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(57) Abstract :

Food image classification is an emerging research field due to its increasing benefits in the health and medical sectors. For sure, in the future automated food recognition tools will help in developing diet monitoring systems, calories estimation and so on. In this paper, automated methods of food classification using deep learning approaches are presented. Squeeze Net and VGG 16 Convolution Neural Networks are used for food image classification. It is demonstrated that using data augmentation and by fine tuning the hyper parameters, these net works exhibited much better performance, making these net works suitable for practical applications in health and medical fields. Squeeze Net being a light weight network, is easier to deploy and often more desirable. Even with fewer parameters, Squeeze Net is able to achieve quite a good accuracy of 77.20%. Higher accuracy of food image classification is further achieved by extracting complex features of food images. The performance of automatic food image classification is further improved by the proposed VGG-16 network. Due to increased network depth, proposedVGG-16 has achieved significant improvement in accuracy up to 85.07%.

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