# *CLASSIFICATION OF TRADITIONAL BATIK TYPES OF LAMPUNG AND YOGYAKARTA USING CONVOLUTIONAL NEURAL NETWORK METHOD*

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***ABSTRACT***

*Batik is a cultural heritage characterized by various motifs and meanings; however, its recognition is still performed manually, necessitating the development of an accurate and efficient automated system. This study presents a classification system for traditional Lampung and Yogyakarta Batik, utilizing the Convolutional Neural Network (CNN) method with a pre-trained architectural model. Three CNN architectures were applied: MobileNetV2, DenseNet121, and Xception. The dataset comprised three categories: Lampung Batik, Yogyakarta Batik, and Non-Batik, consisting of 745 images for training (80%) and 187 images for testing (20%). The model was trained over 10, 20, and 30 epochs, with variations in learning rates. The experimental results indicate that all architectures achieved an accuracy exceeding 95%, with the Xception architecture performing the best, attaining 100% accuracy, 97.49% precision, 94.97% recall, 92.66% F1 score, and a loss of 0.0066. The findings of this study suggest that the Xception architecture model surpasses other models in its performance. The developed system is expected to contribute to the preservation of Batik culture by providing an accurate and efficient classification system to facilitate the automatic identification and recognition of Batik motifs.*

***Keywords****: Traditional Batik, Convolutional Neural Network*