# ABSTRACT

Argiculture is an effort to produce or make food, food, fiber and other products in agriculture that require human labor. Especially in Indonesia, which is an agrarian country, where most Indonesians fulfill their needs by working in the agricultural sector.

Many factors can affect the production of the agricultural sector, especially insect pests that eat crops grown by farmers and make farmers use excess pesticides which have an effect on soil fertility and agricultural production.

This insect detection and real time notification system uses a camera as an input medium in the form of a digital image where the results of this input will be processed with image processing techniques to process visual results from the camera and machine learning to detect these insects. the system will provide output in the form of Whatsapp notifications if an insect is detected.

The results of the training dataset produce a mAP_0.5 value of 0.967 with a precision value of 0.926 and a recall of 0.918, and the results of testing tools in the real world produce a confidence value with a ratio of 0.5 - 0.7 which can provide notifications in the form of Whatsapp.



Keywords: pests, image processing, machine learning, digital image