

## **ABSTRACT**

*This study discusses the Javanese script recognition method by utilizing the Convolutional Neural Network (CNN) algorithm and the VGG16 architecture. The purpose of this study is to assess and compare the performance of the two models in classifying Javanese script images that have a high level of complexity. The dataset used consists of 5,000 Javanese script images with 100 types of motifs, obtained through manual image capture. The preprocessing process includes filtering, augmentation, and dataset division for training and testing. The CNN model is designed using four convolutional layers with a number of nested neurons and pooling, while VGG16 utilizes a nested architecture with 16 convolutional layers. The results show that VGG16 has the highest training and validation accuracy of 99.83% and 99.50%, respectively, outperforming CNN which achieved a training accuracy of 87.70% and a validation accuracy of 97.10%. However, CNN shows a higher potential for reliability with a lower validation loss value. This study emphasizes the importance of selecting a model architecture in classifying complex Javanese script images.*

**Keywords:** *Convolutional Neural Network (CNN); Javanese scrip; VGG16; image classification; data augmentation.*