

## Machine Learning in Agriculture: A Brief Review

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**Abstract :** "Necessity is the mother of invention" - Rapid increase in the global human population has directed the agricultural domain toward machine learning. The basic need of human beings is considered to be food which can be satisfied through farming. Farming is one of the major revenue generators for the Indian economy. Agriculture is not only considered a source of employment but also fulfils humans' basic needs. So, agriculture is considered to be the source of employment and a pillar of the economy in developing countries like India. This paper provides a brief review of the progress made in implementing Machine Learning in the agricultural sector. Accurate predictions are necessary at the right time to boost production and to aid the timely and systematic distribution of agricultural commodities to make their availability in the market faster and more effective. This paper includes a thorough analysis of various machine learning algorithms applied in different aspects of agriculture (crop management, soil management, water management, yield tracking, livestock management, etc.). Due to climate changes, crop production is affected. Machine learning can analyse the changing patterns and come up with a suitable approach to minimize loss and maximize yield. Machine Learning algorithms/ models (regression, support vector machines, bayesian models, artificial neural networks, decision trees, etc.) are used in smart agriculture to analyze and predict specific outcomes which can be vital in increasing the productivity of the Agricultural Food Industry. It is to demonstrate vividly agricultural works under machine learning to sensor data. Machine Learning is the ongoing technology benefitting farmers to improve gains in agriculture and minimize losses. This paper discusses how the irrigation and farming management systems evolve in real-time efficiently. Artificial Intelligence (AI) enabled programs to emerge with rich apprehension for the support of farmers with an immense examination of data.

**Keywords :** machine Learning, artificial intelligence, crop management, precision farming, smart farming, pre-harvesting, harvesting, post-harvesting

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