DESIGN AND DEVELOPMENT OF MARRIAGE DETECTION DETECTION OF SWEET FROM MANGOES WITH COLOR INDICATION USING KNN METHOD

Muhammad Zendy Ryan Avicenna

Electrical Engineering Study Program, Faculty of Science
& Technology
University of Technology Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail : zendyavicenna@gmail.com

ABSTRACT

Mango fruit which has a scientific name (Mangifera indica) is a type of fruit that can thrive in tropical areas or areas with dry climates, one of which is Indonesia. Armanis mango to be harvested is usually classified based on weight and smell or aroma alone, while classification based on color does not yet exist. The ripeness of the arumanis mango has a different color difference from unripe and ripe. K-Nearest Neighbor (KNN) is a method of classifying objects based on learning data that is closest to the object. This method aims to classify new objects based on attributes and training samples. The TCS3200 color sensor is a type of sensor that has a function to detect the color of an object. Basically the TCS230 color sensor is a series of photo diodes arranged in an 8x8 array matrix with 16 photodiode configurations that function as red filters, 16 photodiodes as blue filters and 16 more photodiodes without color filters. The level of accuracy and precision of the tool using the Microsoft Excel application is 93.3% and 100%, for the Arduino application it is 93.3% respectively. This tool has achieved the research objectives by obtaining results with an accuracy and precision level of above 80%.

Keywords: Mango, Color, Ripe, and K-Nearest Neighbor