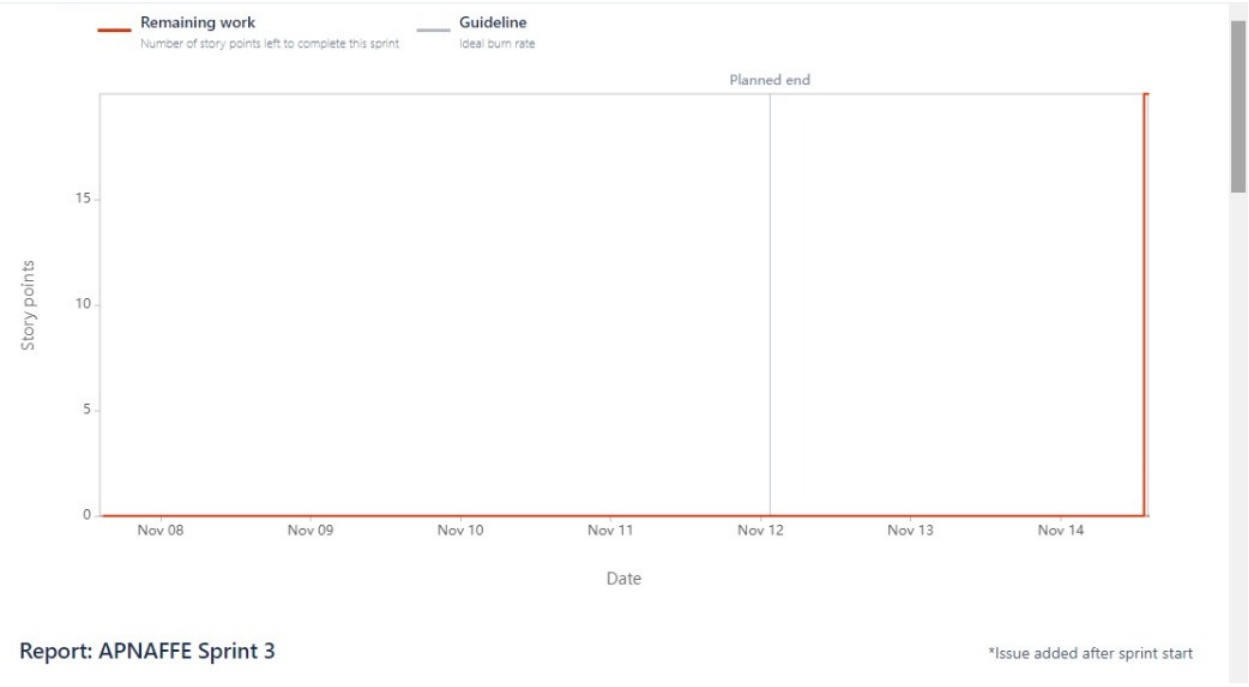
Report: APNAFFE Sprint 1

*Issue added after sprint start

Date - October 31st, 2022 - November 5th, 2022







Report: APNAFFE Sprint 3

