

ABSTRACT

Indonesia is renowned for its rich textile heritage, exemplified by batik, which has been recognized as a world cultural heritage by UNESCO. Yogyakarta's Nitik batik, a classical type inspired by Indian patola fabrics, features around 60 complex and evolving motifs. The visual complexity of these motifs often poses a challenge for manual identification. This research aims to compare the performance of two Convolutional Neural Network (CNN) architectures, VGG16 and Res-Net 50, in classifying five types of Batik Nitik Yogyakarta patterns, namely Brendhi, Cakar Ayam, Kawung Nitik, Sekar Jagung, and Sekar Srengenge. Testing was conducted across 48 experimental scenarios, combining parameters such as batch size (16, 32), learning rate (0.001, 0.0001), epoch (50, 100, 150), and final layer type (Flatten and Global Average Pooling). Results indicate that the VGG16 model with a Flatten layer, 100 epochs, batch size 32, and a learning rate of 0.001 yielded the highest test accuracy of 90%. In contrast, the Res-Net 50 model achieved a maximum test accuracy of only 60%. It can be concluded that the VGG16 architecture outperforms Res-Net 50 in the classification of Batik Nitik Yogyakarta.

Keywords: *Batik Nitik Yogyakarta, Classification, CNN, VGG16, Res-Net 50*