Machine_learning

Return to Glossary

Machine Learning (ML) is the study of computer algorithms that improve automatically through experience and by the use of data. [1)] It is seen as a part of artificial intelligence. Machine learning algorithms build a model based on sample data, known as “training data”, in order to make predictions or decisions without being explicitly programmed to do so.[2)] Machine learning algorithms are used in a wide variety of applications, such as in medicine, email filtering, and computer vision, where it is difficult or unfeasible to develop conventional algorithms to perform the needed tasks.[3)]

Source: https://en.wikipedia.org/wiki/Glossary_of_artificial_intelligence

1)
Mitchell, Tom (1997). Machine Learning. New York: McGraw Hill. ISBN 0-07-042807-7. OCLC 36417892. http://www.cs.cmu.edu/~tom/mlbook.html

2)
The definition “without being explicitly programmed” is often attributed to Arthur Samuel, who coined the term “machine learning” in 1959, but the phrase is not found verbatim in this publication, and maybe a paraphrase that appeared later. Confer “Paraphrasing Arthur Samuel (1959), the question is: How can computers learn to solve problems without being explicitly programmed?” in Koza, John R.; Bennett, Forrest H.; Andre, David; Keane, Martin A. (1996). Automated Design of Both the Topology and Sizing of Analog Electrical Circuits Using Genetic Programming. Artificial Intelligence in Design '96. Springer, Dordrecht. pp. 151–170. doi:10.1007/978-94-009-0279-4_9. https://doi.org/10.1007%2F978-94-009-0279-4_9

3)
Hu, J.; Niu, H.; Carrasco, J.; Lennox, B.; Arvin, F., Voronoi-Based Multi-Robot Autonomous Exploration in Unknown Environments via Deep Reinforcement Learning IEEE Transactions on Vehicular Technology, 2020. https://ieeexplore.ieee.org/document/9244647

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