Project Title

Advancing Nutrition Science through GeminiAI This project presents an AI-powered nutrition recommendation system designed to provide personalized dietary guidance using modern artificial intelligence tools.

Introduction

Maintaining a healthy diet is essential for overall well-being. However, most people rely on generic diet plans that do not consider individual health needs. This project uses artificial intelligence to deliver customized nutrition advice based on user inputs.

Problem Statement

• Lack of personalized nutrition guidance • Increasing lifestyle-related health issues • Difficulty in selecting balanced meals • Limited access to expert diet consultation

Project Objectives

The primary goals of this project are: • Provide personalized nutrition recommendations • Promote healthy eating habits • Make diet planning simple and accessible • Use AI to improve decision-making for food choices

Technologies Used

• Python – core programming language • Streamlit – user interface and application deployment • Google Gemini AI (Generative AI 2.5) – intelligent nutrition recommendations • dotenv – secure management of API keys and environment variables

System Architecture & Working

Step 1: User enters personal and dietary details. Step 2: The application processes the inputs. Step 3: Gemini AI analyzes the data. Step 4: The system generates personalized nutrition advice. Step 5: Results are displayed instantly to the user.

Features & Advantages

• Personalized diet suggestions • Simple and interactive interface • Instant AI-generated insights • Secure handling of user data • Scalable and adaptable for future improvements

Conclusion & Future Enhancements

This project demonstrates how artificial intelligence can improve nutrition decision-making and promote healthier lifestyles. Future Enhancements: • Calorie tracking and meal logging • Integration with wearable fitness devices • Mobile application version • Expanded health condition-based recommendations