**ABSTRACT**

The most devoted workers are farmers. Due to their impact on crop quality, insects are a major source of frustration for farmers. Various types of insects are attracted to different crops, and they destroy them. The majority of farmers are unaware of the common pesticides that work on different types of insects. Insecticides and pesticides don't always work as well because of this. This work uses machine learning and an insect detection algorithm to categorize and identify insects in certain crops, such as cotton and chili crops, at an early stage of crop growth. This paper outlines research that makes use of a local dataset of three groups of insects known locally as "Ladha in chili," "Black pest in cotton," and "Damaged chili leaf" and, depending on our needs, may even incorporate a great deal more insects. This project makes use of an IoT device with a camera that is installed in the field and will randomly select images from the crop field each day. It will then process those images using modern machine learning techniques and computer vision algorithms, and it will also be used to alert the farmer through a message about the insect detected and suggest an appropriate insecticide.