Since the invention of computers or machines, their capability to perform various tasks went on growing exponentially. Humans have developed the power of computer systems in terms of their diverse working domains, their increasing speed, and reducing size with respect to time. A branch of Computer Science named *Artificial Intelligence* pursues creating the computers or machines as intelligent as human beings.

According to the father of Artificial Intelligence, John McCarthy, it is *“The science and engineering of making intelligent machines, especially intelligent computer programs”.* Artificial Intelligence is a way of **making a computer, a computer-controlled robot, or a software think intelligently**, in the similar manner the intelligent humans think. AI is accomplished by studying how human brain thinks, and how humans learn, decide, and work while trying to solve a problem, and then using the outcomes of this study as a basis of developing intelligent software and systems.

Artificial intelligence is a science and technology based on disciplines such as Computer Science, Biology, Psychology, Linguistics, Mathematics, and Engineering. A major thrust of AI is in the development of computer functions associated with human intelligence, such as reasoning, learning, and problem solving. Out of the following areas, one or multiple areas can contribute to build an intelligent system.

AI has been dominant in various fields such as −

* **Gaming** − AI plays crucial role in strategic games such as chess, poker, tic-tac-toe, etc., where machine can think of large number of possible positions based on heuristic knowledge.
* **Natural Language Processing** − It is possible to interact with the computer that understands natural language spoken by humans.
* **Expert Systems** − There are some applications which integrate machine, software, and special information to impart reasoning and advising. They provide explanation and advice to the users.
* **Vision Systems** − These systems understand, interpret, and comprehend visual input on the computer. For example,
  + A spying aeroplane takes photographs, which are used to figure out spatial information or map of the areas.
  + Doctors use clinical expert system to diagnose the patient.
  + Police use computer software that can recognize the face of criminal with the stored portrait made by forensic artist.
* **Speech Recognition** − Some intelligent systems are capable of hearing and comprehending the language in terms of sentences and their meanings while a human talks to it. It can handle different accents, slang words, noise in the background, change in human’s noise due to cold, etc.
* **Handwriting Recognition** − The handwriting recognition software reads the text written on paper by a pen or on screen by a stylus. It can recognize the shapes of the letters and convert it into editable text.