

Penerapan Seleksi Fitur Pada Klasifikasi Jenis Ubi Jalar Menggunakan KNN

(Application of Feature Selection in Classifying Sweet Potato Types Using KNN)

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ABSTRACT

Sweet potato is a dicotyledonous plant that belongs to the family Convol-vulaceae. Sweet potato is the most widely cultivated food crop group. The main reason many people cultivate it is because this plant is relatively easy to grow, resistant to pests and diseases and has a fairly high productivity. To find out the type of sweet potato can be seen by looking at the color of the sweet potato and can see the characteristics of the sweet potato leaves. So in this study using the image of sweet potato leaves as the object. To find out the characteristics of sweet potato leaves obtained from the results of feature extraction. The feature extraction used is morphological feature extraction and texture feature extraction or GLCM, because from the results of the research the combination of these two features has the highest accuracy. The result of feature extraction is then divided into 4 classifications which are classified using the K-Nearest Neighbor method. The KNN method can perform classification quickly based on the closest distance between data objects. Based on the test results from the training data obtained an accuracy value of 96.875% at the value of $k=3$, then the test results from the test data obtained an accuracy value of 95% at the value of $k=23$. This shows that the K-Nearest Neighbor method is good enough to classify the types of leaves from sweet potatoes.

Keywords : Sweet potato, image processing, K-Nearest Neighbor