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AI-powered Nutrition Analyzer for Fitness Enthusiasts

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Abstract

In today's culture, many people suffer from a range of ailments and illnesses. It's not always simple to recommend a diet right away. The majority of individuals are frantically trying to reduce weight, gain weight, or keep their health in check. Time has also become a potential stumbling block. The study relies on a database that has the exact amounts of a variety of nutrients. As a result of the circumstance, a program that would encourage individuals to eat healthier has been created. Only three sorts of goods are recommended: weight loss, weight gain, and staying healthy. The Diet Recommendation System leverages user inputs such as medical data and the option of vegetarian or non-vegetarian meals from the two categories above to predict food items. We'll discuss about food classification, parameters, and machine learning in this post. This study also includes a comparative review of the advantages and disadvantages of machine learning methods. Finally, we'll discuss future research directions for the diet guidance system

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1. INTRODUCTION

In today’s culture, many people suffer from a range of ailments and illnesses. It’s not always simple to recommend a diet right away. The majority of individuals are frantically trying to reduce weight, gain weight, or keep their health in check. Time has also become a potential stumbling block. The study relies on a database that has the exact amounts of a variety of nutrients. As a result of the circumstance, a program that would encourage individuals to eat healthier has been created. Only three sorts of goods are recommended: weight loss, weight gain, and staying healthy. The Diet Recommendation System leverages user inputs such as medical data and the option of vegetarian or non-vegetarian meals from the two categories above to predict food items. We’ll discuss about food classification, parameters, and machine learning in this post. This study also includes a comparative review of the advantages and disadvantages of machine learning methods. Finally, we’ll discuss future research directions for the diet guidance system.

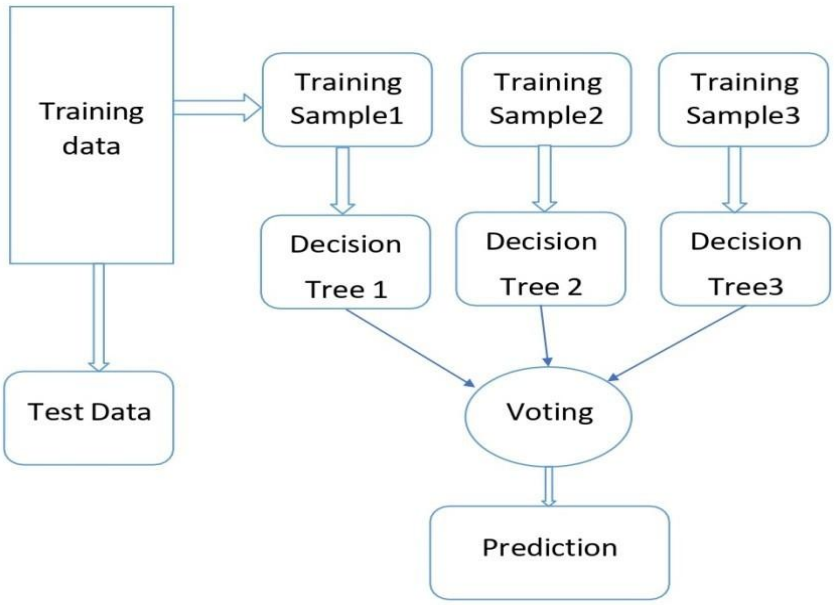
Existing Problem

The World Health Organization identifies the overall increasing of non- communicable diseases as a major issue, such as premature heart diseases, diabetes, and cancer. Unhealthy diets have been identified as the important causing factor of such diseases. In this context, personalized nutrition emerges as a new research field for providing tailored food intake advices to individuals according to their physical, physiological data, and further personal information. Specifically, in the last few years, several types of research have proposed computational models for personalized food recommendation using nutritional knowledge and user data.

