Paper ID: MISS21_35

A Review on Machine Learning

Amal Kumar[1*], Ajay Kumar[2]

[1]Department of Computer Science, Central University of South Bihar, Gaya, India

[2]Department of Computer Science & Informatics, Central University of Himachal Pradesh, India

*Corresponding author

Abstract

Background: To create precise choices, machine learning uses a reasonable amount of data. In order to improve the accuracy of outcomes, data reliability and exchange are critical [1].

Objective: Machine Learning is a discipline of algorithms that is aimed at replicating human intelligence by understanding from the surroundings. In the modern era of so-called big data, they are regarded as the backbone [2]. Pattern recognition, computer vision, spacecraft engineering, finance, entertainment, and computational biology, as well as biological and medical applications, have all benefited from machine learning approaches.

Methodology: The biological sciences are rapidly adopting a sophisticated form of machine learning that allows computers to tackle perceptual problems like picture and speech recognition [3]. Deep learning techniques, such as deep artificial neural networks, employ numerous processing layers to uncover patterns and structure in massive data sets. Each layer learns a notion from the input, which is then built upon by successive layers; the higher the level, the more abstract the concepts learnt. Deep Learning does not require any prior data processing and extracts selected features.

Result and Discussion: A deep neural network tasked with interpreting shapes, for example, would learn to detect simple edges in the first layer and then add identification of more complicated shapes formed of those edges in succeeding layers. Although there is no hard and fast rule for how many layers are required for deep learning, most experts agree that more than two are necessary. Deep learning, which pulls high-level knowledge from very huge volumes of data, will be invaluable in the context of big data. Initial problems such as over fitting due to infrequent dependencies in the training data and high processing costs are being addressed as it gains popularity in genome analysis.

Future Work: Machine learning algorithms' ability to learn from their current environment and generalize to new tasks would lead to advancements in both safety and efficacy, resulting in better outputs.

References

1. S. Tanwar, Q. Bhatia, P. Patel, A. Kumari, P. K. Singh, and W. C. Hong, “Machine Learning Adoption in Blockchain-Based Smart Applications: The Challenges, and a Way Forward,” *IEEE Access*, vol. 8, pp. 474–448, 2020.
2. K. Chopra, K. Gupta, and A. Lambora, “Future Internet : The Internet of Things- A Literature Review,” *2019 Int. Conf. Mach. Learn. Big Data, Cloud Parallel Comput.*, pp. 135–139, 2019.
3. U. Challita, A. Ferdowsi, M. Chen, and W. Saad, “Machine learning for wireless connectivity and security of cellular-connected uavs,” *IEEE Wirel. Commun.*, vol. 26, no. 1, pp. 28–35, 2019.

 DOI: 10.21467/abstracts.120

ISBN: 978-81-954993-2-8