Abstract

Handwritten Sundanese script recognition is part of Indonesian regional script preservation, handwritten character recognition can be solved by using deep learning. Previous research state that deep learning can recognize handwritten character recognition better than traditional optical character recognition (OCR). One of deep learning method that has become popular among researcher is convolutional neural network (CNN) because how well it performs on computer vision problem. Optimized CNN architecures has become state-of-the-art method in handwritten character recognition. Activation functions is one of the things that researcher optimized on to get the best result for different handwritten character recognition problem. In this paper we proposed the use of activation functions such as Optimized Leaky Rectified Linear Unit (OLReLU) for optimization and Randomized Leaky ReLU (RLReLU) as opposed to Rectified Linear Unit (ReLU) and Leaky ReLU in recognizing handwritten Sundanese script. The result show that the proposed use of OLReLU and RLReLU can perform better on the validation data than the ReLU and Leaky ReLU by F1-score of 93% and 92% for OLReLU and 91% for RLReLU. For the prediction OLReLU achieve accuracy of 97% and 98% on the test data. We can conclude that optimized activation function such as OLReLU or RLReLU for CNN can perform better than strandard ReLU activation functions on recognizing handwritten Sundanese script character.