

ABSTRACT

With the growth of the number of data, the utilization of it also starts to flourish. Data visualization, data analysis to machine learning. Machine learning method of data usage differs on the problem and the data types. Classification as one of the most common applications of machine learning can be applied into various data types such as tabular data and image data. In general, each problem needs a specific algorithm to be solved. As a breakthrough, Transfer Learning comes with a goal to create a solution to solve different but related tasks.

To see the transfer learning implementation, utilizing machine learning models trained with a variety of dataset to solve a classification using convolutional neural network for handwriting shows the capability of transfer learning. Sundanese script with a variety of 32 characters of difference is a great fit to be used on this problem.

The model was created using 4 different handwriting dataset which are Alphabet character, Devanagari character and Aksara Jawa. The result shows that the non transfer learning model is better than the transfer learning model performance-wise but the training time spent is lesser by the transfer learning implementation. The best model performed for transfer learning is using the Arabic dataset with the accuracy of 91.86% and loss of 0.2814.

Keyword: *Transfer learning, Classification, CNN, Model deployment*