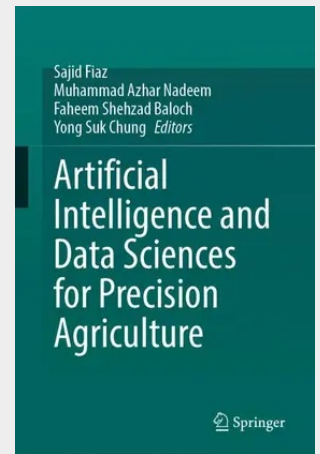


Artificial Intelligence and Data Sciences for Precision Agriculture

Global human population is increasing rapidly, and it has been estimated to reach 9.7 billion by year 2050. With this massive population growth, the greatest challenge is sustainable food production. The traditional agriculture system does not have capacity to meet growing food demand therefore, it is emergent to introduce emerging technologies helping farming community to precisely utilize the resources to ensure food security under climate change conditions. The technological revolution of 21st century has transformed every sector of life with no exception to agriculture. The application of recent technical concepts i.e., Internet of things, cloud computing, big data, data mining and artificial intelligence had helped farming community to make smart decisions and actions for resolving complex problems of agriculture. Precision agriculture involves the utilization of sensors, drones, and satellite imagery for monitoring crop health, soil conditions and weather patterns therefore, integration of artificial intelligence and data science-based technologies can improve sustainability, productivity, and climate resilience. The utilization of data sciences in precision agriculture represents a radical turn toward knowledge-based decision making. The application of data science concepts can help farming community to optimize the resource allocation, real time crops monitoring, efficiently and timely harvesting and yield prediction. This synergy will not only enhance the productivity but can also promote sustainable agricultural practices.

The book covers the latest developments taking place on application of data sciences for precision agriculture. It specifically focuses on the technological innovations for improving decision making, and cover various fields of data sciences and their application in agriculture production system.

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