

Diet Recommendation by Machine Learning

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Abstract—We mean to use the new headway in innovation to foster dietary as evaluation arrangements which is a more advantageous way to deal with screen every day food admission and control dietary patterns. Food, calorie and sustenance estimation framework is extremely useful for people groups to gauge and deal with their every day food admission. AI will make proposals dependent on the things that are of client's advantage or loved by them before. Additionally these calculations are utilized to suggest the food that the client might like. The suggested food and food in standard plans set by client's own circumstance are in a similar group, which meets the client's healthful equilibrium. We feature the issue of determination of legitimate eating regimen that should satisfy everybody's nourishing prerequisites.

Index Terms— Diet Recommendation, Machine Learning.

I. INTRODUCTION

In the present chaotic world, the significance of diet the board has expanded definitely. Because of unfortunate and random dietary patterns, the spread of diet related infections is at an unequaled high. In India, more than 2 out of each 100 individuals experience the ill effects of diabetes, while 32 out of each 100 individuals experience the ill effects of coronary illness. There are a large group of diet related applications and arrangements accessible today. While the significance of adjusted eating routine continues to expand, the assortment of utilizations in plain view today actually need fulfillment. This application will assist clients with organizing their day by day diet as indicated by different individual variables which incorporate BMI, hypersensitivities, infections, and so forth

II. LITERATURE SURVEY

Anonnaya Banerjee et al. [1] stated that, to provide a better dietary solution our paper proposes a model to basis of their potassium level in blood. Classification of the patients is implemented recommend food for patients suffering from kidney disease on the using WEKA and then further using query-based matching we recommended food for the identified levels based on the seriousness of the disease.

Akash Maurya, Rahul Wable [2] proposed that proposed m extracts the features which are responsible for CKD, then machine learning process can automate the classification of the chronic kidney disease in different stages according to its severity. The objective is to use machine learning algorithm and suggest suitable diet plan for CKD patient using classification algorithm on medical test records. Diet recommendation for patient will be

given according to potassium zone which is calculated using blood potassium level to slow down the progression of CKD.

Heba Abdelgader Mohammed [3] proposed that work in progress to develop a type 2 fuzzy logic based diet recommendation system for diabetes to help achieving a healthy lifestyle to control the disease.

Celestine Iwendi et al. [4] stated that in this paper, deep learning solution for healthbase medical dataset that automatically detects which food should be given to which patient base on the disease and other features like age, gender, weight, calories, protein, fat, sodium, fiber, cholesterol. This research framework is focused on implementing both machine and deep learning algorithms like, logistic regression, naive bayes, Recurrent Neural Network (RNN), Multilayer Perceptron (MLP), Gated Recurrent Units (GRU), and Long Short-Term Memory (LSTM).

Divya Mogaveera et al. [5] stated that essentially useful for the doctors to recommend diet and exercise based on their latest reports and personal health details. For this, we have broadly classified our system into 2 modules: Health Monitoring and Diet & Exercise Recommendation. In the Health Monitoring module, the system would suggest follow-up sessions until the reports come normal.

Prithvi Vasireddy [6] stated that particular application, taskbots and metabots are used. The proposed solution is capable of sending a large number of diet recommendations to hundreds of users in a database at a very expeditious rate.

Arushi Singh et al. stated that [7] is devised for creating a proper diet plan for people of each age group using data collected from many different sources. A diet list will be proposed to the user by calculating the necessary amount of carbohydrates, vitamins and minerals, milk protein, meat protein, fat and sugar according to the age group they fall in.

III. PROPOSED METHOD AND ALGORITHM

A. Proposed Methodology

People login into the system and directly enter their health-related information and working lifestyle which is directly stored into the database. This health and lifestyle related information acquired through the software is the first-hand material for this system e.g. the height, weight, diseases etc. The data regarding food items and its nutritional value is collected from the dataset provided by USDA agricultural research service food datasets. Generally, the data acquisition module selectively obtains data from the outside web environment, in terms of functionality to provide material and resources for the latter algorithms.

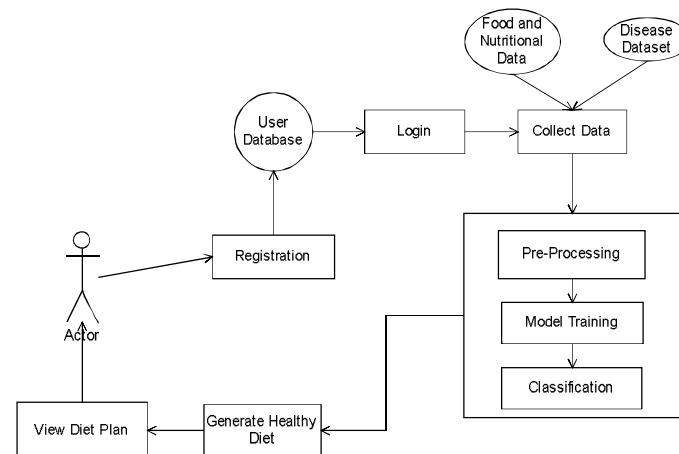


Fig1. Proposed Architecture

B. Algorithms

Linear Regression

Whenever we've gained information with different factors, one vital inquiry is the way the factors are connected. For instance, we could want the connection between individuals' loads and statures, or review time and grades. Relapse is a bunch of strategies for assessing connections, and we'll zero in on them in our framework as shown in figure2. In this paper, we'll zero in on finding probably the most straightforward kind of relationship direct. This interaction is obviously called straight relapse, and it has numerous applications.

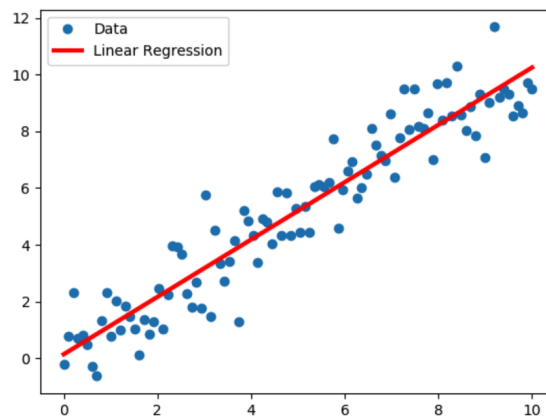


Figure2. Linear Regression

Support Vector machine

For the most part the utilization of AI calculation is utilized for the suggestion. In this paper, the help vector machine will recommend the eating routine. SVM is a managed AI calculation which works dependent on the idea of choice planes that characterizes choice limits. A choice limit isolates the objects of one class from the object of another class. Support vectors are the information focuses which are closest to the hyper-plane as shown in fig.3. Part work is utilized to isolate non-straight information by changing contribution to a higher layered space. Gaussian outspread premise work bit is utilized in our proposed technique.

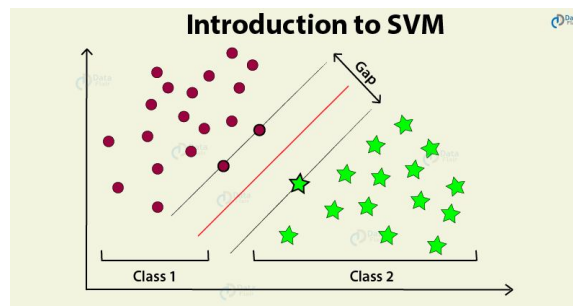


Fig3. SVM Architecture

IV. CONCLUSION

We provide a user-friendly application that covers aspects like diseases and menu generation along with providing nutritional information. The output will be in the form of Suggested Nutrient Intake Raw Materials, as well as the Menu Generated.

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