*Issue added after sprint start

Velocity report

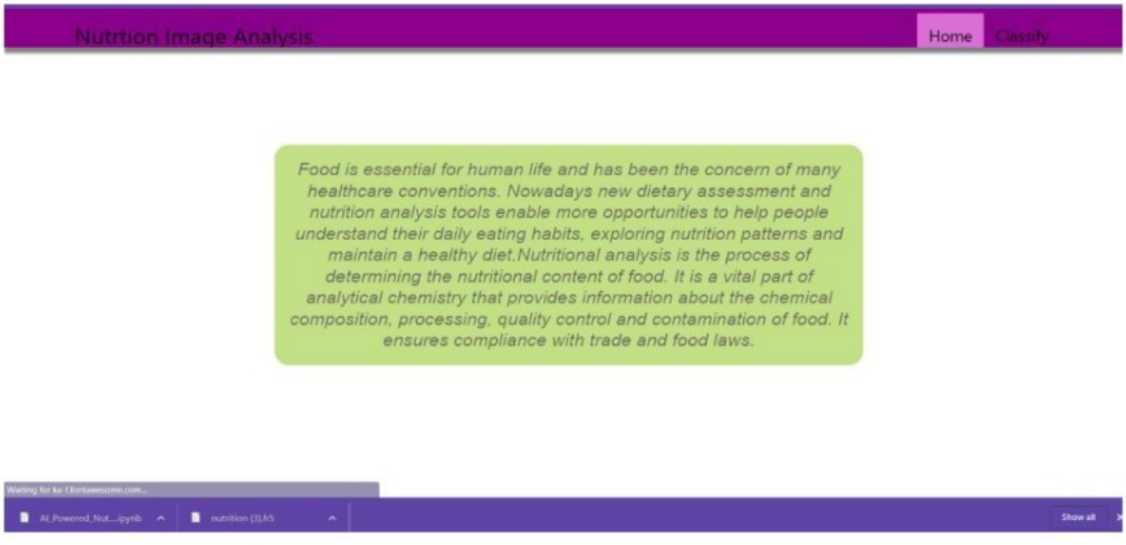
› How to read this report

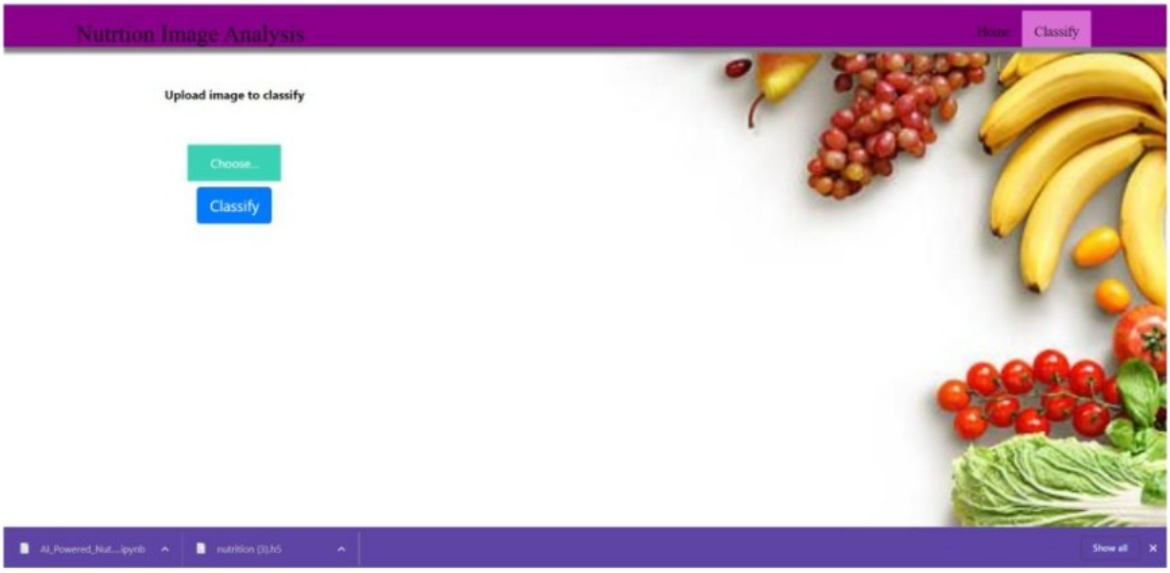
Sprint	Commitment	Completed
APNAFFE Sprint 1	0	20

