**AI Diet & Nutrition Planner**

**Overview**

The AI Diet & Nutrition Planner is a machine learning-based application that provides users with personalized meal plans and nutritional predictions. It features a web and mobile interface, an API backend, and an AI chatbot for dietary recommendations.

**Features**

* **Nutritional Prediction**: Predicts calories, protein, fats, and carbohydrates for food items.
* **Meal Planning**: Generates meal plans based on dietary preferences.
* **AI Chatbot**: Provides dietary advice and interacts with users.
* **User Authentication**: Supports user sign-up and login.

**Installation Guide**

**Backend Setup**

1. Clone the repository:
2. git clone <repo-url>
3. cd ai-nutrition-planner
4. Install dependencies:
5. pip install -r requirements.txt
6. Run the Flask API:
7. python 2.py

**Frontend Setup (Web)**

1. Navigate to the web folder:
2. cd web
3. Install dependencies:
4. npm install
5. Start the development server:
6. npm start

**Mobile App (Flutter)**

1. Navigate to the mobile app directory:
2. cd mobile
3. Install dependencies:
4. flutter pub get
5. Run the application:
6. flutter run

**API Endpoints**

**Nutrient Prediction**

* **Endpoint:** /predict
* **Method:** POST
* **Request Body:**
* {
* "food\_name": "Apple"
* }
* **Response:**
* {
* "Calories": 52,
* "Protein": 0.3,
* "Fat": 0.2,
* "Carbohydrates": 14
* }

**Model Details**

* **Algorithm:** Gradient Boosting Regression
* **Training Data:** USDA Food Nutrition Dataset
* **Saved Models:** calorie\_predictor.pkl, food\_encoder.pkl, scaler.pkl

**Contribution**

1. Fork the repository.
2. Create a new branch:
3. git checkout -b feature-branch
4. Commit changes and push:
5. git commit -m "Added new feature"
6. git push origin feature-branch
7. Create a pull request.

**License**

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