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Quality Analysis of Vegetables Through Image Processing

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Abstract : The quality analysis of food and vegetable from image is hot topic now a day, where researchers make them better then pervious findings through different technique and methods. In this research we have review the literature, and find gape from them, and suggest better proposed approach, design the algorithm, developed a software to measure the quality from images, where accuracy of image show better results, and compare the results with Perouse work done so for. The Application we uses an open-source dataset and python language with tensor flow lite framework. In this research we focus to sort food and vegetable from image, in the images, the application can sorts and make them grading after process the images, it could create less errors them human base sorting errors by manual grading. Digital pictures datasets were created. The collected images arranged by classes. The classification accuracy of the system was about 94%. As fruits and vegetables play main role in day-to-day life, the quality of fruits and vegetables is necessary in evaluating agricultural produce, the customer always buy good quality fruits and vegetables. This document is about quality detection of fruit and vegetables using images. Most of customers suffering due to unhealthy foods and vegetables by suppliers, so there is no proper quality measurement level followed by hotel managements. it have developed software to measure the quality of the fruits and vegetables by using images, it will tell you how is your fruits and vegetables are fresh or rotten. Some algorithms reviewed in this thesis including digital images, ResNet, VGG16, CNN and Transfer Learning grading feature extraction. This application used an open source dataset of images and language used python, and designs a framework of system.

Keywords : deep learning, computer vision, image processing, rotten fruit detection, fruits quality criteria, vegetables quality criteria
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