

ABSTRACT

Flowers are part of plants which are modified by shoots (stems and leaves) whose shape, color, and arrangement are adapted to the plant. Each type of flower has different characteristics that can be recognized through the color and shape of the flower, but there are similarities in color and shape of flowers that not everyone can recognize each type of flower easily. As Setaria and Lagurus flowers where both have a similar shape, but the setaria only have a few feathers. The development of science and technology has encouraged humans to classify flowers automatically. Convolutional Neural Network (CNN) is a deep learning algorithm that is often used to solve image classification problems. Transfer learning is a CNN architecture or pre-trained model that has been trained using a previous dataset that can be used to train other datasets. In this study, the implementation of the MobileNetV2 transfer learning model was carried out to classify flowers based on the types of flowers on dry flowers. There are 5 classes of flower types classified, namely pampas, lagurus, baby breath, cotton flower, and setaria totaling 1.288 images. In this study, the best accuracy results were training accuracy was 0,9997 and validation accuracy was 0,9926. The results of the evaluation carried out using the confusion matrix obtained accuracy, precision, recall, and f1-score, each of which is 0,99. The accuracy value is close to 1 which indicates that the model built has succeeded in classifying accurately and reduces the loss value to close to 0 which indicates that the built model has succeeded in minimizing errors in classification. Based on the accuracy and evaluation results that have been obtained, the research shows that MobileNetV2 has succeeded in classifying dry flower types.

Keywords: *Dry flower, CNN, transfer learning, MobileNetV2, image classification.*