# Understanding AI – The Difference Between Machine Learning & Deep Learning

Artificial Intelligence is a broad term encompassing all computer-based systems engaging in human activities, such as planning, learning, and problem-solving. AI systems complete various activities that fall under the term "AI" but have different purposes.

"Machine learning" and "deep learning" are two terms that laymen use interchangeably, but they are very different processes. This post unpacks the difference between them.

## Machine Learning

This AI system is commonly used in big data collection and analysis. These AI-based algorithms learn from the data they collect and use the data to self-improve processes. Machine learning algorithms can take massive amounts of data and put them into easy-to-digest formats for humans to use in various functions, from marketing to medical training.

Machine learning algorithms identify patterns in big data sets, analyzing them in real time. For instance, if a machine in a factory is hooked up to an AI-enabled machine learning network, the software can pick up issues with the machine's production abilities, alerting management to the problem.

Machine Learning is a broad category of AI tasks, and the development of "nodes," or a network of connected artificial neural networks, has led to the innovation of "deep learning" by AI systems.

## Deep Learning

This form of machine learning relies on the function of neural networks engaging in "non-linear reasoning." Deep learning algorithms have many applications in all sectors. An example would be fraud prevention in the financial industry.

Deep learning algorithms can complete various tasks simultaneously and almost instantly. A good example would be a self-driving car. It looks at multiple data points, using its references to decide where to steer the vehicle.

Deep learning algorithms offer great potential in business applications, and we expect more companies to start integrating this tech into product and service development. Old machine-learning algorithms have limitations on the amount of data they can harvest and process.

However, deep learning models offer developers continual improvement of their function, with no limitations on data. The more data they receive, the better the system gets. As a result, deep learning algorithms are more detailed and easy to scale.

## Deep Learning & Machine Learning – Changing the Future of Humanity

As we move deeper into the AI era, it's clear that machine learning and deep learning algorithms, as impressive as they are, are only in the infancy stage of development and use. As artificial intelligence progresses in the coming years, we can expect further innovations in the field as the exponential development of AI tech continues.