(ISE-I)

Automated Food Recognition and Personalized Health Recommendations

This project integrates AI with health management to provide personalized diet and workout recommendations. The system recognizes food items using a CNN model and leverages Google Gemini for calorie estimation and fitness suggestions.

Team Members

Shantanu Chougule
Roll no: 71

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Roll no: 67

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Roll no: 56

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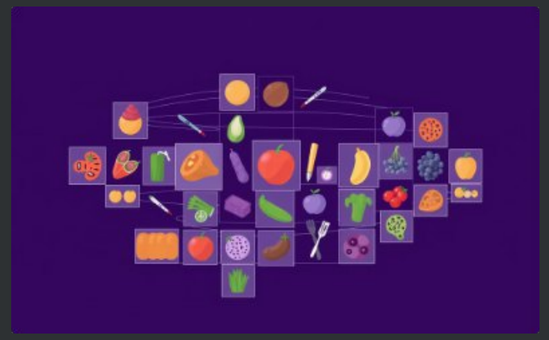
Roll no: 60

Gourav Kumbhar
Roll no: 52

Problem Statement

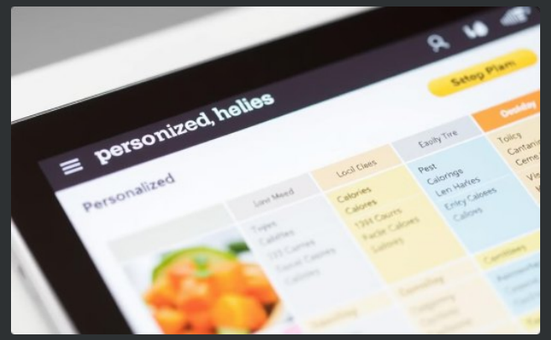
Many people struggle to maintain a balanced diet and track their caloric intake, leading to health issues. A reliable food recognition and calorie estimation system could help users better understand their eating habits and make healthier choices.

Work Done Till Date



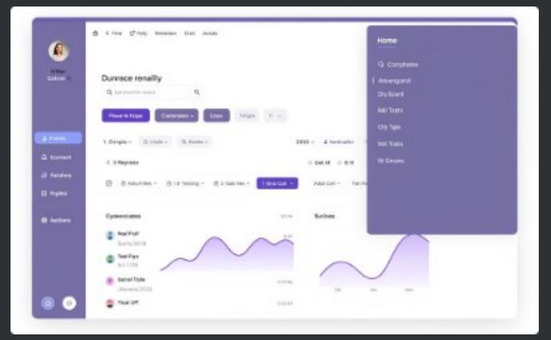
Food Recognition

Implemented a CNN model with 93% accuracy to recognize a variety of food items from images.



Calorie Estimation

Integrated Google Gemini to provide calorie estimates and personalized nutrition recommendations based on the recognized foods.



Web Interface

Created a simple, intuitive web application using Streamlit to enable users to interact with the food recommendation features.

PDF Report

Developed a feature to generate a downloadable PDF report summarizing the user's health insights personalized recommendations

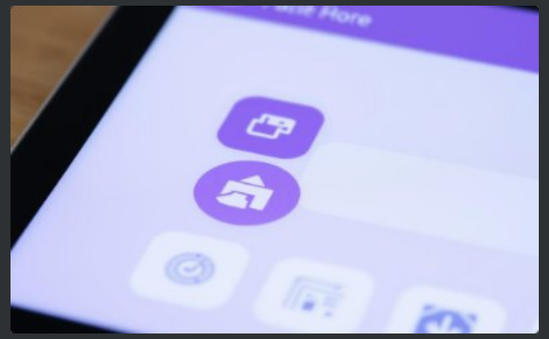
Work Remaining

Fine-tuning Model Accuracy

Enhancing the computer vision algorithms to accurately recognize a wider variety of food items, including complex dishes and regional cuisines.

Testing and Validation

Expanding the user base to gather feedback and ensure the system meets the diverse needs of individuals across different health conditions.