Velocity report

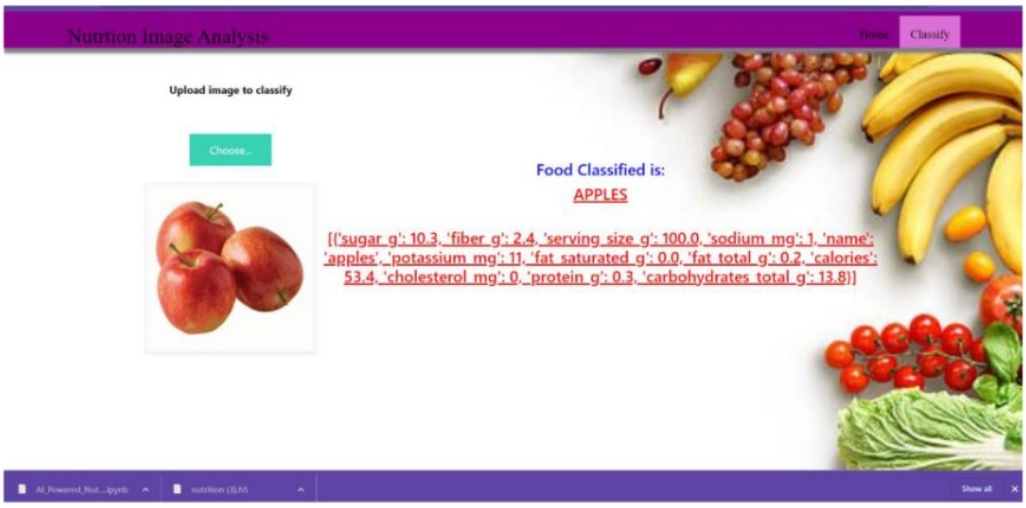
› How to read this report

7. CODING & SOLUTIONING




Nutrtion Image Analysis
Home
Classify
Upload image to classify
Choose...
Classify
AI_Powered_Nut....ipynb
nutrition (3).h5
Show all


Nutrtion Image Analysis
Home
Classify
Upload image to classify
Choose...
Classify



8. TESTING

8.1 Testcases

Test case ID	Feature Type	Component	Test Scenario	Pre-Requisite	Steps to Execute	Test data	Expected Result	Actual result	Status	Comments	TC for Automation[Y/N]	Executed by
Home page_TC_001	UI	Home page	Read the information in the project	None	No steps required	None	Should display the information about the project.	Working as expected	Pass		No	NaveenKumar.V
Predict page_TC_001	Functional	Home page	Verify UI elements	None	1.Upload the image	None	The nutrition gets predicted with the recommendation of fruits.	Working as expected	Pass	Accuracy=98%	No	Revathi.N

8.2 User acceptance Testing

1. Purpose of Document

The purpose of this document is to briefly explain the test coverage and open issues of nutrition analysis for predicting nutrition of the fruit at the time of the release to User Acceptance Testing(UTA).

2. Defect Analysis

This report shows the number of resolved or closed bugs at each severity level and how they were resolved.

Resolution	Severity 1	Severity 2	Severity 3	Severity 4	Subtotal
By design	7	2	0	1	10
Duplicate	2	0	3	0	5
External	3	2	0	2	7
Fixed	10	3	5	15	33
Not Report	0	0	0	0	0
Skipped	0	1	0	1	2
Won't Fix	0	0	0	0	0
Total	22	8	8	19	57

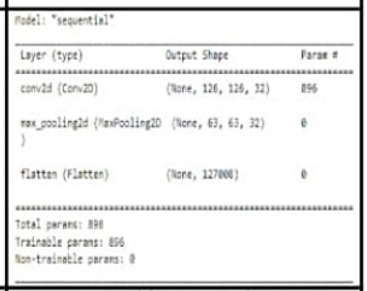
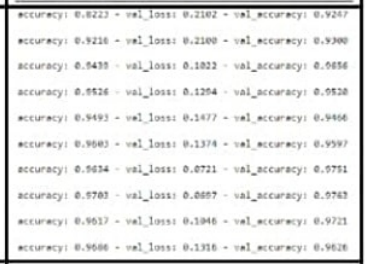
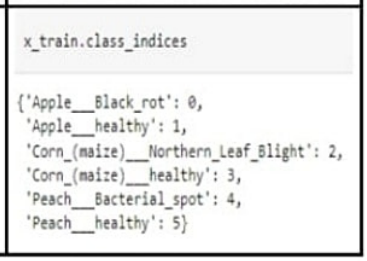
3. Test Case Analysis

