**AI in agriculture**

Agriculture is the science and art of cultivating [plants](https://en.wikipedia.org/wiki/Plants) and livestock. The [history of agriculture](https://en.wikipedia.org/wiki/History_of_agriculture) have began thousands years ago. Proudly speaking, India is the second-highest producer of agricultural products in the world. Agriculture forms over more than 70% of India's export capacity. Agriculture in India needs to be improved from its present state. The building of dams, irrigation canals and technological infrastructure is necessary to improve the sector. India’s topography, soils, rainfall and the availability of water for irrigation have been major determinants of the crop and livestock patterns characteristic of Indian agriculture. The monsoons moreover, play a critical role in determining whether the harvest will be bountiful, average or poor in any given year. In the absence of sufficient irrigation measures, the areas receiving scanty rainfall suffer.

**AI:**

**Artificial Intelligence** is the theory and development of computers, which imitates the human intelligence and senses, such as visual perception, speech recognition, decision-making and translation between languages. AI has brought a revolution in the world of technology. Artificial Intelligence can be categorized into four categories, and this categorization was brought up by Arend Hintze. They are-

1. TYPE 1: These are machines which can react to certain situations, but these machines don’t have any sort of memory and hence cannot learn or use past experience.
2. TYPE 2: These are the machines which are capable of using past memory to form future ones. An example of this second type of AI is self-driving cars.
3. TYPE 3: This type of an AI at present exists in theory, and as per the imagination, it will be able to have humane emotions like beliefs, desires, opinions, intentions, etc.
4. TYPE 4: This type of AI machine will be able to have a sense of self-awareness, emotions and consciousness. If this type of AI ever comes to exist, then it would be a real revolution.

## Advantage of implementing AI in Agriculture:

* AI provides more efficient ways to produce, harvest and sell essential crops.
* AI implementation emphasis on checking defective crops and improving the potential for healthy crop production.
* The growth in Artificial Intelligence technology has strengthened agro-based businesses to run more efficiently.
* AI is being used in applications such as automated machine adjustments for weather forecasting and disease or pest identification.

## Artificial intelligence can improve crop management practices thus, helping many tech businesses invest in algorithms that are becoming useful in agriculture.

**AI in AGRICULTURE:**

1. **Monitoring crop and soil health:**

Utilizing AI is an efficient way to conduct or monitor identifies possible defects and nutrient deficiencies in the soil. With the image recognition approach, AI identifies possible defects through images captured by the camera. With the help of Al deep learning application are developed to analysis flora patterns in agriculture. Such AI-enabled applications are supportive in understanding soil defects, plant pests, and diseases.

## Forecasted Weather data:

AI in an advanced way is helping the farmer to remain updated with the data related to weather forecasting. The forecasted/ predicted data help farmers increase yields and profits without risking the crop. The analysis of the data generated helps the farmer to take the precaution by understanding and learning with AI. By implementing such practice helps to make a smart decision on time.

## Decrease pesticide usage:

Farmers can use AI to manage weeds by implementing computer vision, robotics, and machine learning. With the help of the AI, data are gathered to keep a check on the weed which helps the farmers to spray chemicals only where the weeds are. This directly reduced the usage of the chemical spraying an entire field. As a result, AI reduces herbicide usage in the field comparatively the volume of chemicals normally sprayed.

## AI Agriculture Bots:

AI-enabled agriculture bots help farmers to find more efficient ways to protect their crops from weeds. This is also helping to overcome the labor challenge. AI bots in the agriculture field can harvest crops at a higher volume and faster pace than human laborers. By leveraging computer vision helps to monitor the weed and spray them. Thus, Artificial Intelligence is helping farmers find more efficient ways to protect their crops from weeds.

Today [AI-powered technologies](https://www.quytech.com/ai-development-company.php) are used for solving several industries’ purposes. AI is being utilized in sectors such as finance, transport, healthcare, and now in agriculture. AI is helping the farmers to monitor their crops without the need to invigilate personally into the farm. Many startups companies are looking forward to AI development in agriculture. AI is redefining the traditional pattern of agriculture. The future of AI in agriculture is way ahead in offering radical transformation with advanced approaches.