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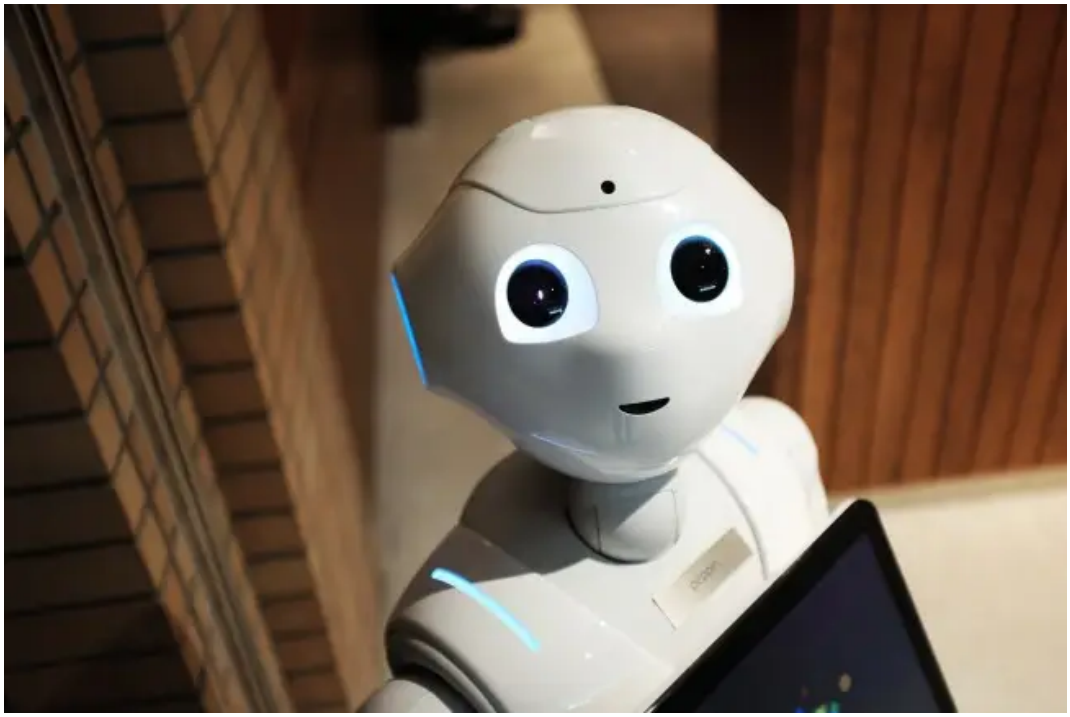
INFORMATION TECHNOLOGY (/BLOG/CATEGORIES.HTML?CATEGORIES=INFORMATION-TECHNOLOGY)

What is AI technology and how is it used?



Artificial intelligence or AI is a popular buzzword you've probably heard or read about. Articles about robots, technology, and the digital age may fill your head when you think about the term AI. But what is it really, and how is it used?

Artificial intelligence is a technological advancement that involves programming technology to problem solve. Artificial intelligence is often talked about in conjunction with machine learning or deep learning and big data. This guide will dive deeper into what artificial intelligence is, how it's used, and what we can expect from it in the future.

What is AI?

The definition of artificial intelligence (https://www.wgu.edu/blog/most-important-word-artificial-intelligence1902.html) is the theory and development of computer programs that are able to do tasks and solve problems that usually require human intelligence. Things like visual perception, speech recognition, decision-making, and word translation are all things that

would normally need human intelligence, but now computer programs are able use their intelligence and capability to solve these tasks.

This type of intelligence was born in June of 1965 where a group of scientists and mathematicians met at Dartmouth (https://www.smithsonianmag.com/innovation/artificial-intelligence-future-scenarios-180968403/) to discuss the idea of a computer that could actually think. They didn't know what to call it or how it would work, but their conversations there created the spark that ignited artificial intelligence. Since the "Dartmouth workshop," as it is called, there have been highs and lows for the development of this intelligence. Some years went by where the idea of developing an intelligent computer was abandoned, and little to no work was done on this kind of intelligence at all. And in recent years, a flurry of work has been done developing and integrating this exciting intelligent technology into daily lives.

How does artificial intelligence differ from human intelligence?

So how is AI different from human intelligence? Artificial intelligence and the algorithms that make this intelligence run are designed by humans, and while the computer can learn and adapt or grow from its surroundings, at the end of the day it was created by humans. Human intelligence has a far greater capacity for multitasking, memories, social interactions, and self-awareness. Intelligence that is artificial doesn't have an I.Q. making it very different from humans and human intelligence. There are so many facets of thought and decision making that artificial intelligence simply can't master—computing feelings just isn't something that we can train a machine to do, no matter how smart it is. You can't automate multitasking or create autonomous relationships. Cognitive learning and machine learning will always be unique and separate from each other. While AI applications can run quickly, and be more objective and accurate, its capability stops at being able to replicate human intelligence. Human thought encompasses so much more that a machine simply can't be taught, no matter how intelligent it is or what formulas you use.

How does AI work?

