

Artificial Intelligence

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Artificial Intelligence is a form of intelligence demonstrated by machines that has turned out to be an effective means for human reasoning and learning. Artificial Intelligence is an appellation generally used in a particular field of science and is aimed at equipping machines with the ability to perform different functions of logic, planning, perception, reasoning and learning (Bengio, 2009). In the above reference, importance has been given to the term machines but AI is applicable to different forms of living intelligence also. The term intelligence comprises of a set of skills like self-awareness, emotional know-how and creativity.

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AI is associated with 'Symbolic AI' in the past until the 1980s. However, this approach had its own limitation which is why sub-symbolic methods like evolutionary computations, fuzzy systems, neural networks and other computational techniques became popular. Eventually, computational intelligence evolved as a sub-field of Artificial Intelligence. AI is still undergoing research and is classified into a number of research sub-fields [2]. For instance: Natural Language Processing (NLP) is useful for enhancing the writing pattern in different applications. Machine translation is a unique sub-division of NLP which plays an important role in translating different languages into comprehensible ones. Machine translation algorithms helped in the evolution of different applications that focus on spelling errors and grammatical structures [3]. It automatically uses a set of vocabulary and words associated with the key topic when the computer suggests changes to the editor or writer. Data mining and machine learning have gained popularity in the research community in the recent past. These fields analyse the innumerable possibilities of database characterization. Accumulation of database has been mainly done using statistical techniques in the past. Statistical curves play an important role in describing the present and the past so as to predict the future. However, only classic algorithms and techniques were used for processing the data and optimizing these algorithms can result in efficient learning [4]

Decision making can be enhanced with the help of modern values, different criteria and advanced statistical approaches. Such optimization has found increased application in the field of medicine where medical solutions, causes and symptoms create huge databases used for predicting advanced treatments. Other areas of application are where lots of manual work related to business decision is performed, such as in the domain of retail [5]. ML focuses on different research topics based on which multiple approaches have been developed. Decision Tree Learning, Deep Learning, Bayesian Network and Clustering are only a small aspect of these approaches.

References

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Keywords

artificial intelligence;machine learning;deep learning

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