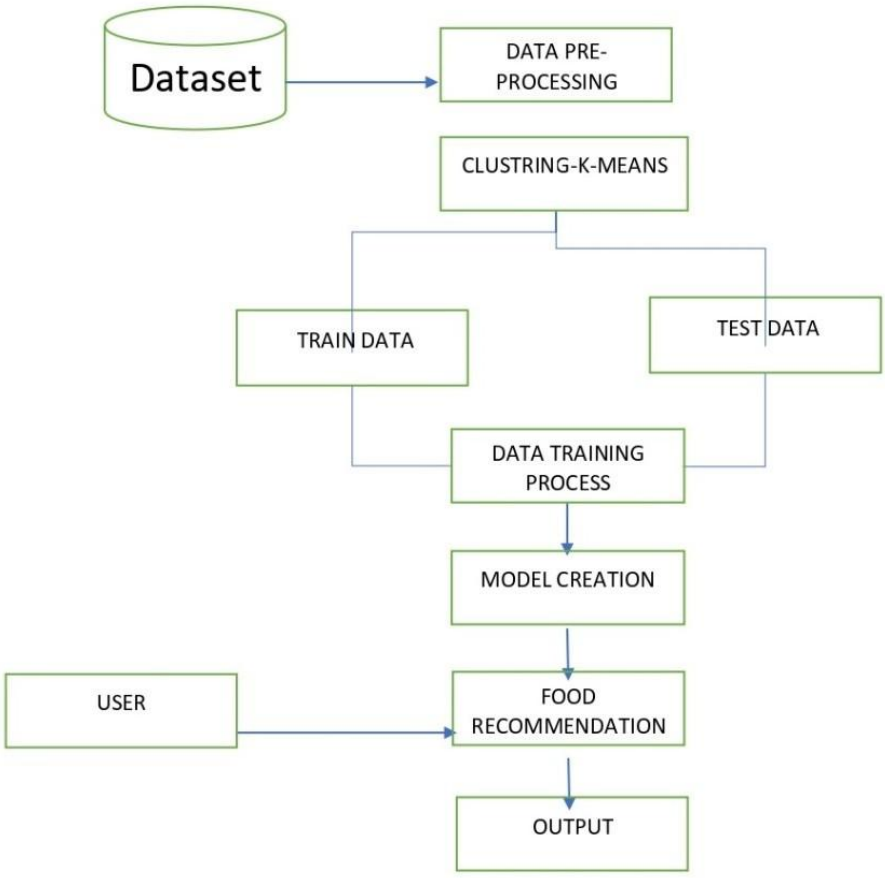
Solution& Technical Architecture

FLOWCHART

RANDOM FOREST CLASSIFIER WORKING FLOW



System Architecture



User Stories:

User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Release
Customer (Web user)	Upload	USN-1	As a user, I can upload the image by gallery	I can uploaded the image	High	Sprit-1
Customer (Web User)	Upload	USN-2	As a user, I can upload the image by take image using camera	I can upload the image	Low	Sprit-2
Customer (Web User)	Registration	USN-3	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account	High	Sprit-1
Customer (Web User)	Login	USN-4	As a user, I can log into the application by entering email & password	I can access my account	High	Sprit-1
Customer Care Executive	Enquiry/Customer services	USN-1	As a customer care executive, I can get the feedback and make report	I can interact with user	Medium	Sprit-1
Administrator	update	USN-1	As a administrator, I can update the performance	I can update and give more functionality	Medium	Sprit-1
Administrator	Add information	USN-2	As a administrator, I can add some extra information about the services	I can improve the access	Low	Sprit-2
Maintenance Team	Maintenance	USN-1	As a member, maintain the any technical problems or the any other issues in the system	I can maintaining the services	High	Sprit-1

2. CONCLUSION

Diet Food Suggestions Based Clustering MethodIn this project, we proposed a predictive approach using machine learning algorithm, where K-Means clustering and Random Forest was more accurate. Based on the obtained results we recommended food for different level for diet food.As the world grows more fitness-conscious with passing time, the demand for technological solutions to cater to this burgeoning demand is diversifying. Lately, a number of startups in India and worldwide are using predictive analytics artificial intelligence and natural language processing to help scores of fitness enthusiasts to track and monitor their nutrition and calorie intake.

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