IMAGE-BASED TIMBER CLASSIFICATION WITH K-NEAREST NEIGHBOR METHOD

ABSTRACT

Each type of wood has a different texture, size, grain, and color. The introduction of wood species is generally still done visually based on the characteristics of the wood. The ability to identify the type of wood must be learned repeatedly and it takes a long time. One technology that can be implemented in this problem is digital image processing, creating a wood species classification system. In this study, the method used to classify is the k-nearest neighbor (KNN) algorithm. This method can help classify wood species by using wood images. The number of wood image data sets used is 1,240 wood images, divided into 310 images of Bayur wood, 310 Cempaka, 310 Jati, and 310 Mindi. The training data used were 868 images and 372 as test data. The results of the classification accuracy of wood species using the K-nearest Neighbor method with a value of k=1 is 88.71%.

Keywords: Types of Wood, Classification, K-nearest Neighbor.