ABSTRACT

Signature can be said as an important identity that almost everyone has in life. The use of signatures is carried out as a form of validation in legal and social life and can only be accepted from the person who made the signature itself. Although the signature is authentically owned by a certain individual, it cannot be denied that the crime of document forgery occurred. Forgery of signatures is often carried out by irresponsible people with the aim of falsifying data, identity or other purposes. Therefore, a detection system was made as a classification of the authenticity of the signature. The deep learning algorithm with the convolutional neural network (CNN) method is a system of algorithms and methods that will be used in this research. The programming language that will be used is python with the Jupyther Notebook tool. A total of 400 datasets will be used where the dataset consists of 200 original signature images and 200 fake signature images made by 2 different people. The parameters used in this model are using different iteration systems (epochs), namely 10, 20 and 30 epochs and using hyperparameters batch size and learning rate of 32 and 0.00001. From the results of model training, the last accuracy result at epoch 30 is 96.8% and validation accuracy is 95%. Meanwhile, for the prediction test on 80 test data, epoch 30 shows the most correct predictions with a total of 76 correctly predictable test data and is in accordance with the results of the validation accuracy during training epoch 30 so it can be said that this model is good in the classification of signature authenticity images..

Keywords **:** *Signature authenticity, deep learning algorithm, CNN method, epoch.*