Title: Food Recognition With Multi-Feature and Multi-Algorithm Fusion

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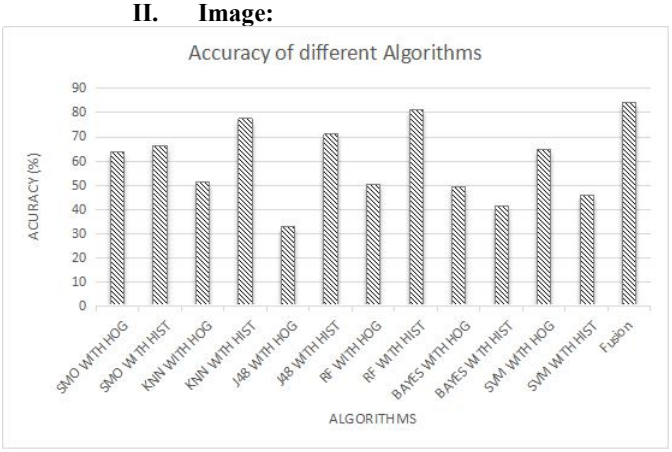
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I. Abstract Body

Food image recognition and detection plays an important role in diet health research. In this paper we proposed a new method to recognize food in images using classic image features and machine learning algorithms.
We used the color histogram feature and HOG feature in our method, so that our method can be easily applied in a variety of applications. Some of the classic and efficient machine learning algorithms were used in our method, including SMO, KNN, SVM and so on. We made a weighted fusion of the results of these classic methods to get better recognition accuracy and recall.A voting algorithm has been designed to determine recognition result.
We took more than 2000 pictures of 67 kinds of food and clipped the food from the pictures with ratio of 1:1 to verify our method. The result indicates that the highest food recognition accuracy is 80% with single feature and single algorithm. Our method fused 3 algorithms and 2 features to get food recognition accuracy of 84%, thus the food recognition accuracy improved by 5%.
Our method indicates that with classic image features and machine learning algorithms, the accuracy of food recognition can reach acceptable levels.

II. Image:



III. Reference:

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IV. Biography:

Yongquan Yang has completed his PhD at the age of 28 years from Ocean University of China. He is a lecturer in College of Information Science and Engineering, Ocean University of China, Qingdao , China. He has published more than 10 papers.

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