This report shows the number of test cases that have passed,faile and untested

Section	Total Cases	Not Tested	Fail	Pass
Print Engine	6	0	0	6
Client Application	10	1	0	10
Security	0	0	0	0
Outsource Shipping	5	0	0	5
Exception Reporting	6	0	0	6
Final Report Output	5	0	0	5
Version	1	0	0	1

9. RESULTS

9.1 Performance Metrics

S.No.	Parameter	Values	Screenshot
1.	Model Summary	Model value - 896	
2.	Accuracy	Training Accuracy – 0.9686 Validation Accuracy – 0.9626	
3.	Confidence Score (Only Yolo Projects)	Class Detected Confidence Score - 96	

10. ADVANTAGE AND IDISADVANTAGE

Advantages:

1. The system helps to compute the nutrition content of fruit

2.This system used to classify the name of the fruit which is uploaded and predict the nutrition content of that fruit have are listed.

3.This prediction and diagoning of fruit nutrition content help to know about the health fact of that fruit and suggest to improve our health.

DisAdvantages:

1. Due to changing the color of fruit, accurate results cannot be predicted by this system.

2.System only able to detect the nutrition content of that fruit

11. CONCLUTION

The model proposed here involves image classification of fruit datasets. The following points are observed during model testing and training:

✔ The accuracy of classification increased by increasing the number of epochs.
✔ For different batch sizes, different classification accuracies are obtained.
✔ The accuracies are increased by increasing more convolution layers.
✔ The accuracy of classification also increased by varying dense layers.
✔ Different accuracies are obtained by varying the size of kernel used in the convolution layer output.
✔ Accuracies are different while varying the size of the train and test datasets.

12. FUTURE SCOPE

The proposed model in this project work can be extended to image recognition. The entire model can be converted to application software using python to exe software. The real time image classification, image recognition and vidoe processing are possible with help OpenCV python library This project work can be extended for security applications such as figure print recognition, inis recognition and face recognition.

13. APPENDIX

13.1 SOURCE CODE

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"></scrip
    t>
11      <script
    src="https://cdn.bootcss.com/bootstrap/4.0.0/js/bootstrap.min.js"
    ></script>
12      <link href="{{ url_for('static', filename='css/main.css') }}"
    rel="stylesheet">
13  <style>
14  body
15  {
16      background-image: url("https://www.livingproofnyc.com/wp-
    content/themes/livingproof/assets/img/hero-background.jpg");
17      background-size: cover;
18  }
19  .bar
20  {
21  margin: 0px;
22  padding:20px;
23  background-color:white;
24  opacity:0.6;
25  color:black;
26  font-family:'Roboto',sans-serif;
27  font-style: italic;
28  border-radius:20px;
29  font-size:25px;
30  }
31  h3
32  {
33  margin: 0px;
34  padding:20px;
35  background-color:#9ACD32;
36  width: 800px;
37  opacity:0.6;
38  color:#000000;
39  font-family:'Roboto',sans-serif;
40  font-style: italic;
41  border-radius:20px;
42  font-size:25px;
43  }
44  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: 22px;
        }

        .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">
```

```
125       <div style="width:50%;float:left;font-size:2vw;text-
   align:left;color:black; padding-top:1%;padding-left:5%;">Nutrtion
   Image Analysis</div>
126         <div class="topnav-right"style="padding-top:0.5%;">
127
128           <a class="active" href="{{ url_for('home')}}">Home</a>
129           <a   href="{{ url_for('image1')}}">Classify</a>
130         </div>
131       </div>
132       </div>
133       <br>
134       <br>
135       <br>
136       <br>
137       <br>
138       <br>
139       <br>
140       <br>
141       <h1>
142
143       <center>
144
145
146       <h3>Food is essential for human life and has been the
   concern of
147       many healthcare conventions. Nowadays new dietary
   assessment
148       and nutrition analysis tools enable more opportunities to
   help
149       people understand their daily eating habits, exploring
   nutrition
150       patterns and maintain a healthy diet.Nutritional analysis
   is the
151       process of determining the nutritional content of food. It
   is a
152       vital part of analytical chemistry that provides
   information about
153       the chemical composition, processing, quality control and
   contamination
154       of food. It ensures compliance with trade and food
```

