

Automatic Pesticide Sprayer Robot

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Abstract: India being the farmland with a population of three-fourths engaging in agriculture. According to the climate and other resources accessible to them, farmers will grow multiple plants in their field. But some technical abilities along with technological assistance are required to achieve high output and excellent quality to practice agriculture. The management of food crops includes very close surveillance, particularly with regard to the treatment of illnesses, which can cause severe effects after harvest, like making the crops sick and not growing properly or dying. Disease is recognized in crops as the shift or deficiency of the plants ordinary functions that will generate certain symptoms, which are usually visible on the leaves, stems, and branches of the crops. The main goal is to diagnose the disease and the proportion of disease produced in crops is compulsory for effective and successful plant cultivation so the plant can grow healthily without any problems. This can be done by taking input images using a camera, analyzing them using a machine learning process which is somewhat complicated, but once you get the hang of it, it gets easier. It also displays the exposed area to disease and predicts the remedies, turn on the pesticide sprayer which sprays the respective pesticide on the exposed area to disease. This is very necessary and vital for effective spraying of the pesticide to make sure the plants are healthy and growing well. The movement of the robot is done with L293d motor driver and the processor or embedded system is done through Raspberry pi3 to make sure everything works correctly. We use a python code for machine learning which helps train the robot with pre-defined images, so it can identify problems and take the right actions. Since this can be controlled from anywhere without working in the field and being exposed to pesticides, it will be a profit for the farmer and he will stay unaffected by his health condition which is good for everyone involved including the environment.

Keywords: Bluetooth Module, Image Classification, Disease Detection, SVM

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