

## ***ABSTRACT***

*Wood is one of the raw materials needed by the wood industries to produce processed wood products. The wood industries classify wood first based on quality before entering the processing stage. The quality of wood can be classified into several classes based on the surface texture of wood fibers. However, nowadays the wood industries still use manual methods to classify wood with human vision with an accuracy rate of 55% and it requires a long time to classify.*

*In this final assignment, a desktop-based system is designed to classify five classes of wood using Cedar wood. The method used to classify wood classes in the system is the Convolutional Neural Network.*

*The output of this final assignment is the classification label of the wood class and the probability score from the classification of the wood class. The system created has an accuracy level of 96.77% with an average of seconds for the classification process is 0.13 seconds*

***Keyword*** : *Wood Classification, Texture of wood fiber, Convolutional Neural Network*