Nalla Malla Reddy Engineering College
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Department of CSE-Artificial Intelligence & Machine Learning
Food Recognition and Nutrition Estimation using Deep Learning

Abstract:

In this era of rapidly changing lifestyle and technology, a mobile based dietary assessment system that can record/capture real time images of the food items and provide nutritional contents of that specific food item can be very handy and improve the eating habits resulting in healthy lifestyle. This paper proposes a novel system which can estimate nutritional ingredients of the food item by analyzing the input image of food item. Our system employs different deep learning techniques and models for the accuracy of result of nutritional components, moreover we are using dataset created using web scrapping and its extension for various categories of food items. Although the idea of our project sounds pretty simple but there are certain technical issues as follows:

Region of interest is the first challenge in which the identification scheme that detects and recognizes multiple food items from a single image is desirable and it is somewhat tough to build. The second issue is insufficient information of nutrition content for dietary assessment that is how to identify a large number of food class and accurately analyze the nutritional values is very challenging.

Our project provides advice on how much amount of calories and nutrients the user must take according to the user's input picture details and his/her required intake for healthy diet and fitness as per the BMI. Basically, it is helpful in balancing the efficient nutrient and calorie intake and avoiding over eating for healthy maintenance of a human body as a healthy lifestyle is crucial and many people aim for it nowadays.

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