

## ABSTRACT

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### **DISEASE CLASSIFICATION IN POTATO LEAVES USING INCEPTION V3 ARCHITECTURE MODEL**

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(xiii + 84 + appendix)

Potato plants are one of the most widely grown food crops in the highlands of Indonesia which belongs to the tuber family. Potatoes are one of the foods that contain carbohydrates which are an important ingredient for humans to produce energy so that potatoes are included in human staple foods, besides that potatoes contain several important nutrients needed by the human body, namely vitamin C, potassium and dietary fiber. It is undeniable that potato plants must also have diseases. The most common disease in potato plants is late blight, and there is also dry spot disease on the leaves (early blight). Cold and humid places are one of the factors for late blight to develop.

Deep learning is a branch of machine learning based on artificial neural networks that can teach computers to perform actions that are considered natural by humans. In Deep Learning methods, a computer can learn to classify directly from image, text or sound data. There is one Deep Learning method that has the most significant results in image recognition, namely Convolutional Neural Network (CNN) because CNN has imitated the image recognition system in the human visual cortex so that it can process image information. The purpose of this final writing is to implement the Learning Rate model in the Convolutional Neural Network (CNN) model type using Inception V3 architecture in classifying diseases on potato leaves. This identification is done to test the accuracy and performance of using Deep Learning. Based on the results of the research that has been done, using the Inception V3 architecture model has a good accuracy value with an accuracy value for validation of 92.02%.

Bibliography (2016-2022)