



How AI Can Tell When Your Crops Are Sick

The ability to utilize AI for identifying plant illnesses in agricultural settings will be of significant value given that the loss of one agricultural harvest in any country may impact the lives of thousands of people. With the support of an invisible digital revolution, farmers can detect problems with their crops before they get worse

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Introduction

The agricultural lands of Pakistan offer numerous possibilities where farmers can not only cultivate their own plants but also create much more information to help them increase their yields. The farmer will analyze the crops every time he evaluates his land soil and vegetation as well as plant movement when facing the wind to derive essential information about his crops.

Nevertheless, for him to benefit from such information on how to manage his crops through disease prevention measures to maximize their yield, the farmer will have to detect the disease before losing any crops, or else he will experience tremendous losses of his crop yield.

Just imagine the way farming science practices would be for the farmer if he had crops capable of detecting diseases in them, which would enable him to treat his crops in time with the right pesticide.

"The farmer will not only carry his tools as he walks, but will also carry his intelligence in his pocket."

Technology Overview

The use of AI in farming is not very complex. The technology works together with the farmer, rather than replacing them. AI uses drone, satellite and mobile phone aerial images to reveal previously unrecognized patterns in plants.

For example, the color change, or abnormal growth, of a plant can be an indication that disease is coming. By analyzing and identifying these patterns, AI will alert the farmer before the plant suffers more damage.

In Pakistan, the use of AI is essential for agriculture. Agriculture is vital to the economy of Pakistan, and AI has applications for farmers in getting images of their crops, to get feedback from government projects and small business start-ups.

Mobile phones are an important tool for village communities to identify potential threats. An example would be that a cotton farmer in Punjab can use a mobile phone to detect pest infestations and act before his field is destroyed.

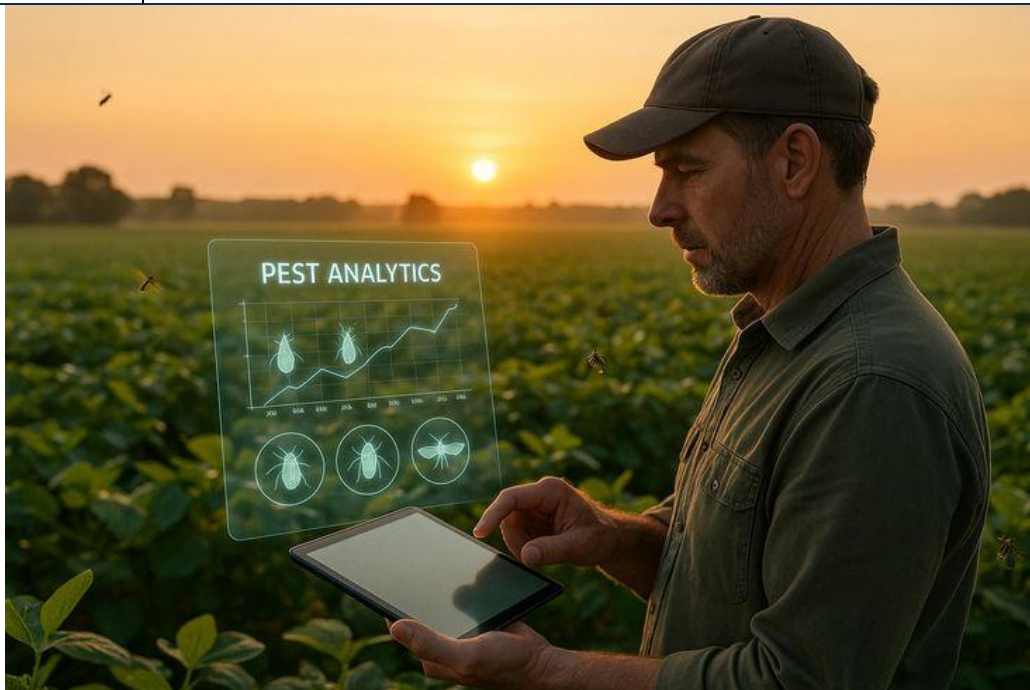


Figure 1: A farmer utilizing mobile-based AI vision and real-time analytics to identify early signs of pest infestation and monitor seasonal yields.

Key Findings & Impact

The fact that the increase in the yield of crops can be attributed to the use of AI-based technologies in farming has been seen.

Where water supply is low in some areas of Pakistan along with changes in weather conditions, the use of AI technology is taking place in order to carry out irrigation without guessing the timings for watering. In this way, water and money both are saved.

Furthermore, another significant point about AI technology that should be mentioned is its availability to all the users. Usually, it takes several years to learn the art of farming but with the help of AI technology, this is easy.

At the same time, there have been issues related to the use of this technology, such as internet problems and resistance shown by some farmers towards technology.

What's Next?

In the future, AI will play an even bigger role in agriculture than it does now. With the development of technology such as machine learning and the collection of data, agricultural equipment can use information on weather and soil quality to predict when a crop may fall sick due to disease.

This is a great opportunity for Pakistan to grow its economy, help farmers succeed, and provide food security through innovative methods used in agriculture.

Collaboration between people and machines is important because it is at this point that intelligence meets experience.



Learning is not only accomplished by growing crops; but by also learning.

About the Author

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