

Human Health Analyser

Mrs. Mohanapriya¹, Suraparaju Chandra Kiran², Shriya K³, Meha R K⁴, Rakshana V⁵

Assistant Professor, Department of Computer Science and Engineering¹

Students, Department of Computer Science and Engineering²⁻⁵

Sri Shakthi Institute of Engineering and Technology, Coimbatore, Tamil Nadu, India

mohanapriyacse@siet.ac.in, suraparajuchandrakiran21cse@srishakthi.ac.in, kumarshriya21cse@srishakthi.ac.in

mehark21cse@srishakthi.ac.in, velumayilrakshana21cse@srishakthi.ac.in

Abstract: *This paper presents a comprehensive AI-powered web application aimed at transforming personalized dietary management by integrating machine learning, nutrition science, and user-specific health diagnostics. The enhanced system combines traditional nutrient tracking with intelligent health analysis derived from blood report PDFs using Optical Character Recognition (OCR) and Natural Language Processing (NLP). The platform enables users to log meals, monitor daily nutrient intake, and receive tailored recommendations aligned with their unique health conditions and wellness goals.*

A central component of NutriPlan is its nutritional index, which evaluates the quality of food and guides users toward healthier options. The system features real-time data visualizations, including bar, pie, and line charts, to present users with an intuitive breakdown of their macronutrient intake. Using the Estimated Energy Requirement (EER) equation, the application customizes calorie and nutrient targets based on body metrics and lifestyle factors. Additionally, NutriPlan now incorporates AI-driven risk assessment by analyzing key blood parameters, identifying potential nutrient deficiencies, and offering targeted dietary suggestions to address them.

With a focus on context-aware nutrition modeling, NutriPlan adapts recommendations based on recent health data, long-term dietary trends, and medical conditions. Explainable AI modules provide transparency, allowing users to review and adjust the logic behind the recommendations. By seamlessly blending personalized diet planning with clinical insights, the platform empowers users to take proactive control of their health, ensuring a sustainable, adaptive, and data-driven approach to well-being.

Keywords: dietary management

