

# AI-Based Personalized Diet and Fitness Planner

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**Abstract:** *In today's digital world, maintaining a healthy lifestyle has become difficult because many people have sedentary habits, unhealthy eating patterns, and lack proper fitness guidance. Most existing diet and fitness applications provide general plans that do not consider individual differences such as age, gender, body structure, activity level, fitness goals, and health conditions. Because of this, users often fail to achieve their desired health and fitness results.*

*The proposed AI-Based Personalized Diet and Fitness Planner is a smart web-based system that provides customized diet and workout recommendations using Artificial Intelligence and Machine Learning. The system analyzes user health information to calculate Body Mass Index (BMI), Basal Metabolic Rate (BMR), and daily calorie needs. Based on this analysis, it generates suitable diet plans and fitness routines according to the user's goals. The system can also track user progress and update recommendations to improve results. By using data-driven techniques and intelligent analysis, the system provides an easy, reliable, and effective solution for personal health and fitness management..*

**Keywords:** Artificial Intelligence, Machine Learning, BMI, Diet Recommendation, Health Monitoring, Random Forest, Personalized Diet Plan