Improving UI/UX

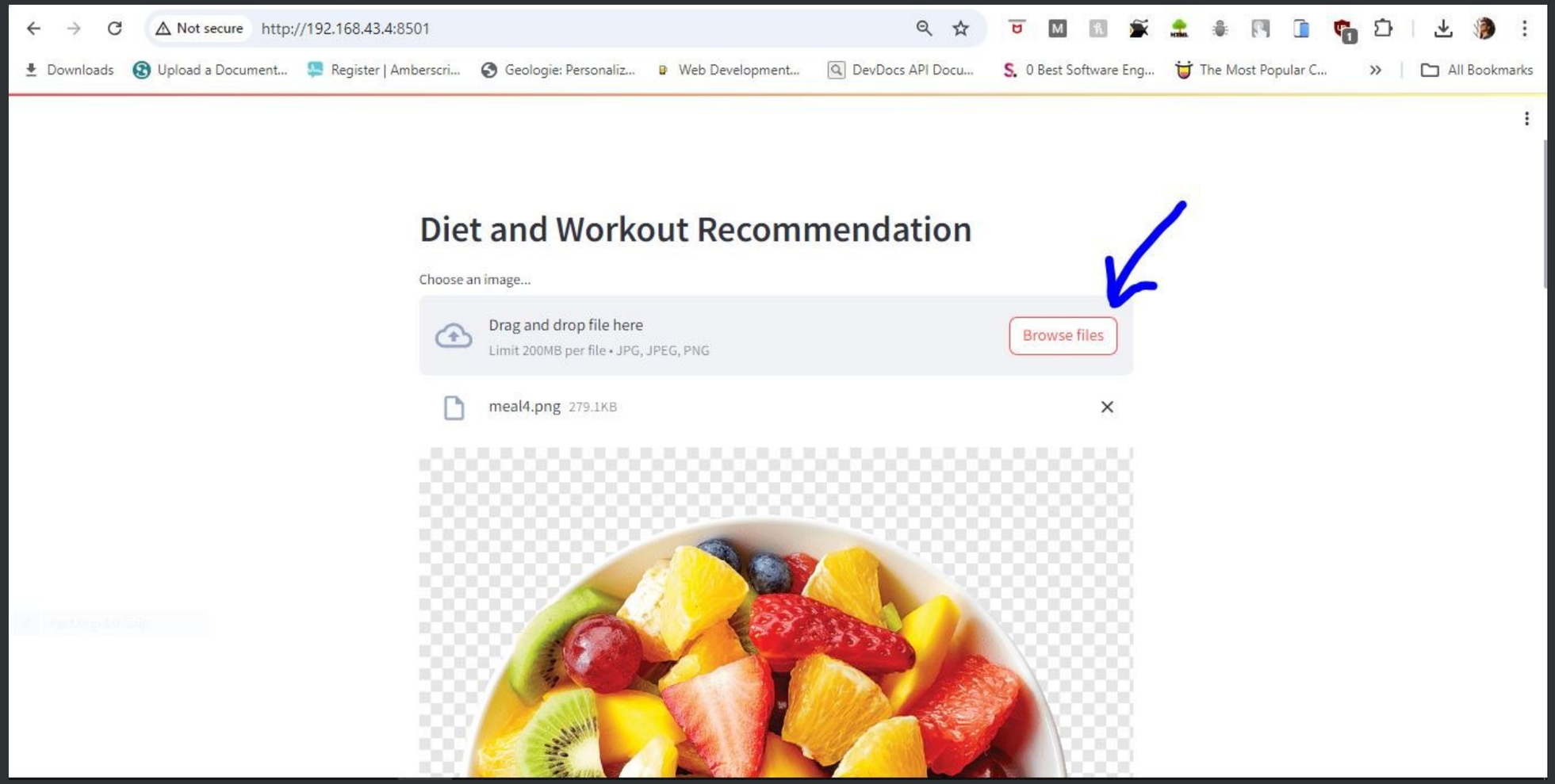
Refining the user interface and experience to make the app more accessible, engaging, and seamless for all users.

Final Integration and Deployment

Seamlessly integrating the various system components and preparing the solution for a successful and impactful launch.

