



OVERVIEW

Pests and diseases cause significant damage to crops, resulting in financial loss and affecting supply chains. Crop production is reduced in both quality and quantity. To address this global issue, we propose creating an AI model that uses computer vision to detect diseases in crops early. This model can benefit farmers and countries whose economies rely heavily on agriculture by preventing and eradicating pests and diseases without requiring extensive human labor.

ISSUES

Reduced crop yields, increased costs for consumers, trade barriers, job losses and higher food prices are a few **economic** problems. Reduction in crop yield, damage to crops, reduction in crop quality, spread of diseases, environmental damage are a few **environmental** problems.

GOALS

1. AI model that detects the leaves, stem, flowers, inflorescence, fruits, seeds, even pollen grains, ovaries and many other parts. The output would be the condition in present, past and future of the plant.
2. The app brings up solutions on how to avoid the weeds that affect crops.
3. Make it available in all countries for download and usage as a mobile app.

A FEW SPECIFICATIONS

- Brings up the solutions to how to avoid the weeds that are giving competition to the growth of main problems and reduce the rate of weeds (as we can't get rid of weeds at present at least) and finds the insects that are harming the crop.
 - It gives the suggestions on what Pesticide/Fungicide or combo at what rate, whether to spray or drench, at what intervals, when to and not to, toxicity manager, what quantity to supply, to supply through roots or leaves and many edge cases.
 - Guides through what technology to use at what stages of the crop, when to supply water, and at what quantity(both ways like scientific and common man(farmer)), when to harvest the crops,fruits and detects which ones are fit for consumers.
 - Bring the IPM (Integrated pest management) and IDM (integrated disease management) to the farmers on the basis of problems *captured*.
 - Prepares the farmer to sell with satisfaction.
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