Artificial Intelligence

Q.What is meant by general AI?

Artificial general intelligence (AGI) is the representation of generalized human cognitive abilities in software so that, faced with an unfamiliar task, the AGI system could find a solution. The intention of an AGI system is to perform any task that a human being is capable of.

Q.What is an example of general AI?

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Weak AI

Artificial Narrow Intelligence (ANI)
< Machine Learning >

1. Digital voice assistants (Siri, Alexa)
2. Recommendation engines
3. Search engines
4. Chatbots
5. Autonomous vehicles
6. Image and speech recognition
7. Predictive maintenance and analytics
8. Robots

Alexa and Siri are the best example of weak AI programs

General AI

Artificial General Intelligence (AGI)
< Machine Intelligence >

General AI is currently hypothetical, but when or if it's realized,machines would have full human cognitive abilities.

Why haven't we achieved Artificial General Intelligence yet?

Artificial Superintelligence (ASI) would be capable of outperforming humans. As we discussed early, both optimists focus on the opportunities of the technology and those who fear it could result in disaster for humanity.

STRONG AI

Here Are 9 Practical Examples of STRONG AI

1. Generalize knowledge and apply it as applicable to different circumstances
2. Use knowledge and experience acquired to plan for the future
3. Alter and adapt to circumstances as things shift
4. Ability to reason
5. Solve a puzzle
6. Exhibit common sense
7. Consciousness
8. Beyond mathematical equations
9. Discern needs and emotions

Machine Learning

Deep learning is a subset of machine learning, which is essentially a neural network with three or more layers. These neural networks attempt to simulate the behavior of the human brain—albeit far from matching its ability—allowing it to “learn” from large amounts of data.

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Deep Learning

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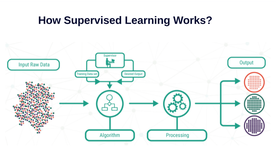
Supervised Learning

Supervised Machine Learning

Task Driven (Classification / Regression)

Supervised learning is the types of machine learning in which machines are trained using well "labelled" training data, and on basis of that data, machines predict the output. The labelled data means some input data is already tagged with the correct output.

How Supervised Learning Works?



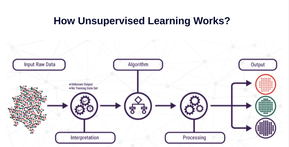
Unsupervised Learning

Unsupervised Machine Learning

Data Driven (Clusternig)

we learned supervised machine learning in which models are trained using labeled data under the supervision of training data. But there may be many cases in which we do not have labeled data and need to find the hidden patterns from the given dataset. So, to solve such types of cases in machine learning, we need unsupervised learning techniques.

How Unsupervised Learning Works?



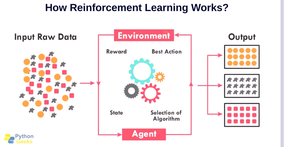
Reinforcement Learning

Reinforcement Machine Learning

Learning from mistakes (Playing Games)

Reinforcement Learning is a feedback-based Machine learning technique in which an agent learns to behave in an environment by performing the actions and seeing the results of actions. For each good action, the agent gets positive feedback, and for each bad action, the agent gets negative feedback or penalty.

How Reinforcement Learning Works?



Artificial Neutral network [ANN]

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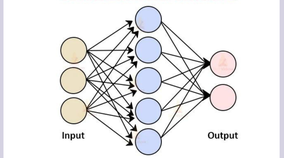
Helpful for solving complex problems.

Artificial Neural Network(ANN), is a group of multiple perceptrons or neurons at each layer. ANN is also known as a Feed-Forward Neural network because inputs are processed only in the forward direction.

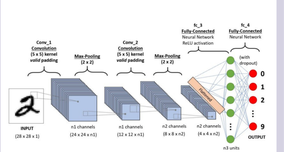


Convolutional Neutral network [CNN]

Convolutional Neutral network [CNN]

Best for solving Computer Vision-related problems.

Convolutional neural networks (CNN) are one of the most popular models used today. This neural network computational model uses a variation of multilayer perceptrons and contains one or more convolutional layers that can be either entirely connected or pooled. These convolutional layers create feature maps that record a region of image which is ultimately broken into rectangles and sent out for nonlinear processing.



Recurrent Neutral network [CNN]

Recurrent Neutral network [CNN]

Proficient in Natural Language Processing.

Recurrent neural networks (RNN) are more complex. They save the output of processing nodes and feed the result back into the model (they did not pass the information in one direction only). This is how the model is said to learn to predict the outcome of a layer.