
# 1. Brief Introduction of AI in Business

"AI will contribute $15.7 trillion to the global economy in 2030, more than the current output of China and India combined."

PwC Report

No wonder every business, small or large, is trying to get its hands on this cutting-edge technology. So what is AI? Why is AI fueling such an increase in GDP? How can one implement AI in their business and reap benefits from it? Are there any challenges and limitations to this technology? Keep reading to find answers to all these questions right below.

## What is AI?

Artificial intelligence (AI) refers to the ability of machines to understand the world around them, learn and make decisions, in a similar way to the human brain. Before diving in-depth into AI, let's first discuss what intelligence is. Intelligence is something that is not so concrete to define in a sentence. It is varied, ambiguous, and contextual. Generally, we say intelligence is the computational part of the ability to achieve goals in the world. Diverse kinds and degrees of intelligence occur in people, many animals, and some machines. The central idea of intelligence is the ability to learn and solve problems. For humans, the human brain acts as a central point of intelligence. Different activities like vision, hearing, reasoning, analysing, memory, problem-solving, make us the smartest species of all. We can recognize patterns in our everyday activities. For instance,

without even blinking, we know how to hold a spoon or tie our shoelaces or even select the side of the bed we sleep in. These are all cognitive patterns that we never forget.

Now, artificial intelligence in very simple terms is intelligent machines. AI generally refers to a wide-ranging branch of computer science that deals with providing machines with the ability to perform tasks that are generally associated with human intelligence. An AI on par with humans in capabilities and specialized in all areas, performing tasks even better than humans, is generally termed as Artificial General Intelligence (AGI). Most experts believe AGI is possible and are pursuing research in this domain, but it is still a long way to go. On the other hand, the type of AI system we currently focus on is Artificial Narrow Intelligence, which has a narrow range of abilities, specialized in only one particular area—for example, Siri's iPhone application, Rank brain Google, different recommender systems, and so on.

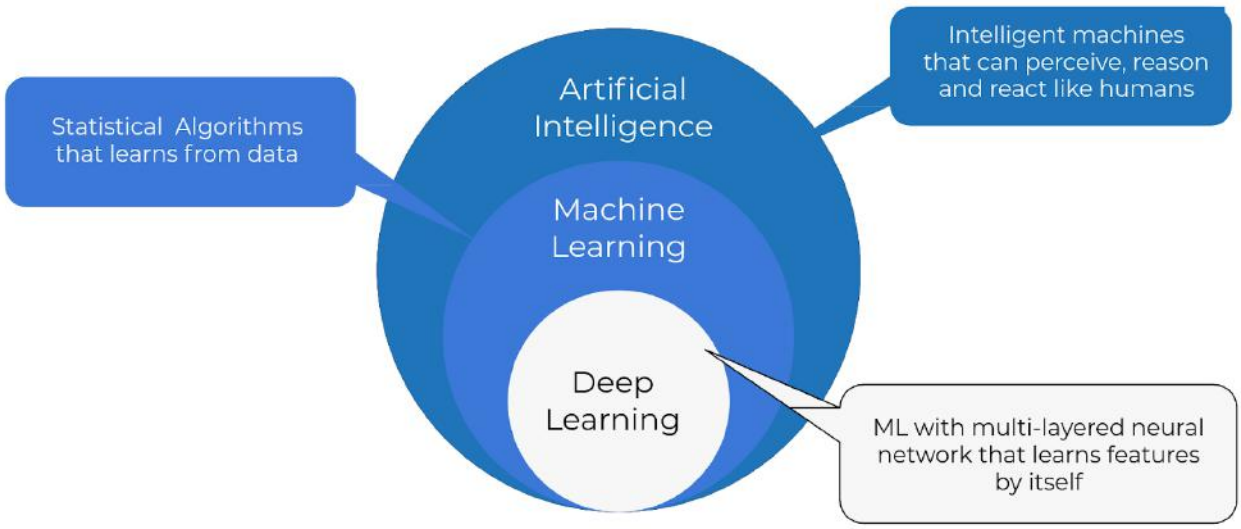


Figure : AI, ML & DL

Most of the recent development in AI has been driven by Machine Learning and Deep Learning. Both Machine Learning and Deep Learning allows a computer to learn from data. Machine learning is the subset of AI that involves the use of statistical algorithms to allow machines to learn patterns from data. Deep learning is a subfield of machine learning that uses neural networks to find patterns from data. Neural networks are just an interconnected structure of nodes aimed to simulate the operations of a human brain.

## AI in the World of Business

There are a number of use cases of AI in different domains of business. In healthcare, AI can be used in sectors like individual health, the healthcare system, pharmaceuticals, and population health. Similarly, in customer service, AI can be used for tasks like customer intent identification

and consequent assignment, analytics, and recommendation, authentication, and automation. The use of AI in retail has been rapidly growing in the past three years. AI has proved itself invaluable for tasks like improving customer experience, demand forecasting, inventory management, and so on.

AI has already been easing things up for banking, investment, and trading sectors in the field of finance world. There are myriad applications of AI  in other domains which we will explore in the respective chapters.