

ABSTRACT

Teak is a kind of wood producing tree that has high quality that is often used as material for the manufacture of household appliances such as tables, chairs, cabinets, and so forth. Many entrepreneurs furniture that is still difficult to determine the quality of teak wood, this is what causes many furniture entrepreneurs who only origin in the use of teakwood without thinking about the quality and characteristics of the teak wood. From the above problems can be done research to detect the quality of teak wood.

The method used in this study was Gabor Wavelet as a feature extraction and Support Vector Machine (SVM) as a classification of features. Gabor Wavelet as an extraction feature because it has the relevance of a biological trait, this biological trait can provide relevant information from each individual. The Support Vector Machine (SVM) is a method used to perform predictions, both classification and regression.

The result is a Matlab-based system that can be used to identify and classify teakwood. In this test used 144 data with the amount of 84 training data and 60 test data, the resulting class was good, bad, and moderate. The best accuracy gained in this test is 90% with the best compute time of 0.7056 seconds. These results are obtained when the order parameter of one is mean, variance, Std_dev, skewness, Kurtosis, entrophy with wavelenght = 5 and orientation = 8 as well as using Multiclas OAA parameters on all kernel values.

Keywords: *Teak wood, Support Vector Machine (SVM), Gabor Wavelet*