Conventional to Modern Agriculture Using Artificial Intelligence

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Abstract

Because of increased pollution and population, the agriculture system is being affected drastically. New technologies should be implemented in this sector. The author discussed irrigation techniques and patterns using artificial intelligence that can change our irrigation process and minimize water consumption. Artificial intelligence approaches for soil fertility properties, the connection between soil quality, effect of fertiliser on soil possession and crop fecundity, season's growth, modelling of some soil properties, and estimation of polluted soil are being discussed. One more essential factor that reduces crop growth, quality, and yield is called weeds. Different types of weed control applications using ANN and ANFIS model have been discussed. To minimize monetary losses for farmers, disease control becomes a necessary parameter for better crop production. Image-based strategies using machine learning and deep learning for exact location, order of the disease, for precise and accurate identification have been considered.

Chapter Preview

Top

Literature Review

AI Simulation

AI simulates machines with a person's intellect, and these machines are set in such a way that they can give judgment and act like humans. In other words, we can say it is a machine that thinks and acts like humans. Computer systems are cloned to work as specialists, capable of processing the native tongue and recognizing oral expression in artificial intelligence. Artificial Intelligence (AI) and new inventions in Deep Learning are strengthening the class of artificial speech. The use of these implementations is very common.

To increase food security for future generations, effective and smart techniques like precision farming and smart agriculture must be adopted. Despite the availability of various advancements in technology, agriculture systems have not yet fully embraced the use of AI and different IoT platforms and devices. AI systems are skilled at coming up with prognostic vision regarding which crop to plant in a particular year and when the required dates to sow and harvest are in a particular land area, thus enhancing crop yields and minimizing water requirements, crop yield enhancers, and weed killers. With the help of the implementation of AI technologies, the effect on the ecosystem can be minimized, and employee safety may improve, which will, in turn, keep food prices lower and ensure that food production remains balanced with the increasing population. AI sets the parameters required to provide more suitable climate-smart agricultural systems for healthy food and a comfortable living for the farmers. The implementation of AI in agriculture will change the entire growth of the economy, which, in turn, affects our world socially, economically, and politically. Artificial intelligence is for humans; without humans, this intelligence has no meaning, and this implies human intervention will always be there, so being jobless is not a big concern.

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