ABSTRACT

Allium Ascolanicum or commonly known as shallots is a spice product that has a high value for a long time and has been cultivated intensively by farmers. In addition to the value of needs, how to cultivate shallots is also easy. Coupled with enthusiasts who make the market easier in cultivation. Of course there are difficulties experienced by farmers, one of which is to see the maturity level of shallot plants. Therefore, this research was conducted to help farmers to determine the maturity level of shallot plants. This study uses the K-Nearest neighbor method with a variety of classifier measurements (Euclidean Distance, Manhattan Distance, and Minkowski Distance) to detect image classification and with histogram features for the feature extraction method with camera media to obtain images of shallot plants. This research resulted in a system that helps farmers during the harvest of shallots. The results of object detection (shallots) are divided into two groups, namely "Ready to Harvest" and "Not Ready to Harvest" by testing the accuracy and testing system performance in terms of accuracy and recall in each classifier variation. And the results obtained average accuracy with classifier variations of 96.1% and average recall with classifier variations of 93.9%.

Keywords: Shallots, K-Nearest Neighbor, Histogram, Classifier.