CLASSIFICATION OF PEKALONGAN BATIK BASED ON IMAGE USING THE GRAY LEVEL METHOD CO-OCCURRENCE MATRIX AND ARTIFICIAL NEURAL NETWORK

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ABSTRACT

Batik is Indonesia's cultural heritage which has been recognized internationally through the World Educational, Scientific and Cultural Organization or commonly called UNESCO. To preserve batik cultural heritage, support from the community and government is needed. There are still many people who do not know about the types of batik, especially traditional batik, which has become increasingly forgotten since globalization. Therefore, this research was based on this problem by creating a system that can classify traditional Pekalongan batik motifs by processing input images of new batik that will be identified. The aim is to make it easier for people to understand traditional Pekalongan batik motifs. In the future, people will be able to identify batik easily and quickly, and will not need an expert. The first stage in creating a batik image classification application is to create training data and then process the training data with GLCM feature extraction, then the training data is used to train the Artificial Neural Network model. Thus, the system is able to classify Pekalongan batik motifs accurately. The temporary conclusion is that the GLCM and ANN methods can be used to classify Pekalongan batik. The ANN Backpropagation architecture with 3 hidden layers selected also provides train data accuracy of 46.6% and test data accuracy of 55.5%.

Keywords: Batik, Artificial Neural Network, Backpropagation, GLCM (Gray Level Co-Occurrence Matrices).