```
   laws.</h3>
155
156        </center>
157
158
159        </h1>
160        </body>
161        </html>
```

Image.html

```
1  {% extends "imageprediction.html" %} {% block content %}
2  <div style="float:left">
3  <br>
4  <br>
5  <h5><font color="black" size="3" font-family="sans-
   serif"><b>Upload image to classify</b></font></h5><br><br>
6
7  <div>
8      <form id="upload-file" method="post" enctype="multipart/form-
   data">
9          <label for="imageUpload" class="upload-label">
10             Choose...
11         </label>
12         <input type="file" name="file" id="imageUpload"
   accept=".png, .jpg, .jpeg">
13     </form>
14
15    <center> <div class="image-section" style="display:none;">
16         <div class="img-preview">
17             <div id="imagePreview">
18             </div></center>
19         </div>
20         <center><div>
21             <button type="button" class="btn btn-primary btn-lg "
   id="btn-predict">Classify</button>
22         </center></div>
23     </div>
24
25     <div class="loader" style="display:none;margin-left:
   450px;"></div>
```

```
26
27     <h3 id="result">
28
29         <span><p style="padding-top: 25px;"><h4>Food Classified
   is : <h4><b><u>{{showcase}}{{showcase1}}</p> </span>
30     </h3>
31
32 </div>
33 </div>
34
35
36
37 {% endblock %}
```

Predict.html

```
1  <!DOCTYPE html>
2  <html>
3  <head>
4     <meta charset="UTF-8">
5      <meta name="viewport" content="width=device-width, initial-
   scale=1.0">
6      <meta http-equiv="X-UA-Compatible" content="ie=edge">
7      <title>Predict</title>
8      <link
   href="https://cdn.bootcss.com/bootstrap/4.0.0/css/bootstrap.min.c
   ss" rel="stylesheet">
9      <script
   src="https://cdn.bootcss.com/popper.js/1.12.9/umd/popper.min.js">
   </script>
10     <script
   src="https://cdn.bootcss.com/jquery/3.3.1/jquery.min.js"></scrip
   t>
11     <script
   src="https://cdn.bootcss.com/bootstrap/4.0.0/js/bootstrap.min.js"
   ></script>
12     <link href="{{ url_for('static', filename='css/main.css') }}"
   rel="stylesheet">
13 <style>
14 body
```

```
{
    background-image:
  url("https://i.pinimg.com/originals/be/21/1a/be211ad5043a8d05757a
  3538bdd8f450.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:25px;
}
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;
```

```
93   color: black;
94 }
95
96 .topnav-right a.active {
97   background-color: #DA70D6;
98   color: black;
99 }
100
101       .topnav-right {
102         float: right;
103         padding-right:100px;
104       }
105       </style>
106       </head>
107       <body>
108       <div class="header">
109       <div style="width:50%;float:left;font-size:2vw;text-
   align:left;color:black; padding-top:1%;padding-left:5%;">Nutrtion
   Image Analysis</div>
110         <div class="topnav-right"style="padding-top:0.5%;">
111
112           <a href="{{ url_for('home')}}">Home</a>
113           <a  class="active" href="{{
   url_for('image1')}}">Classify</a>
114         </div>
115       </div>
116       <br>
117
118
119       </div>
120       <div class="container">
121             <center>
122       <div id="content" style="margin-top:2em">{% block content
   %}{% endblock %}</div></center>
123           </div>
124       </body>
125
126       <footer>
127           <script src="{{ url_for('static',
   filename='js/main.js') }}" type="text/javascript"></script>
```

