Acta Scientific AGRICULTURE (ISSN: 2581-365X)

Volume 7 Issue 6 June 2023

Editorial

Editorial: AI in Agriculture

Saurabh Srivastava*

Associate Professor, CMS B School, Jain Deemed to be University, Bangalore, India

***Corresponding Author:** Saurabh Srivastava, Associate Professor, CMS B School, Jain Deemed to be University, Bangalore, India.

Received: March 24, 2023

Published: May 01, 2023

Artificial intelligence (AI) refers to the ability of machines. Such type of abilities enables machines to have logic, reasoning, creativity and decision making. Artificial intelligence brings together computer science and data to facilitate problem solving. It also encapsulates concepts of machine learning and deep learning. Currently the possibility of implementing AI in all possible industries and human lives are being explored. The field of agriculture remains no exception.

Agriculture is a prominent contributor in growth and development of many economies. World bank in their report suggests that agriculture contributes around 4% in world GDP and for some countries which are least developed, it accounts for more than 25% of their GDP.

In the coming years, with population growing and agriculture land diminishing, there is a huge challenge lying ahead. The challenge will mostly be in demand and supply, by 2050 the need for food will increase by 60% as suggested by an UN report. The role of AI in revolutionising agriculture and introducing effective sustainable practices in food production cannot be ruled out. The scope of implementing AI in agriculture is being probed. There has been a rise in exploring how agriculture can benefit from AI. Efforts are going on to ensure that AI is facilitating farmers in ensuring quality, quantity and efficiency in production of crops.

There are multiple ways in which Artificial Intelligence technology has created an impact on agriculture. Some of the major ones are.

- Monitoring of soil and crop: nutrients are very essential for proper growth and development of plants. AI can very well diagnose soil for possible soil defects and nutrient deficiencies in the soil. AI can perform such analysis and optimize production efficiency.
- Precision farming: AI is used to monitor soil conditions, weather patterns, and crop growth in real-time. This data can be used to optimize crop yields, reduce waste, and minimize environmental impact.
- Smart irrigation: AI can be used to monitor soil moisture levels and weather patterns to optimize irrigation. This can reduce water waste and improve crop yields.
- Crop yield protection n and price forecasts: Farmers can obtain better profits if they can be empowered with the technology of understanding the price trends and forecast for the next few days. This can also help in identifying output yields of the crops.
- Disease diagnosis: An effective strategy can be formulated effectively if farmers can know in advance the information and classification of various diseases. AI responds to any such situations that can give an insight in to any upcoming diseases.
- Predictive analytics: AI can analyse large amounts of data to predict crop yields, disease outbreaks, and other factors that can affect agriculture. This can help farmers make more informed decisions and improve crop management.
- Agriculture robots: Many firms are being assisted by such robots to ensure supply meets the demands. Ecorobotix, Energid Citrus Picking System, Fendt Xaver, FarmWise and SwagBot are examples of such robots. A lot can be tracked with the help of these robots such as weather related changes, infestations arising out of pests etc.

Scope of agriculture is not limited to production of food grains and crops only. There are various other areas such as marketing, processing, supply chain in distribution of goods are some other areas that are seeking the implementation of AI. Livestock management is one such area where AI has capability to monitor the health and well-being of livestock, so as to optimize feeding and breeding practices among them.

We can definitely look forward towards AI bringing in huge revolution that will create new milestones in increasing efficiency, improve sustainability and in waste reduction. The challenge will be how we can utilise AI ethically and create something which is capable of creative positive impacts for farmers and agriculture.