

ABSTRACT

DESIGN OF MACHINE LEARNING MODEL FOR PLANT DISEASE DETECTION OF “ANGKAT TANI” APPLICATIONS USING TRANSFER LEARNING MODEL KERAS APPLICATIONS

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Indonesia is an agrarian country that makes the agricultural sector one of the livelihoods of the population whose percentage is quite large. The increasing population growth in Indonesia has an impact on food demand and causes the price of agricultural products in the market to often fluctuate, so there is a risk of selling and agricultural products with low products. In addition, the problem of plant disease is one of the factors causing farmers to experience crop failure. “Angkat Tani” application and website was created with the hope of helping improve the welfare of farmers. “Angkat Tani” is built by utilizing machine learning models to be able to predict crop prices by analyzing patterns in past data and identifying types of plant diseases. In the plant disease detection feature, a machine learning model is made for the classification of rice and tomato leaves. The author is working on the classification modeling of tomato leaves. The work process is carried out in several stages starting from preparing training and validation data to saving machine learning models into .h5 and .tflite files so that they can then be deployed to the “Angkat Tani” android application and website. In 2 modeling experiments using the Transfer Learning Keras Applications architecture model, namely Inception V3 and MobileNet V2, MobileNet V2 was selected to be implemented in the “Angkat Tani” application.

Keywords: Angkat Tani, Transfer Learning