While it's one thing to know what AI is, it's another to understand the underlying functions. Artificial intelligence operates by processing data through advanced algorithms. It combs large data sets with its algorithms, learning from the patterns or features in the data. (https://www.wgu.edu/blog/data-management-gateway-advanced-ai1812.html) There are many theories and subfields in AI systems including:

Machine learning. Machine learning (https://www.wgu.edu/blog/deep-learning-vs-machine-learning2002.html) uses neural networks to find hidden insights from data, without being programmed for what to look for or what to conclude. Machine learning is a common way for programs to find patterns and increase their intelligence over time.

Deep learning. Deep learning (https://www.wgu.edu/blog/deep-learning-vs-machine-learning2002.html) utilizes huge neural networks with many layers, taking advantage of its size to process huge amounts of data with complex patterns. Deep learning is an element of machine learning, just with larger data sets and more layers.

Cognitive computing. Cognitive computing has a goal for a human-like interaction with machines. Think robots that can see and hear, and then respond as a human would.

Computer vision. In AI, computer vision utilizes pattern recognition and deep learning to understand a picture or video. This means the machine can look around and take pictures or videos in real time, and interpret the surroundings.

The overall goal of AI is to make software that can learn about an input, and explain a result with its output. Artificial intelligence gives human-like interactions, but won't be replacing humans anytime soon.

How is AI used?

Artificial intelligence is being used in hundreds of ways all around us. It has changed our world and made our lives more convenient and interesting. Some of the many uses (https://becominghuman.ai/where-is-artificial-intelligence-used-today-3fd076d15b68) of AI you may know include:

Voice recognition. Most people know to call out for Siri when they need directions, or to ask their smart home Alexa to set a timer. This technology is a form of artificial intelligence. (https://www.forbes.com/sites/robertadams/2017/01/10/10-powerful-examples-of-artificial-intelligence-in-use-today/#1fdeefbe420d) Machine learning helps Siri, Alexa, and other voice recognition devices learn about you and your preferences, helping it know how to help you. These tools also utilize artificial intelligence to pull in answers to your questions or perform the tasks you ask.

Self-driving cars. Machine learning and visual recognition are used in autonomous vehicles to help the car understand its surroundings and be able to react accordingly. Facial recognition and biometric systems help self-driving cars recognize people and keep them safe. These cars can learn and adapt to traffic patterns, signs, and more.

Chatbots. Many companies are utilizing artificial intelligence to strengthen their customer service teams. Chatbots can interact with customers and answer generic questions without needing to use a real human's time. They can learn and adapt to certain responses, get more information to help them produce a different output, and more. A certain word can trigger them to put out a certain definition as a response. This expert system can give a human-level of interaction to customers.

Online shopping. Online shopping systems utilize algorithms to learn more about your preferences and predict what you'll want to shop for. They can then put those items right in front of you, helping them grab your attention quickly. Amazon and other retailers are constantly working their algorithms to learn more about you and what you might buy.

Streaming services. When you sit down to watch your favorite TV show or listen to your favorite music, you may get other suggestions that seem interesting to you. That's artificial intelligence at work! It learns about your preferences and uses algorithms to process all the TV shows, movies, or music it has and finds patterns to give you suggestions.

Healthcare technology. AI is playing a huge role in healthcare technology as new tools to diagnose, develop medicine, monitor patients, and more are all being utilized. The technology can learn and develop as it is used, learning more about the patient or the medicine, and adapt to get better and improve as time goes on.

Factory and warehouse systems. Shipping and retail industries will never be the same thanks to AI-related software. Systems that automate the entire shipping process and learn as they go are making things work more quickly and more efficiently. These entire systems are transforming how warehouses and factories run, making them more safe and productive.

Educational tools. Things like plagiarism checkers and citation finders can help educators and students utilize artificial intelligence to enhance papers and research. The artificial intelligence systems can read the words used, and use their databases to research everything they know in the blink of an eye. It allows them to check spelling, grammar, for plagiarized content, and more.

There are many other uses of AI all around us every day, technology is advancing at a rapid pace and is continually changing how we live.

What is the future of AI?

AI systems are already impacting how we live, and the door to the future is wide open for how it will impact us in the future. AI-driven technology will likely continue to improve efficiency (https://www.technologyreview.com/s/614960/the-future-of-ais-impact-on-society/) and productivity and expand into even more industries over time. Experts say there will likely be more discussions on privacy, security, and continued software development to help keep people and businesses safe as AI advances.

While many people are worried that robots will end up taking their jobs, (https://www.wgu.edu/blog/will-robots-take-job-future-automation1906.html) the truth is that there are many fields are fairly safe from automation. Fields like IT will continue to be needed to adopt the new technologies and security systems that make AI run. Healthcare professionals and teachers won't be able to be replaced by robots—the work they do directly with patients and children is something that can't be replicated. Similarly in business some processes can be automated, but human instinct, decision making, and relationships will always be vital for the future.

Artificial intelligence is transforming the way the world runs, and will continue to do so as time marches on. Now is an ideal time to get involved and get a degree in IT (https://www.wgu.edu/online-it-degrees.html) that can help propel you to an exciting AI career. You can be a part of the world-changing revolution that is artificial intelligence.

(/blog/will-robots-take-job-future-automation1906.html)
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