Klasifikasi Bunga Anggrek untuk Genus Grammatophyllum Menggunakan Metode Convolutional Neural Network (CNN)

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Abstract

Orchid flowers are one type of flowering plant that has many genera. *Grammatophyllum* belongs to one genus of orchids, in this genus there are 13 species of orchids. For humans who have knowledge of orchids, it will be easy to classify the species of orchids, but for computers, classifying flowers is a fairly complex task. With the orchid flower classification system, it can help someone who does not have knowledge of orchids to identify species of orchids of the grammatophyllum genus. The method that is widely used in image classification is the Convolutional Neural Network (CNN). In this study, the classification of orchids for the grammatophyllum genus was carried out using the CNN method by implementing AlexNet architecture and custom CNN architecture. This grammatophyllum orchid flower data was collected primary and secondary. The best performance on the Alexnet architecture is obtained by implementing a dropout of 30%, namely 79.76% precision, 83.33% recall, 84.10% f score and 86.07% accuracy. As for the custom CNN architecture, the results of the implementation of a dropout of 20% are 93.75% precision, 91.66% recall, 91.74% f score and 91.42% accuracy.

Keywords : orchid flowers, classification, CNN, genus grammatophyllum, CNN architecture