

## **ABSTRACT**

*As technology develops today, we can utilize digital image processing as a way to detect cataract disease. In this digital image processing, we will do the introduction of an object that can be done by recognizing a particular algorithm.*

*In this final project the research uses digital image processing to speed up the process of identification of cataract disease. This identification will use the DCT (Discrete Cosine Transform) method. This method is a method that will be used in image file compression process, that is to transform an image matrix with another representation and can be used in digital processing area for pattern recognition purposes. Then using Artificial Neural Network Backpropagation (ANN Backpropagation) as the classifier of test image.*

*The result obtained are a simulation of matrix operating software that can be used to know and classify cataract eyes with an accuracy of 86,67% with the best computation time 3,666 seconds using the amount of training data and test data for each of 45 pieces, the first orde parameter standard deviation and entropy, DCT size 5 block, when epoch is 1000, the learning rate is 1, and hidden layer is 5.*

**Keywords:** *DCT, ANN Backpropagation, Cataract*