

**DETEKSI PENYAKIT TANAMAN JAGUNG BERDASARKAN DAUN
MENGUNAKAN ALGORITMA *CONVOLUTIONAL NEURAL NETWORK*
(CNN) *Corn Plant Disease Detection Based On Leaves Using Convolutional
Neural Network (CNN) Algorithm***

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ABSTRACT

Corn leaf diseases can reduce the quality and yield of crops, so a fast and accurate detection method is needed. This study aims to develop a website-based corn leaf disease detection system using a Convolutional Neural Network (CNN) with MobileNetV2 architecture and transfer learning. The developed model is able to classify images into four classes: Non-Corn, Leaf Blight, Leaf Rust, and Healthy. Evaluation was carried out using 5-Fold Cross Validation, data testing, confusion matrix, classification report, and ROC Curve. The test results showed an average cross validation accuracy of 99.18% and a testing accuracy of 99.35%. Precision, recall, and F1-score values were in the range of 0.99–1.00, while the AUC value reached 1,000 for all classes. Black box testing showed that all system functions ran well, while the SUS test obtained a score of 75, which is included in the Good category. The results showed that the system was able to detect corn leaf diseases automatically with very good accuracy.

Keywords: *Corn Leaf Disease Detection, Convolutional Neural Network, MobileNetV2, Transfer Learning, Website.*