

## ***ABSTRACT***

*The number of batik motifs in Indonesia is not comparable to the knowledge possessed by the Indonesian people about batik motifs. The diversity of batik motifs can be a problem because classifying them can only be done by those who are familiar with batik in depth, both the pattern and the philosophy behind the motifs, most of which are elderly people. To classify batik accurately and quickly is to use image classification technology. In this study, data were obtained from the dataset of previous researchers, google images and camera shots with a total dataset of 1,108 images. The data taken only focuses on five batik motifs, namely Ceplok, Kawung, Parang, Megamendung and Sidomukti. Before the batik motif is processed, preprocessing is carried out to obtain diverse and quality data by augmenting data. Then the dataset was trained using the CNN model which then the results were retrained using the VGG-16 and Xception Transfer Learning models. The researcher made several model scenarios, namely the CNN model without Transfer Learning and the model with Transfer Learning which took into account the effect of the learning rate values of 0.0004 and 0.0001. So that the results of the CNN model without Transfer Learning (M0) obtained training accuracy results of 89.64%. While the results of the model with the best Transfer Learning, namely the model with the highest accuracy is the M4 model (CNN + Xception) with an accuracy of 91.76%. The evaluation of the model resulted in 88% accuracy, 88% precision, 89% recall, and 88% f1-score. Based on the results of the classification method, it can be concluded that the CNN model with Transfer Learning performs classification performance better in terms of accuracy and computation time than using the CNN model.*

***Keywords: Batik, CNN, Transfer Learning, VGG-16, Xception***