Abstract

Batik is a part of Indonesian culture that became characteristic of the Indonesian nation. Motive and model are the main attraction. Lots of motifs and patterns that are present in the world of batik. If in these motifs have patterns that have almost the same form of other batik, that batik is classified into a particular type of batik. Classification can be done by region of the batik came from or directly based on the type of the motif. in this final task is built a classification system of batik in a geometric motif of the classical batik class.

One technique that can be used in classification is the method of Artificial Neural Networks (ANN) Backpropagation. In this method use learning process that is changing the network weights based on error rates resulting from the difference between the target and the output value. This error rate will be propagated back into the network to improve the existing weights. The process of changing the weight will be carried out continuously until a small error rate is obtained or until the epoch that has been predetermined.

Data input for Backpropagation is the feature extraction of image batik. Features that are important to the issue of image classification is a feature of batik. The method can be used for feature extraction is the method of Independent Component Analysis (ICA). Characteristics of the ICA is a statistical calculation technique to find the hidden factors that underlie a set of random variables or signals. One application of ICA method is used to separate the mixed signals coming from an independent source of statistics[9]*. With the separation of this signal can be obtained characteristic motifs found in an image.*

In this final task classification built 2 model to get the maximum system accuracy. The first model is the model without preprocessing cropping on the original image, and the second model is a model with the process cropping of the original image. With the first model the results obtained the highest accuracy as high as 60%, while the results obtained with both models reaches 87.5%.

Keyword*: Classification, feature extraction, Batik, Backpropagation, Independent Component Analysis.*