

Nutritional Analyzer

Top 3 ideas - Problem statements

1. Image-based Calorie Content Estimation

Our system is built on food image processing and uses nutritional fact tables. Via a special calibration technique, our system uses the built-in camera of mobile devices and records a photo of the food before and after eating it to measure the consumption of calorie and nutrient components. Our results show that the accuracy of our system is acceptable and it will improve and facilitate current manual calorie measurement techniques.

2. Nutrition Analyzer using Mask R-CNN

The system is based on a Mask Region-based Convolutional Neural Network (R-CNN) with a union postprocessing, which modifies the extracted bounding boxes and masks, without the non-maximum suppression (NMS), to provide a better result in both analytics and visualization.

3. Nutrient Food Prediction using Deep Learning:

CNN is a modern technique inspired by biological neurons used for image processing and data analysis, producing encouraging results. The principal objective of our work is to detect and segregate normal food and nutritious food. This is accomplished using the combination of both nutrition and image Classification techniques. Hence, the proposed system achieved average overall accuracy is more than 91%