

Application of artificial intelligence and machine learning in agriculture

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ABSTRACT ORIGINAL

Artificial intelligence (AI) is the branch of science that deals with the development of machines to mimic human intelligence. Machine learning (ML) is a subdomain of AI where the machine can learn automatically from data without being explicitly programmed. Agriculture is constantly pressed upon to produce more with less resource. AI and ML techniques have the capacity to optimize resource utilization by analysing agricultural data. It has changed the present-day face of farming by predicting various input parameters and forecasting post-harvest life of a crop. This chapter discusses the different AI and ML techniques available and how they have been used in different phases of the agriculture life cycle. This chapter includes vast range areas in agriculture that requires AI and ML. It includes soil, irrigation, and disease managements. Importance of AI in the field of plant phenomics also included in this chapter. The probable use of geographic information system (GIS) and remote sensing coupled with AI are discussed in this chapter. © Springer Nature Singapore Pte Ltd. 2023. All rights reserved.