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## Towards applicability of machine learning techniques in agriculture and energy sector

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## ABSTRACT

Machine learning includes wide range of algorithms for learning predictive rules from historical data and to build a model that can predict unseen future data. As a result, machine learning analyzes data samples to find patterns and create decision rules for developing a predictive model that can be used to forecast future data. A contemporary agricultural paradigm known as smart agriculture examines the entire farm as a collection of small units and finds smart solutions in output and demand for those units. The ultimate goal of smart agriculture is to reduce agricultural costs in order to increase profit. Smart farmers employ cutting-edge agricultural techniques. The predictive nature of machine learning algorithms enables smart farming. Wind speed prediction is necessary to increase the amount of energy produced. Power demand and price forecasting accuracy is regarded as one of the most important research issues in electrical engineering today and in the future. The predictive nature of various machine learning algorithms makes them the best instrument for dealing with energy and power engineering challenges.

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## 1. Introduction

Data mining is a technique for extracting essential patterns and pulling out knowledge from huge set of records. That extracted pattern from the massive quantity of data is advantageous for many areas such as fraud detection, disease detection, market analysis, customer retention, science exploration, etc. depending upon the nature of data. Data mining uses a machine learning algorithm to discover relevant information from the massive data set. Machine (ML) techniques includes a wide range of algorithms for learning predictive rules from historical data to build a model that can predict future data [1].

ML includes wide range of algorithms for learning predictive rules from historical data and to build a model that can predict unseen future data. According to Arthur Samuel [10], machine learning is a field of computer sciences for providing an opportunity to a computer for learning from the data. Without pro-

grammed explicitly machines are fused with artificial intelligence and is capable to act and think as human being accepting machine learning and Bigdata techniques. The reform we can say that Bigdata is employing data mining and data mining is employing big data for surely favorable investigation [2].

Algorithms based on machine learning require a large amount of clean data for training purposes, however virtually all datasets obtained from diverse sources are unreliable. For example, missing data, redundancy, outliers, and violations of integrity requirements provide obstacles to machine learning algorithms, among other things.

In computer science, machine learning refers to the capacity to self-train a system such that it learns naturally from a data set and improves with experience without being explicitly designed. It consists of a series of methods that provide a software program the ability to anticipate the exact result. When fresh data enters a computer system, the objective of machine learning is to create

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