AI-POWERED NUTRITION ANALYZER FOR FITNESS ENTHUSIASTS

INTRODUCTION

The most crucial factor in living a healthy life is eating a balanced, healthy diet. It supports healthy outcomes, ageing, 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. Age, way of life, culture, gender, and a host of other factors all affect a balanced diet. Therefore, there is a need for nutritionists that can analyse each and every person based on their unique culinary culture and way of life. Artificial intelligence fills a requirement in the current, developing society for identity and nutrition studies. When a huge number of data is required for structuring and integrating the metabolomics, AI algorithms will help forecast the complicated non-linear relationships in fitness-related data sets. Every person needs to be aware of how many calories they are consuming in their fruits because society as a whole is becoming more diet concerned. It encourages better digestion and helps you feel full on less food. One can become more aware of their food choices by making a few minor adjustments to their eating routine. This analyser will give users a assistant that will advise them on what to eat, how much to consume, and all of the fruit's calories and nutrients. Additionally, it aids in lowering birth weight, malnutrition, and other issues.

LITREATURE SURVEY

A Study of Calorie Estimation in Pictures of Food by Jun Zhou, Dane Bell, Sabrina Nusrat, Melanie Hingle, Mihai Surdeanu, Stephen Kobourov findings offer fresh knowledge on the method for estimating calories from food photographs, which may be used to improve analysis and software development. As a function of respondent characteristics and food features, their study aims to assess the accuracy of crowdsourced annotations of calorie content in food photographs as well as to identify and quantify sources of bias and noise. They distributed a custom-made webpage that conducts an online test and encouraged adult social media users to offer calorie estimates for 20 food photos (for which actual calorie data were known). The pictures were chosen to show different meal varieties and energy densities. Participants might have disclosed their height, weight, and gender. The identical data was also annotated by five nutrition specialists to serve as a basis for comparison. Using linear mixed effects models with participant and image index as random variables, they investigated estimate accuracy on the basis of competence, demographic

information, and meal quality. They also looked at the benefit of combining estimates from different sources. [1]

An analysis of calorie estimation accuracy by Hannah Mixon and Matthew E. Davis is an obesity monitoring and controlling by understanding the risk factors of every individual. Understanding risk factors is crucial to comprehend the role that individual differences in cognitive abilities play in the nutritional decision-making process, from the assessment of calories to the influence of any cognitive biases or miscalculations that may occur. In the current study, researchers looked into how dietary aspects like limited eating and cognitive factors like cognitive reflection and numeracy affect biases and miscalculations about calories. Additionally, it primarily focuses on packaged goods and calculates risk and calories for them. [2]

Popular Nutrition-Related Mobile Apps: A Feature Assessment by Rodrigo Zenun Franco, Rosalind Fallaize, Julie A Lovegrove, Faustina Hwang is a model proposed in 2016, is to examine and contrast the approaches and technologies used by the most widely used nutrition apps for dietary assessment and user feedback. 13 apps in total were deemed popular enough to be included in the analysis. Nine applications included a food diary function for prospectively documenting food intake. There were barcode scanners and text search capabilities for food selection. Selection of the portion size was only textual (ie, without images or icons). All nine of these apps have the ability to gather data on physical activity (PA) through wearable integrations, self-report, or GPS tracking. Their work mainly concentrated on achieving a healthy energy balance between dietary intake and PA. None of these nine applications provided elements specifically linked to meal plans and coaching for motivation. The remaining four of the 13 apps, however, concentrated on these prospects without including food diaries. Another cutting-edge feature of one app, Fat Secret, allowed users to communicate with medical experts, and S Health offered a nutrient balance score. [3]

Artificial Intelligence Applications in Nutrition and Dietetics is a model provides the advantages and disadvantages. It is a Both dieticians and clients should track dietary assessments of individuals when assessing nutritional status. Artificial intelligence applications are becoming more prevalent in the fields of dietetics and nutrition, according to observations. For instance, the food consumption logs, which are assessed by photographing the meals ingested, are helpful in determining the nutritional status. These smartphone-shot images demonstrate how useful and adaptable the application is. The dietician can follow the suggested diet plan using these apps, and the clients can take responsibility of their own diet adaption. Under order to lower the danger in this approach, hospitalised patients' usual food consumption must be closely monitored. [4]

REFERENCES

[1] A Study of Calorie Estimation in Pictures of Food by Jun Zhou, Dane Bell, Sabrina Nusrat, Melanie Hingle, Mihai Surdeanu, Stephen Kobourov

[2] An analysis of calorie estimation accuracy by Hannah Mixon and Matthew E. Davis

[3] Popular Nutrition-Related Mobile Apps: A Feature Assessment by Rodrigo Zenun Franco, Rosalind Fallaize, Julie A Lovegrove, Faustina Hwang

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