**Data Collection and Preprocessing Phase**

**Feature Selection Report**

The Feature Selection Report will summarize the key features identified from user inputs, simulated data, and optional fitness tracker data, emphasizing their importance in enhancing the model's performance and providing accurate dietary recommendations.

**Feature Selection Report:**

| **Feature** | **Description** | **Importance** |
| --- | --- | --- |
| **Food Items from Images** | Identifies key components of meals, such as food type and portion size, for nutritional analysis. | High |
| **Caloric Content** | Estimates the total calorie count of meals based on visual and text inputs. | High |
| **Macronutrient Breakdown** | Analyzes the balance of carbohydrates, proteins, and fats within the meal. | High |
| **User Dietary Preferences** | Customizes recommendations based on dietary restrictions like vegan or gluten-free. | Moderate |
| **Fitness Data** | Adjusts recommendations based on activity level and other fitness metrics. | Moderate |
| **Nutritional Health Rating** | Provides an overall healthiness score of the meal based on its components. | High |

This Feature Selection Report identifies and prioritizes key data features used in the Nutrition AI project, guiding the Gemini Pro model in delivering accurate and personalized dietary recommendations to users.