Smita Agrawal, Preeti Kathiria, Hitesh Vora, Hardik Mirani, Aastha Dani, Parita Oza , and Usha Patel



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## Abstract

Agriculture is India's most common job, yet it lacks innovation and technology. As the world's population expands, so does the demand for more food. Pesticides are used on farms to boost yield. The toxicity of the fertilizer has serious health repercussions for the farmer. So, it's recommended to measure the amount of pesticide used and only apply it when necessary. We devised an insect-finding and insecticide-spraying mechanism. This is accomplished by employing a drone or Uninterrupted Ariel Vehicle. The drone has a camera that can photograph fields and lift pesticides weighing 3 to 4 kg. After locating the insect, the insecticide is sprayed through the nozzles. In the proposed model, the Deep Convolutional Neural Network (CNN) has reached state of the art in

Learning

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Object recognition from enhanced underwater image using optimized deep-CNN

S. R. Lyernisha, C. Seldev Christopher, and S. R. Fernisha

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self-learn hidden features that help with insect detection. When compared to other similar approaches, experimental findings on a real dataset to illustrate the usefulness of the suggested methodology. We identified insects on the crop with 90% accuracy using deep CNN. It helps farmers to increase crop yield while also shielding them from the detrimental effects of spraying pesticides on the field manually.

**Keywords:** Agricultural productivity ▪ crop analysis ▪ drone ▪ image processing ▪ pest detection ▪ pesticide spraying ▪ potatoes insects ▪ image augmentation ▪ deep CNN