

ABSTRACT

Pornographic content can cause negative impacts because of its massive, fast, and uncontrolled distribution through the help of technology such as the internet. Responding to these problems, many researches have been developed on the detection and blocking of pornographic content. In this final project, a classification system for the detection of pornography is designed using the Convolutional Neural Network (CNN) method with the ResNet50 architecture. In designing, CNN is trained using two categories of datasets, namely pornography and non-pornography. For system modeling, a hyperparameter configuration scheme is applied to the learning rate, batch size, and number of epochs. The configurations applied are learning rates of 0,001 and 0,0005, batch sizes of 32 and 64 and the number of epochs set at 20, 40, 60, 80, 100. Four models with different configurations are produced, then tested using 3000 sample datasets to analyze its performance. The performance parameters of the system model are accuracy, precision and computational time. Of the four models, the best results of testing accuracy and precision are obtained by models that have a learning rate configuration of 0,0005 and a batch size of 32 on the 100th epoch, with an accuracy of 93,500% and a precision of 93,501%. The model with the fastest total computing time is a model that has a learning rate configuration of 0.001 and a batch size of 64, with a total computing time of 57272.067 seconds, 140.947 seconds adrift faster than the best model in terms of accuracy and precision previously.

Keywords: *Image Classification, Convolutional Neural Network (CNN), ResNet, pornography detection.*