Personalized Nutrition Analyzer using Artificial Intelligence

Mrs. K. Nithiya[1], C. Gnana Prakash[2], K. Hari Sankar[3], S. Karthikesan[4], N. Nishar Ahamed[5]

Assistant Professor, Department of Computer Science[1]
Students, Department of Computer Science[2,3,4,5]
Anjalai Ammal Mahalingam Engineering College, Thiruvarur, Tamilnadu, India

Abstract*: This project aims to develop an AI-powered nutrition analyzer tailored for fitness enthusiasts to regulate and achieve their overall fitness goals. Leveraging advanced machine learning algorithms, the system will analyze dietary patterns, nutritional intake, and individual health objectives. The user-friendly interface allows individuals to input their dietary information and exercise routines, receiving real-time, personalized recommendations. Beyond basic caloric assessment, the system considers comprehensive nutritional compositions, ensuring a balanced diet aligned with fitness targets. Continuous learning mechanisms enable the system to adapt and improve recommendations over time based on user feedback. This project seeks to empower users in making informed nutritional choices, fostering a personalized and effective approach to fitness management for enhanced overall well-being*

Keywords: AI-powered nutrition analyzer, fitness management, machine learning algorithms, personalized recommendations, dietary analysis

REFERENCES

[1] Romeshwar Sookrah, Jaysree Devee Dhowtal and Soulakshmee Devi Nagowah, "A DASH Diet Recommendation System for Hypertensive Patients Using Machine Learning",2019 7th International Conference on Information and Communication Technology.

[2] Gergely Kov´asznai, "Developing an expert system for diet recommendation", 2011 6th IEEE International Symposium on Applied Computational Intelligence and Informatics.

[3] Wahidah Husain, Lee Jing Wei, Sooi Li Cheng and Nasriah Zakari,"Application of data mining techniques in a personalized diet recommendation system for cancer patients", 2011 IEEE Colloquium amd Humanities,Science and Engineering.

[4] Ashivini Kale and Nisha Auti, " Automated Menu Planning Algorithm for Children: Food Recommendation by Dietary Management System using ID3 for Indian Food Database", Procedia Computer Science,Volume 50, 2015, pp 197-202.

[5] A. Aamodt, E. Plaza, "Case-based Reasoning, Foundation Issues,Methodological Variations and System Approaches", AICom–Artificial Intelligence Communication, IOS Press, Vol.7, No. 1, pp 39-59, 1994

[6] Jen-Hao Hsiao1 and Henry Chang2,"SmartDiet: A Personal Diet Consultant for Healthy Meal Planning ",IEEE 23rd International Symposium on Computer-Based Medical Systems (CBMS),Oct. 2010.

[7] Jong-Hun Kim, Jung-Hyun Lee, Jee-Song Park, Young-Ho Lee, Kee-Wook Rim, "Design of Diet Recommendation System for Healthcare Service Based on User Information", 2009 Fourth International Conference on Computer Sciences and Convergence Information Technology, 2009.

[8] Sakshi Singh, Sanjay Kumar Dubey, "Recommendation of Diet to a Patient using AHP and Fuzzy Approach", 9th International Conference on Cloud Computing, Data Science & Engineering (Confluence), 2019