

ABSTRACT

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CLASSIFICATION OF AGLAONEMA PLANT BASED ON LEAF PATTERNS USING CONVOLUTION NEURAL NETWORK (CNN)

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Keyword : Aglaonema Plant, Normalization, Convolutional Neural Network, Classification, Pattern

(xiii + 55 + Attachment)

The Aglaonema plant or by another name "sri rejeki" is an ornamental plant without flowers but has a variety of leaves including motifs, shapes, colors and sizes. This plant has an attraction that is found in the pattern and luster of the color of its leaves. Aglaonema in Indonesia has around 30 species, where this plant is relatively easy to cultivate because Aglaonema can grow easily by paying attention to several factors, namely sunlight, humidity and planting media. In distinguishing the types of Aglonema for most people it will be difficult and cause errors because each type of Aglonema has similarities in leaf structure such as shape, color and texture. Increasingly developing technological information can help with this problem in distinguishing Aglonema plant types using a classification process. One of the classification methods currently being developed is the Convolutional Neural Network (CNN) method. Convolution Neural Network (CNN) is a development of Multilayer Perceptron (MLP) which is designed to manage two-dimensional data. So, in classifying Aglonema plant types, the CNN method is expected to be able to carry out the classification process correctly to reduce errors in recognizing Aglonema types. The research stage involved collecting a dataset of 756 images of aglaonema types Standas Orang, Super White and Sweet Dream. In the preprocessing stage, image normalization is carried out by equalizing the image size to 256 x 256. The results of the classification using the Convolutional Neural Networks (CNN) method with 604 training data and 152 testing data produce an accuracy value of 96%, a sensitivity value of 96% and a specificity value of 98%.

Bibliography (2016-2023)