

## **ABSTRACT**

*Indonesia with its natural wealth is one of the largest timber producing countries in the world. In the wood industry, the wood class sorting process in Indonesia is done by visual observation manually. This manual observation results in inconsistent product quality, time consuming, and high costs. With these problems a system is designed that can classify wood classes based on its fiber texture.*

*This research is intended to create a desktop-based system to classify five classes of Cedar wood. Wooden classes are divided into 5 based on the fiber texture. Image data is taken using a webcam. The method used in this system is Artificial Neural Network trained by Backpropagation method.*

*The output of this system is the class label of each wood and the probability value of the classification results. The system created has produced an accuracy level of 86,67% with an average of 0.04 seconds to process the classification.*

**Keywords:** *Wood Classification, Wood Fiber Texture, Artificial Neural Network, Backpropagation.*