```
128         </footer>
129
130         </html>
```

Main.css

```
1  .img-preview {
2      width: 256px;
3      height: 256px;
4      position: relative;
5      border: 5px solid #F8F8F8;
6      box-shadow: 0px 2px 4px 0px rgba(0, 0, 0, 0.1);
7      margin-top: 1em;
8      margin-bottom: 1em;
9  }
10
11 .img-preview>div {
12     width: 100%;
13     height: 100%;
14     background-size: 256px 256px;
15     background-repeat: no-repeat;
16     background-position: center;
17 }
18
19 input[type="file"] {
20     display: none;
21 }
22
23 .upload-label{
24     display: inline-block;
25     padding: 12px 30px;
26     background: #39D2B4;
27     color: #fff;
28     font-size: 1em;
29     transition: all .4s;
30     cursor: pointer;
31 }
32
33 .upload-label:hover{
34     background: #34495E;
```

```
    color: #39D2B4;
}

.loader {
    border: 8px solid #f3f3f3; /* Light grey */
    border-top: 8px solid #3498db; /* Blue */
    border-radius: 50%;
    width: 50px;
    height: 50px;
    animation: spin 1s linear infinite;
}

@keyframes spin {
    0% { transform: rotate(0deg); }
    100% { transform: rotate(360deg); }
}
```

Style.css

```
body{
        background-image:url(bg.jpg);
    background-size: 400% auto;
        background-repeat: no-repeat;
        background-position:center;
        color:#555;
        font-family:Arial, Helvetica, sans-serif;
        font-size:16px;
        line-height:1.6em;
        margin:0;
}

.container{
        width:80%;
        margin:auto;
        overflow:hidden;
}

.justify{
    text-align:justify;
    text-justify: auto;
```

```
}

.parallax {
  /* The image used */
     background-image: url("doc.jpg");

  /* Set a specific height */
  min-height: 750px;

  /* Create the parallax scrolling effect */
  background-attachment: fixed;
  background-position: center;
  background-repeat: no-repeat;
  background-size: cover;
}

html {
  scroll-behavior: smooth;
}
#section2 {
  height: 500px;
  background: ;
}
div.background {
  background: url("static/bgg2.jpg");
  min-height: 5px;
 background-attachment: fixed;
  background-position: center;
  background-repeat: no-repeat;
  background-size: cover;
}


#navbar{
        background-color:#fff;
        color:#333;
}

#navbar ul{
        padding:0;
```

```
        list-style: none;
}

#navbar li{
        display:inline;
}

#navbar a{
        color:#fff;
        text-decoration: none;
        font-size:18px;
        padding-right:15px;
}

#showcase{
        min-height:300px;
        margin-bottom:30px;
}


#showcase h1{
    width: 100%;
        color:#333;
        font-size:40px;
        text-align: center;
        line-height: 1em;
        padding-top:10px;
}
#showcase h2{
    width: 100%;
        color:#333;
        font-size:30px;
        text-align: center;
        line-height: 1.6em;
        padding-top:10px;
}

#main{
          float:left;
          color:#fff;
```

```
102           width:65%;
103           padding:0 30px;
104           box-sizing: border-box;
105       }
106
107       #sidebar{
108           float:right;
109           width:35%;
110           background-color: #ffcccc;
111           color:#000;
112           padding-left:10px;
113           padding-right:10px;
114           padding-top:1px;
115           box-sizing: border-box;
116       }
117
118
119       .img-preview {
120           width: 10px;
121           height: 10px;
122           position: relative;
123           border: 5px solid #F8F8F8;
124           box-shadow: 0px 2px 4px 0px rgba(0, 0, 0, 0.1);
125           margin-top: 1em;
126           margin-bottom: 1em;
127       }
128
129       .img-preview>div {
130           width: 10%;
131           height: 10%;
132           background-size: 100px 10px;
133           background-repeat: no-repeat;
134           background-position: center;
135       }
136
137       input[type="file"] {
138           display: none;
139       }
140
141       .upload-label{
```

