# LITERATURE SURVEY ON THE SELECTED PROJECT & INFORMATION GATHERING

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| **Date** | 28/10/2022 |
| **Team ID** | PNT2022TMID04276 |
| **Project Name** | AI-powered Nutrition Analyzer for Fitness Enthusiasts |

1) **Prediction of Vitamin Interacting Residues in a Vitamin Binding Protein Using Evolutionary Information**

Bharat Panwar, Sudheer Gupta

**METHODOLOGY:** Prediction of Vitamin -A interacting residues (VAIRs), Analysis of different protein-interacting residues of different vitamin classes. Able to get all the nutrients you need for a balanced diet.Dietary supplements are not regulated as strictly as pharmaceutical drugs.

2) **Precision Nutrient Management Using Artificial Intelligence Based on Digital Data Collection Framework**

Nutritional intake is fundamental to human growth and health, and the intake of different types of nutrients and micronutrients can affect health. The content of the diet affects the occurrence of disease, with the incidence of many diseases increasing each year while the age group at which they occur is gradually decreasing.

**CHALLENGES:** This model has very little error and can significantly improve the efficiency of the analysis.

3) **Deep Food : Food Image Analysis and Dietary Assessment via Deep Model.**

This system will analyze the nutritional ingredients based on the recognition results and generate a dietary assessment report by calculating the amount of calories, fat, carbohydrate and protein.

**CHALLENGES:** Three main challenges in real food image recognition and analysis are addressed as follows: 1. Region of Interest 2. The Delay of Food Recognition 3. Insufficient Information of Nutrition Content for dietary assessment

### 4) Nutrition For Exercise in Hot Environment

Alan J. McCubbin, Ben Desbrow, Ollie Jay

**METHODOLOGY**: Hydration Status Assessment Techniques.Accuracy and reliability. Can be completed independently by athletes and low cost