

ABSTRACT

Rice diseases are one of the biggest agricultural challenges in Indonesia. These diseases can reduce crop productivity and cause economic losses for farmers. Therefore, early detection and control of diseases are important to maintain the health of rice plants. The purpose of this research is to develop a disease detection method in Indonesian rice plants using Convolutional Neural Networks (CNN) on the SmartFarm application. The SmartFarm application allows farmers and operation managers to detect rice diseases quickly and accurately by analyzing images of infected leaves. The test results show that the developed CNN model can detect rice diseases with high accuracy. The SmartFarm application using the CNN model has become an effective tool to help farmers and farm managers in Indonesia detect rice diseases early, take appropriate control measures, and increase crop productivity efficiently.

Keywords: *Rice plant, disease detection, Convolutional Neural Network (CNN), SmartFarm application.*