KLASIFIKASI TANAMAN AGLAONEMA BERDASARKAN CITRA DAUN MENGGUNAKAN METODE CONVOLUTIONAL NEURAL NETWORK (CNN)

Satrio Muhammad[1], Agung Toto Wibowo[2]

[1,2] Fakultas Informatika, Universitas Telkom, Bandung

[1]satriosmandak@students.telkomuniversity.ac.id, [2]agungtoto@telkomuniversity.ac.id

Abstract

Aglaonema is one type of ornamental plant consisting of thirty species spread throughout the tropical and subtropical regions of the world. The types of aglaonema also continue to grow along with the development of hybrid aglaonema which creates superior plant traits and has attractive color, shape, leaf size. With the various types of aglaonema that have unique variations and are easy to care for, this plant is in demand as an ornamental plant. In addition, with the development of the times, many types of new hybrid aglaonema make it difficult for people to distinguish this aglaonema plant. Thus, if there is a system that can identify the aglaonema plant, it is hoped that it will make it easier for people to recognize the type. The system to be built uses the Convolutional Neural Network (CNN) method using the RestNet50v2 architecture. This system uses a dataset of 1960 images of four different types of aglaonema with almost the same characteristics that are often found on the market, namely Red Anjamani, Red Majesty, Black Maroon, Ruby Garuda. The results of this study are the background model with a testing accuracy of 99% with a loss of 0.084 with the highest F1-score of 100% from the Red Majesty type with Black Maroon, while the non-background model produces a testing accuracy of 71%.