```
142             display: inline-block;
143             padding: 12px 30px;
144             background: #39D2B4;
145             color: #fff;
146             font-size: 1em;
147             transition: all .4s;
148             cursor: pointer;
149         }
150 
151         .upload-label:hover{
152             background: #34495E;
153             color: #39D2B4;
154         }
155 
156         .myButton {
157           border: none;
158           text-align: center;
159           cursor: pointer;
160           text-transform: uppercase;
161           outline: none;
162           overflow: hidden;
163           position: relative;
164           color: #fff;
165           font-weight: 700;
166           font-size: 12px;
167           background-color: #ff0000;
168           padding: 10px 15px;
169           margin: 0 auto;
170           box-shadow: 0 5px 15px rgba(0,0,0,0.20);
171         }
172 
173         .myButton span {
174           position: relative;
175           z-index: 1;
176         }
177 
178         .myButton:after {
179           content: "";
180           position: absolute;
181           left: 0;
```

```
182           top: 0;
183           height: 310%;
184           width: 150%;
185           background: #f2f2f2;
186           -webkit-transition: all .5s ease-in-out;
187           transition: all .5s ease-in-out;
188           -webkit-transform: translateX(-98%) translateY(-25%)
    rotate(45deg);
189           transform: translateX(-98%) translateY(-25%)
    rotate(45deg);
190         }
191
192         .myButton:hover:after {
193           -webkit-transform: translateX(-9%) translateY(-25%)
    rotate(45deg);
194           transform: translateX(-9%) translateY(-25%)
    rotate(45deg);
195         }
196
197         .loader {
198             border: 8px solid #f3f3f3; /* Light grey */
199             border-top: 8px solid #ff0000; /* Red */
200             border-radius: 50%;
201             width: 50px;
202             height: 50px;
203             animation: spin 1s linear infinite;
204         }
205
206         @keyframes spin {
207             0% { transform: rotate(0deg); }
208             100% { transform: rotate(360deg); }
209         }
210
211         #main-footer{
212            background: #333;
213            color:#fff;
214            text-align: center;
215            padding:1px;
216            margin-top:0px;
217         }
```

```
218
219       @media(max-width:600px){
220          #main{
221                width:100%;
222                float:none;
223          }
224
225          #sidebar{
226                width:100%;
227                float:none;
228          }
229       }
```

Main.js

```
1  $(document).ready(function () {
2      // Init
3      $('.image-section').hide();
4      $('.loader').hide();
5      $('#result').hide();
6
7      // Upload Preview
8      function readURL(input) {
9          if (input.files && input.files[0]) {
10             var reader = new FileReader();
11             reader.onload = function (e) {
12                 $('#imagePreview').css('background-image', 'url('
   + e.target.result + ')');
13                 $('#imagePreview').hide();
14                 $('#imagePreview').fadeIn(650);
15             }
16             reader.readAsDataURL(input.files[0]);
17         }
18     }
19     $("#imageUpload").change(function () {
20         $('.image-section').show();
21         $('#btn-predict').show();
22         $('#result').text('');
23         $('#result').hide();
24         readURL(this);
```

```
    });

    // Predict
    $('#btn-predict').click(function () {
        var form_data = new FormData($('#upload-file')[0]);

        // Show loading animation
        $(this).hide();
        $('.loader').show();

        // Make prediction by calling api /predict
        $.ajax({
            type: 'POST',
            url: '/predict',
            data: form_data,
            contentType: false,
            cache: false,
            processData: false,
            async: true,
            success: function (data) {
                // Get and display the result
                $('.loader').hide();
                $('#result').fadeIn(600);
                $('#result').html(data);
                console.log('Success!');
            },
        });
    });

});
```

Github Link: https://github.com/IBM-EPBL/IBM-Project-12568-1659454094