

Artificial Intelligence

Machine learning and deep learning are subfields of AI

As a whole, artificial intelligence contains many subfields, including:

- **Machine learning** automates analytical model building. It uses methods from neural networks, statistics, operations research and physics to find hidden insights in data without being explicitly programmed where to look or what to conclude.
- **A neural network** is a kind of machine learning inspired by the workings of the human brain. It's a computing system made up of interconnected units (like neurons) that processes information by responding to external inputs, relaying information between each unit. The process requires multiple passes at the data to find connections and derive meaning from undefined data.
- **Deep learning** uses huge neural networks with many layers of processing units, taking advantage of advances in computing power and improved training techniques to learn complex patterns in large amounts of data. Common applications include image and speech recognition.
- **Computer vision** relies on pattern recognition and deep learning to recognize what's in a picture or video. When machines can process, analyze and understand images, they can capture images or videos in real time and interpret their surroundings.
- **Natural language processing** is the ability of computers to analyze, understand and generate human language, including speech. The next stage of NLP is natural language interaction, which allows humans to communicate with computers using normal, everyday language to perform tasks.

While machine learning is based on the idea that machines should be able to learn and adapt through experience, AI refers to a broader idea where machines can execute tasks "smartly."

Artificial Intelligence applies machine learning, deep learning and other techniques to solve actual problems.

References

Reference	URL
Machine learning and deep learning are subfields of AI	https://www.sas.com/en_ca/insights/articles/big-data/artificial-intelligence-machine-learning-deep-learning-and-beyond.html#:~:text=While%20machine%20learning%20is%20based,techniques%20to%20solve%20actual%20problems.