Artificial intelligence (AI) refers to the capability of computational systems to perform tasks typically associated with human intelligence, such as learning, reasoning, problem-solving, perception, and decision-making. It is a field of research in computer science that develops and studies methods and software that enable machines to perceive their environment and use learning and intelligence to take actions that maximize their chances of achieving defined goals.[1]

High-profile applications of AI include advanced web search engines (e.g., Google Search); recommendation systems (used by YouTube, Amazon, and Netflix); virtual assistants (e.g., Google Assistant, Siri, and Alexa); autonomous vehicles (e.g., Waymo); generative and creative tools (e.g., ChatGPT and AI art); and superhuman play and analysis in strategy games (e.g., chess and Go). However, many AI applications are not perceived as AI: "A lot of cutting edge AI has filtered into general applications, often without being called AI because once something becomes useful enough and common enough it's not labeled AI anymore."[2][3]

Intelligence is acquiring and applying knowledge and skills to solve problems, adapt to new situations, and learn from experiences. It involves reasoning, problem-solving, planning, abstract thinking, and comprehension. An entity that can perform most of these tasks can be considered intelligent. Intelligence is important enough to have a measure called the intelligence quotient (IQ) to assess human intelligence.

Now that we've established a basic idea of intelligence, a series of questions arises: Can machines be intelligent, too? Can we build such machines? Which machines are intelligent? A branch of computer science answers all these questions.

Artificial intelligence (AI) is the branch of computer science that aims to create machines/systems that mimic human-like intellectual behaviors. It is the branch of science that makes machines think and act like rational humans.

AI involves developing algorithms and systems to perform tasks requiring human intelligence, such as visual perception, speech recognition, decision-making, language translation, and more.

AI generally is undertaken in conjunction with machine learning and data analytics.[5] Machine learning takes data and looks for underlying trends. If it spots something that is relevant for a practical problem, software designers can take that knowledge and use it to analyze specific issues. All that is required are data that are sufficiently robust that algorithms can discern useful patterns. Data can come in the form of digital information, satellite imagery, visual information, text, or unstructured data.