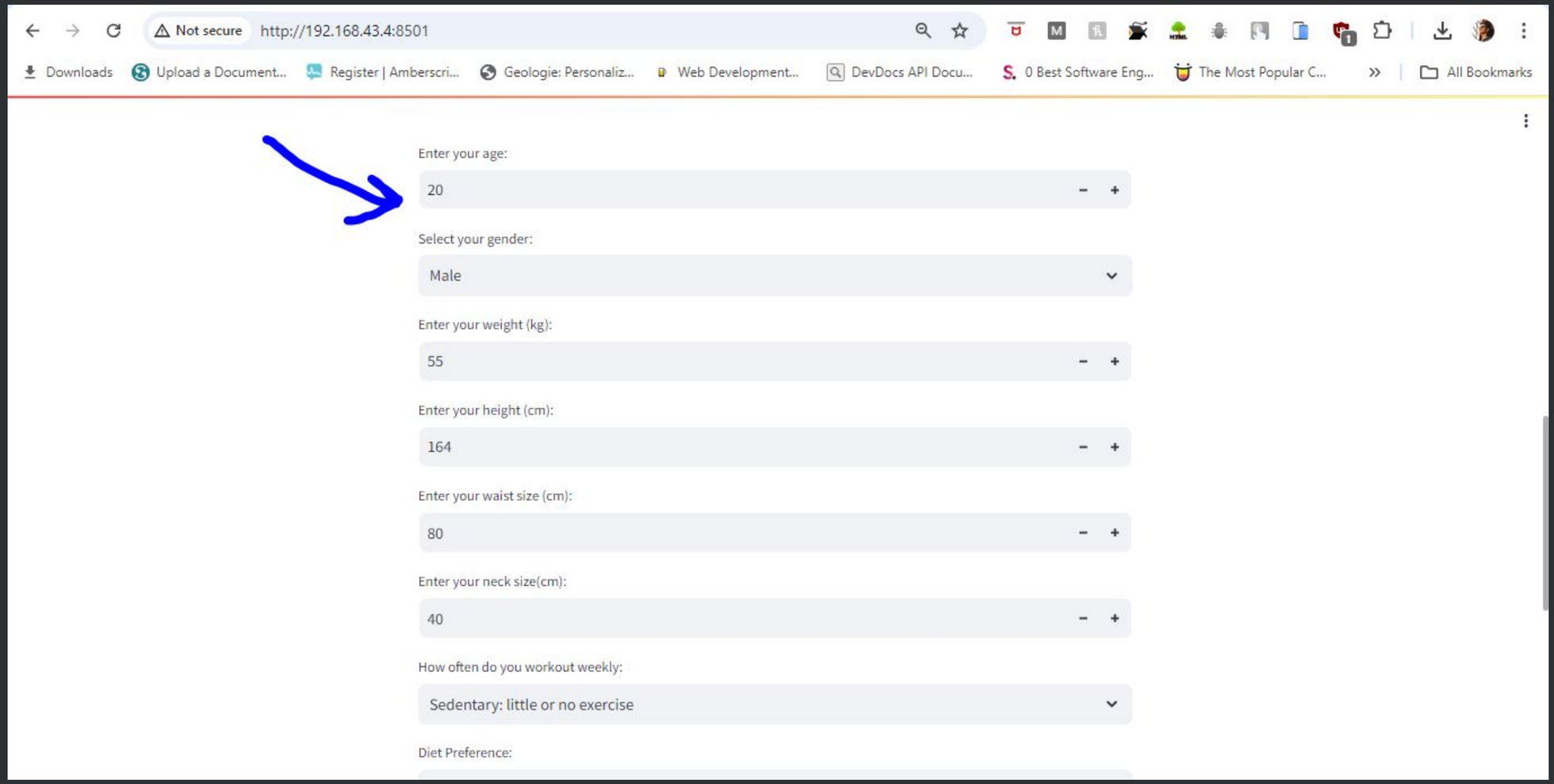
Screenshots

Upload Image



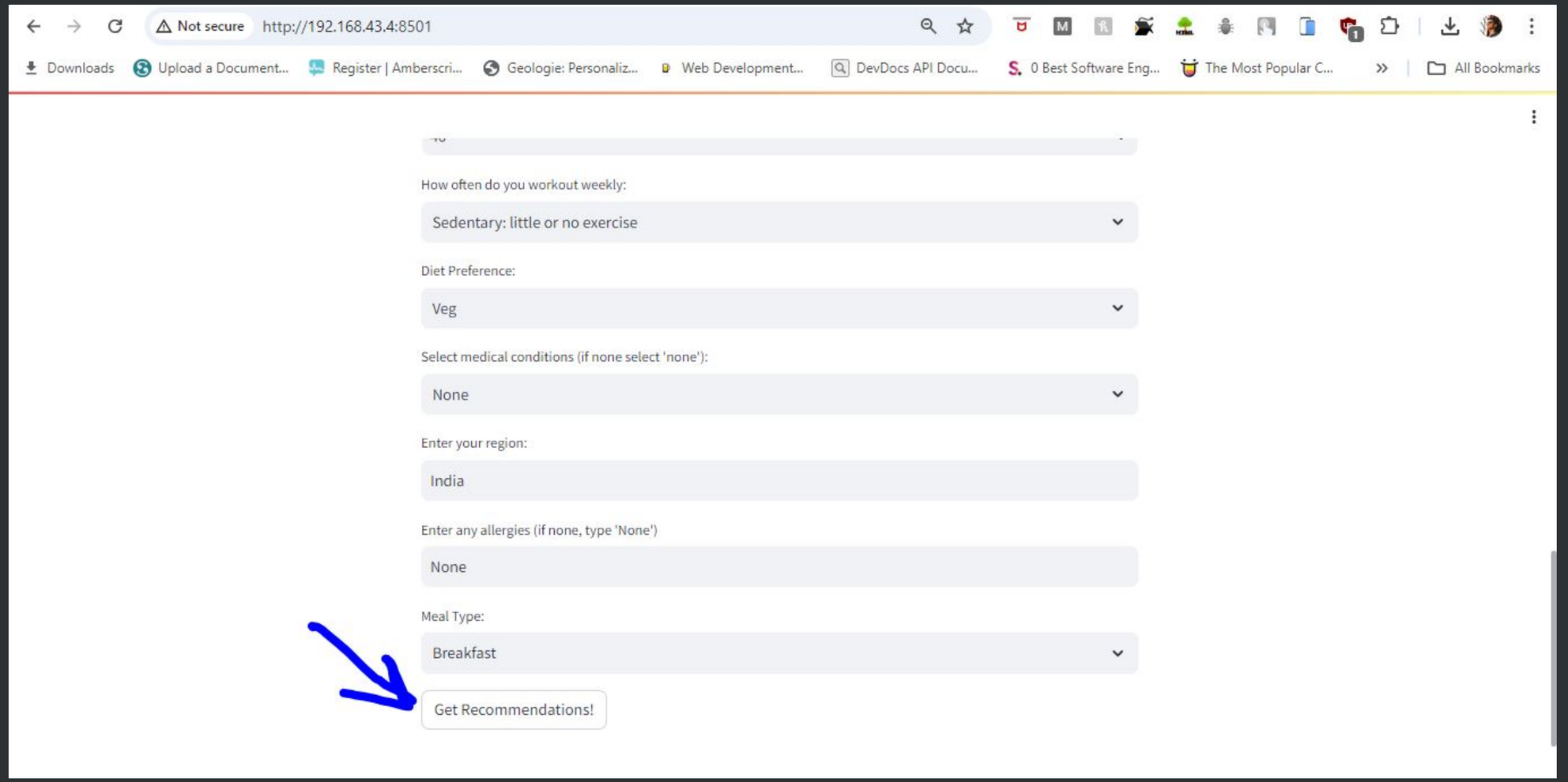
Screenshots

Collect User Personal Data



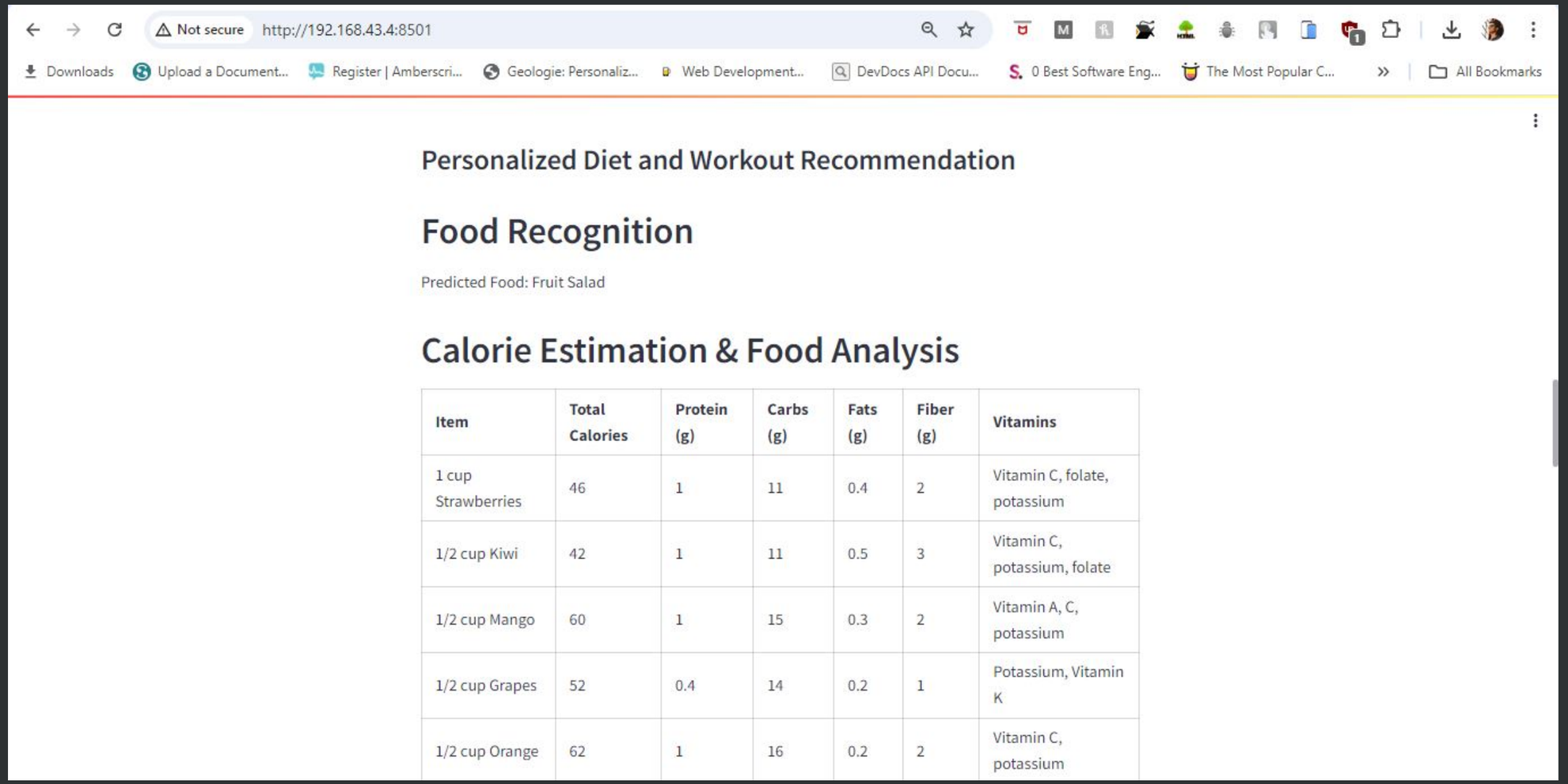
Screenshots

Get Recommendations



