ABSTRACT

CAVENDISH BANANA QUALITY CLASSIFICATION USING CONVOLUTIONAL NEURAL NETWORK (CNN)

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Based on Horticultural Statistics in 2021, horticultural commodities in Indonesia are divided into 2 including vegetables consisting of shallots, garlic, chillies, mushrooms, spinach cabbage, and potatoes. One for fruit commodities from the fruit horticulture subsector is bananas which are divided into several types, including ambon bananas, plantains, Cavendish bananas, pipit bananas, and horn bananas. One of the bananas that has a good selling value in Indonesia is Cavendish banana, but the selling value of Cavendish bananas is determined by the quality of the banana fruit. From the above problems the author performs classification using one of the deep learning algorithms, namely Convolutional Neural Network. By using 1047 images which are divided into 65% training data, 15% validation data, and 20% testing data by using epochs 20 times with 16 batch sizes the Akurasi results obtained are 99%. This classification is expected to be able to classify bananas with well quality like the real condition

Keywords : Banana, Classification, Convolutional Neural Network, Deep Learning, Tropical Fruit