Name(s)	Project Number
Vibha Srinivas	**J1414**

Project Title

Automatic Invasive Insect Identifier with Alerts Using Artificial Intelligence

Abstract

Objectives
The two main goals of my project were to reliably detect invasive insects and design a platform to alert the presence of invasive bugs to farmers and to state and local agricultural departments.

Methods
An Image-Classifier, a type of AI neural network, was trained on 25 images each of 5 invasive insects and 4 insects native to California. A station built with a Raspberry Pi, camera, and light attraction mechanism was used to attract insects and notify farmers via SMS if the insect was invasive or not.

Results
After being trained with the images, the station was given an independent testing set of insect images, for which it could detect whether the insect was invasive or not with an accuracy of over 70%.

Conclusions
Because the software has such a high success rate in detecting invasive species, this method would be a much faster way of eliminating these bugs from agricultural fields. Because these stations can be easily built and spread across an area, we can limit the ecological and agricultural impact that invasive species could have.

Summary Statement

I built an insect-detecting station that uses AI to automatically alert farmers and local agricultural departments when invasive bugs are in their farm fields.

Help Received

I designed, built, and tested the station myself. I used Google s Tensorflow framework to train my images.