Screenshots

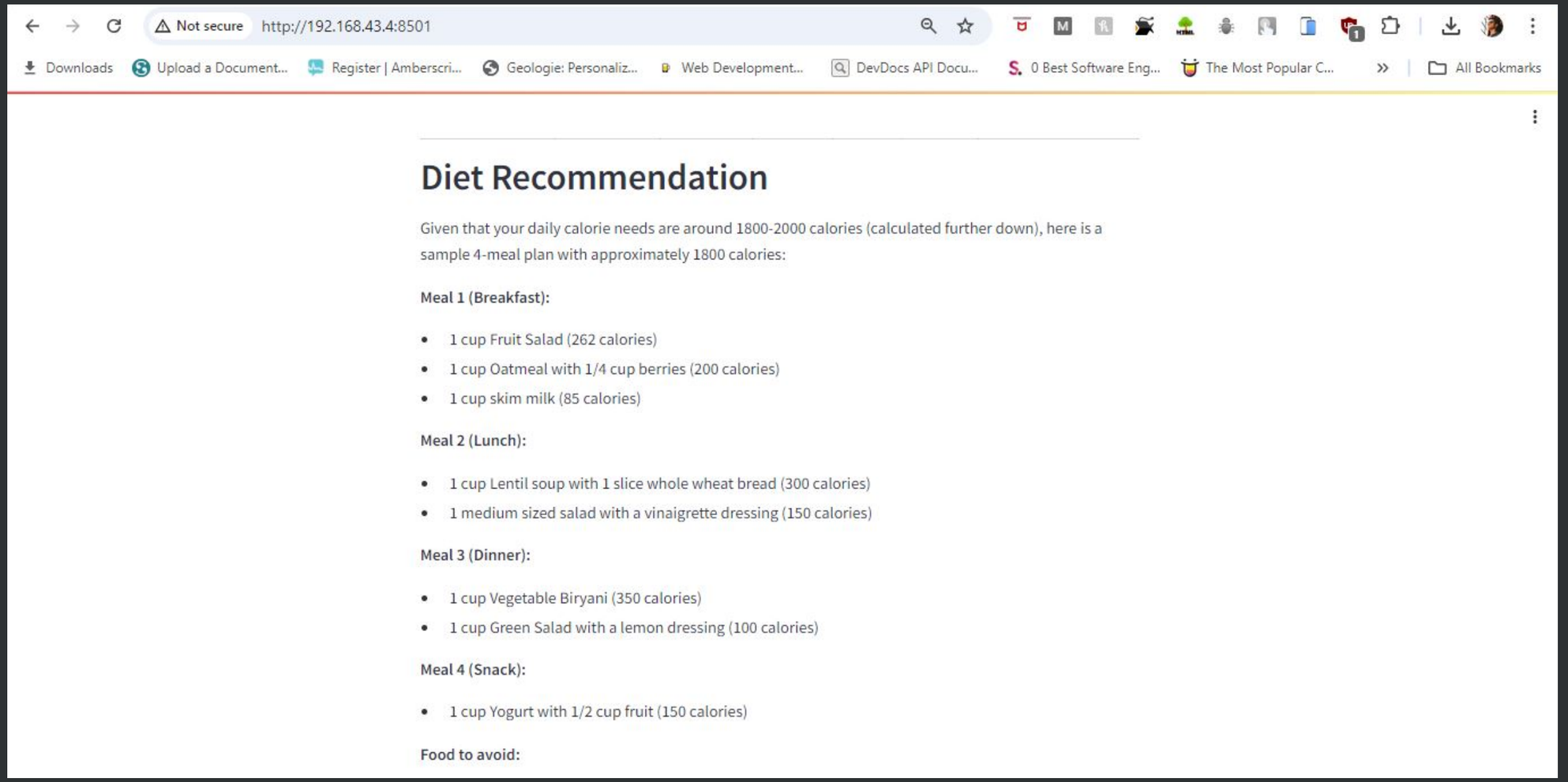
Food Recognition and Calorie Estimation



Item	Total Calories	Protein (g)	Carbs (g)	Fats (g)	Fiber (g)	Vitamins
1 cup Strawberries	46	1	11	0.4	2	Vitamin C, folate, potassium
1/2 cup Kiwi	42	1	11	0.5	3	Vitamin C, potassium, folate
1/2 cup Mango	60	1	15	0.3	2	Vitamin A, C, potassium
1/2 cup Grapes	52	0.4	14	0.2	1	Potassium, Vitamin K
1/2 cup Orange	62	1	16	0.2	2	Vitamin C, potassium

