

DESIGN AND BUILD OF ANTHRACNOSE DISEASE CLASSIFICATION SYSTEM IN CALIFORNIA PAPAYA USING CONVOLUTIONAL NEURAL NETWORK

SITI NURAZILA

*Informatics Study Program, Faculty of Science & Technology
University of Technology Yogyakarta
Jl. Ringroad Utara Jombor Sleman Yogyakarta
E-mail : azilasit25@gmail.com*

ABSTRACT

Papaya has various variations, including California Papaya which has a high selling value on the market. However, farmers often experience crop failure due to diseases, such as anthracnose, that attack papaya. Lack of knowledge, especially among new farmers, results in a lack of measures to prevent anthracnose. Therefore, a study was conducted using Convolutional Neural Network (CNN) to classify anthracnose disease in California Papaya. This research used 300 data images, of which 150 images were of healthy papaya and the other 150 images were of papaya infected with anthracnose. The research data was divided into two parts with a ratio of 80:20 between training data and testing data. The aim of this research is to provide information to new farmers regarding the classification of anthracnose disease in papaya. The test results show that the best model was found using the Adam optimizer, 10 epochs, and using binary cross-entropy loss. The model succeeded in achieving training accuracy of 99.17% and testing accuracy of 99.58% with a training loss of 0.0239 and a validation loss of 0.0177. This research shows that the CNN algorithm is very effective in classifying papaya images.

Keywords: artificial intelligence, Convolutional Neural network, papaya, anthracnose disease.