

ABSTRACT

Apple is a fruit with rich benefits because it is supported by the content and elements of mineral vitamins and other elements that make an apple into a fruit that is respected by the community. The selection of apples based on the characteristics is very easy to do by humans, but not easily done by the computer. Human perception usually tends to subjective to an object, this is because of the color composition factor owned by the object.

In this study will be made a program that can classify the maturity level of apples. Using Discrete Cosine Transform (DCT) method for the characteristic extraction process and K-Nearest Neighbor (K-NN) for the process of classification the maturity of the apple.

In this research, used 75 data of train and 66 data of apple test with classification of maturity level raw, half ripe, and ripe. After testing the effect of distance type on the process of classification K-NN, the highest accuracy is 86.36% by using the type of Euclidean distance, while the smallest accuracy is 80.30% by using the type of Cityblock distance.

Keyword : DCT, K-NN, Apple, Characteristic Extraction, Classification.