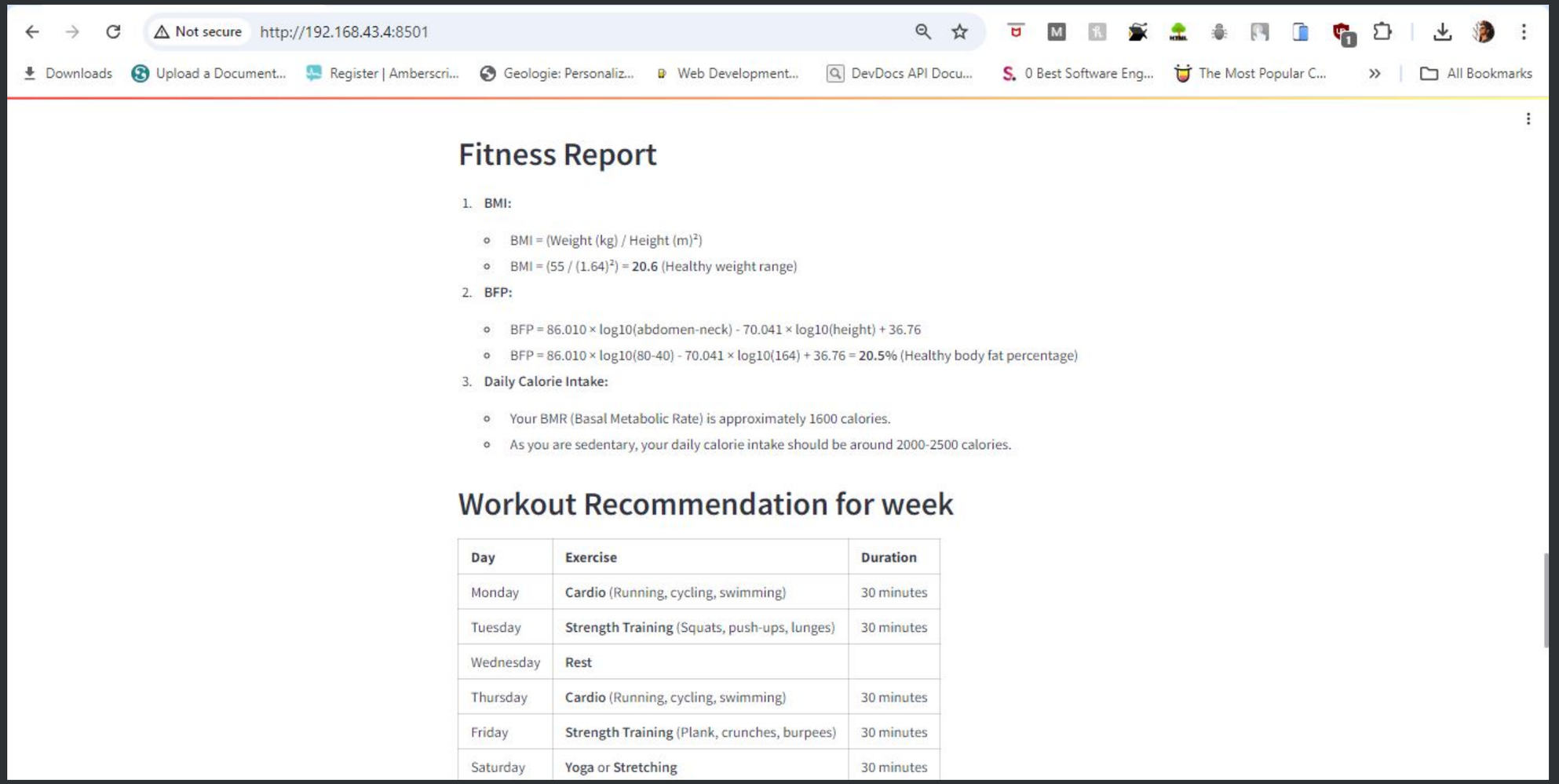
Screenshots

Diet Recommendation



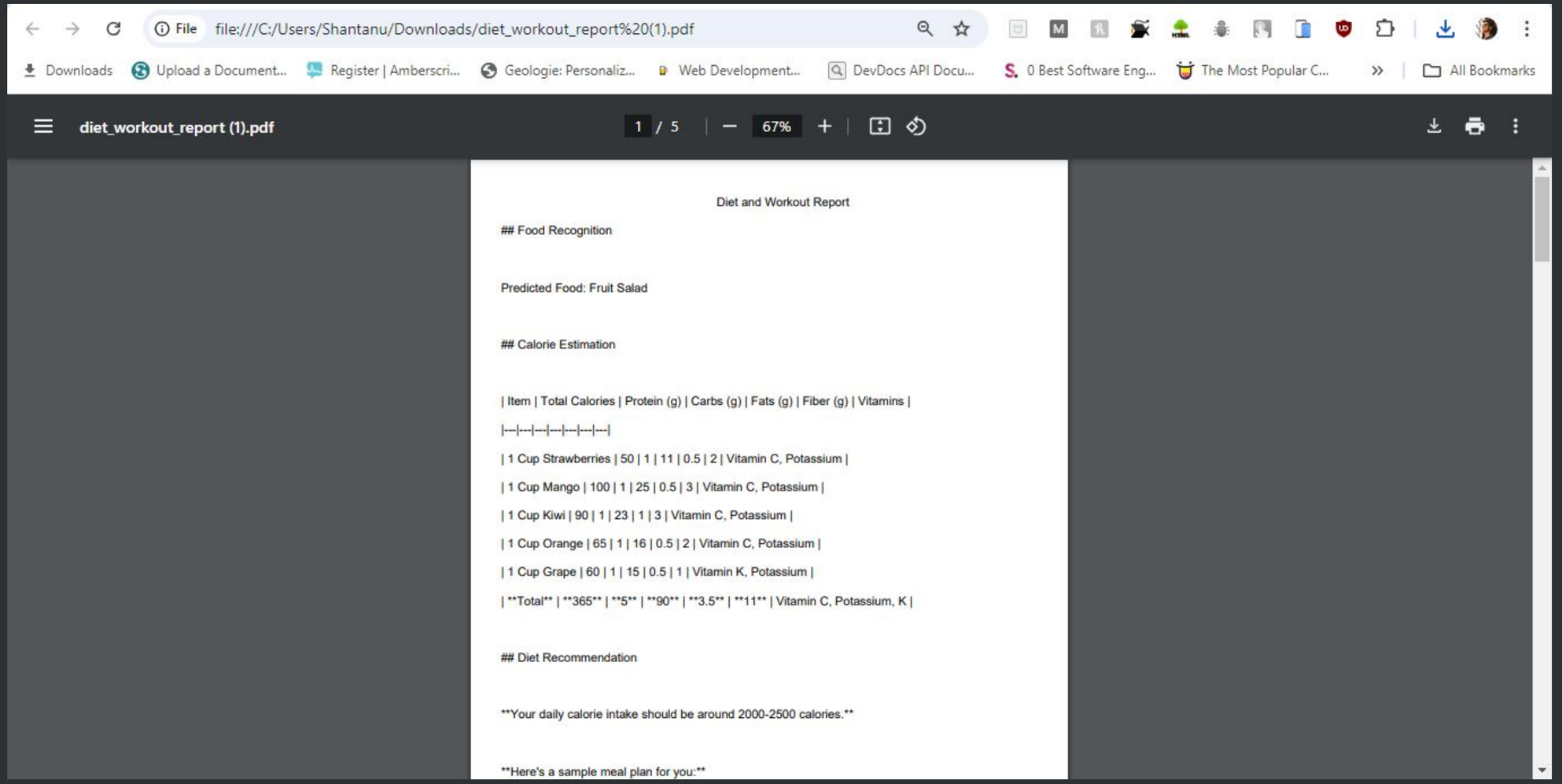
Screenshots

Workout Recommendation



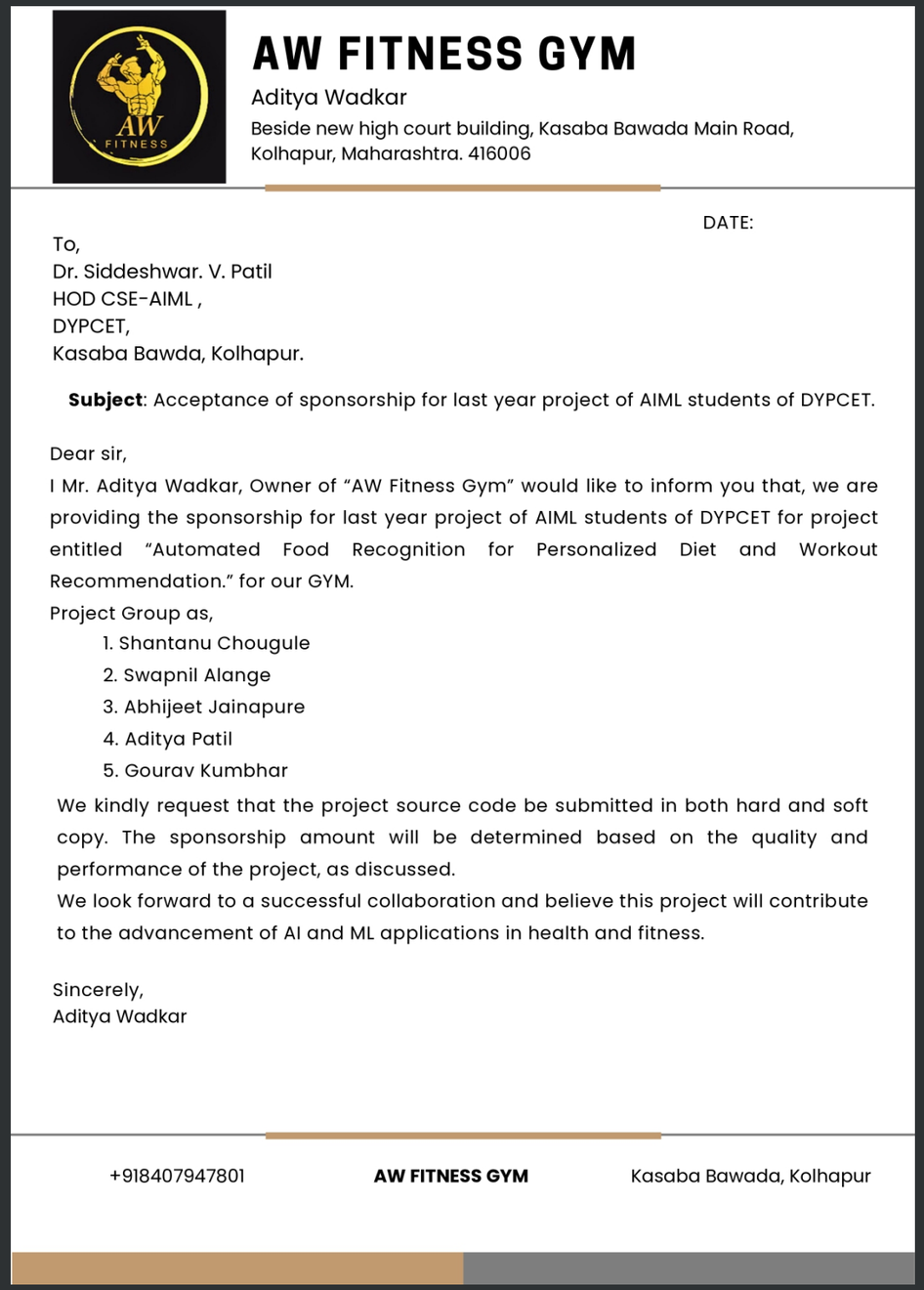
Screenshots

Download Fitness Report



Sponsorship

A gym provided sponsorship to develop an Automated Food Recognition and Personalized Health Recommendations System,
enabling them to offer customers personalized fitness insights and recommendations to help maintain a healthy lifestyle.



AW FITNESS GYM

Aditya Wadkar

Beside new high court building, Kasaba Bawada Main Road,
Kolhapur, Maharashtra. 416006

DATE:

To,
Dr. Siddeshwar. V. Patil
HOD CSE-AIML ,
DYPCET,
Kasaba Bawda, Kolhapur.

Subject: Acceptance of sponsorship for last year project of AIML students of DYPCET.

Dear sir,

I Mr. Aditya Wadkar, Owner of "AW Fitness Gym" would like to inform you that, we are providing the sponsorship for last year project of AIML students of DYPCET for project entitled "Automated Food Recognition for Personalized Diet and Workout Recommendation." for our GYM.

Project Group as,

1. Shantanu Chougule
2. Swapnil Alange
3. Abhijeet Jainapure
4. Aditya Patil
5. Gourav Kumbhar

We kindly request that the project source code be submitted in both hard and soft copy. The sponsorship amount will be determined based on the quality and performance of the project, as discussed.

We look forward to a successful collaboration and believe this project will contribute to the advancement of AI and ML applications in health and fitness.

Sincerely,
Aditya Wadkar

+918407947801 **AW FITNESS GYM** Kasaba Bawada, Kolhapur

THANK YOU

Let’s make world a “healthier” place :)