

NUTRICARE : Optimizing Personalized Diet Recommendation through a Knowledge-based Approach

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Abstract

Noncommunicable disease prevalence, particularly obesity, is a major global health concern. A balanced diet can help with nutritional issues such as malnutrition and obesity. Individuals, on the other hand, frequently lack understanding about the proper nutrients and diets for their health and gaining access to healthcare specialists can be difficult. Diet recommendation solutions based on Artificial Intelligence algorithms have evolved to solve these challenges. These systems use big data and tailored criteria to deliver individualized diet recommendations. Existing approaches, however, have shortcomings, such as a lack of expert oversight and consideration of various individual characteristics. We propose a knowledge-based diet recommendation approach for Sri Lankan people between the age of 18-60 who do not have any special conditions. To give precise and safe diet recommendations, this approach considers data such as gender, Body Mass Index, pathology report results, food allergies, dietary preferences, and physical activity levels. The incorporation of expert supervision improves the effectiveness of this approach. This study contributes to the creation of a sophisticated and all-encompassing approach to tailored nutrition advice.

Keywords: *Personalized diet recommendation, Knowledge-based approach, Decision tree algorithm*