

ABSTRACT

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Classification Of Tomato Ripeness Using The Convolutional Neural Network Method

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This study conducted image processing, using the Convolutional Neural Network (CNN) method to classify the ripeness of tomatoes. There are three levels of tomato ripeness that can be distinguished by the color of the tomato. The maturity level of the tomato color level is raw is green, half-ripe is turning, and ripe is red. This research also conducted a literature review of several related studies and basic concepts at CNN such as convolution, pooling, and fully connected layers. Research methodology involves creating datasets using augmentation. The system in this study uses tomato images as image output, the data recording system can be optical in the form of photos. The results of this study showed that, testing the CNN model in a complex image classification task with accuracy in identifying tomato ripeness with each obtaining 10 tomato images for each model test that was formed, namely the image of raw, ripe and half-ripe tomatoes was successfully classified correctly and had high accuracy. The level of accuracy obtained from the model test formed 90% in classifying tomato images.

Bibliography (2001 - 2023)