

Machine Learning (ML) vs Artificial Intelligence (AI)



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Posted on April 11, 2023 · 5 min read

Many people use machine learning (ML) and artificial intelligence (AI) interchangeably, but there are significant distinctions between the two terms. This article highlights Machine Learning vs. AI: Differences, applications, and Benefits. In this article, you will also learn more about AI, ML, and their current applications in the world.

Although the terms [artificial intelligence \(AI\) and machine learning \(ML\)](#) are frequently used interchangeably, they are truly distinct, though related, theories.

AI is computer software that mimics human thinking to perform complex tasks like analyzing, reasoning, and learning.

Machine learning, however, is a subset of AI that employs algorithms trained on data to generate models capable of executing complex tasks.

Today, most AI is done with machine learning, so the two terms are often used interchangeably. However, AI is the broad idea of making computer software and systems think like humans, while ML is just one way to do that.



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What is artificial intelligence?

Artificial intelligence (AI) is computer software replicating human cognitive abilities to perform complex tasks that, historically, only humans could perform, such as decision-making, data analysis, and translating languages.

In other words, artificial intelligence is the application of computers to problems typically requiring human intelligence. AI-enabled machines and systems can learn from their interactions to enhance performance and efficiency, while automated ones can only follow instructions without change.

Today, artificial intelligence is the driving force behind numerous technologies, including electronic devices and virtual assistants such as Siri on Apple devices.

[According to Statista](#), the artificial intelligence (AI) market is projected to experience robust growth in the next ten years. By 2030, its value is expected to increase twentyfold to nearly two trillion dollars.

Companies are integrating techniques such as natural language processing and computer vision – machine learning’s ability to understand natural language and recognize images so it can carry out routine tasks,

speed up decision-making, and enable chatbots for customer conversations.

And since AI and NLP-powered chatbots interact with online customers and finish orders. It is crucial to note that chatbots can provide instantaneous responses to customer queries via voice or chat contact.

For instance, you can ask chatbots about the top web hosting services. For example, [dedicated servers USA](#), fully managed hosting, shared hosting, and cloud hosting. This will boost customer satisfaction and reduce customer support reps’ workload.

AI is an umbrella term that encompasses several separate but interrelated subfields. These are some of the most common subfields within the broader discipline of artificial intelligence:



Machine Learning (ML) vs Artificial Intelligence (AI): AI mainly processes structured, semi-structured, and unstructured data.

Machine learning (ML):

Machine learning is a subfield of AI in which data sets are used to “train” computers, which then get referred to as “machine learning models.”

Deep learning:

A category of ML in which ANNs (artificial neural networks) designed to function like the human brain are used to handle higher-level thinking tasks automatically.

Natural Language Processing (NLP):

The development of AI, language, and ML software capable of understanding human speech is a field of computer science.

Robotics:

Robotics is a subset of artificial intelligence, computer science, and electrical engineering that aims to build machines that can learn and carry out complicated tasks in the real world.

What is machine learning?

Today, machine learning is the primary method by which most people interact with artificial intelligence. You may have noticed machine learning in the following common ways:

Receiving video recommendations on a web video streaming platform.

Online troubleshooting with a chatbot that conveys you to appropriate resources based on your responses.

Using virtual assistants who respond to requests to schedule meetings in your calendar, play a particular song, or make a phone call.

Read more: [The Impact of Artificial Intelligence and Machine Learning on Digital Marketing.](#)

Real-world examples

You may have used an AI-powered device or service without even realizing it. AI and machine learning are increasingly woven into our daily lives, as evidenced by banking programs that check for suspicious transactions, automated spam filters that keep your inbox free of viruses, and video streaming platforms that

recommend shows. AI and, by extension, machine learning is utilized in the following ways every day:

Health care

Patient records, medical tests, and wearables generate massive amounts of data in the healthcare industry.

Consequently, improving health care outcomes is one of the most common applications of artificial intelligence and machine learning # [Google](#).

Common applications of AI in healthcare include machine learning models able to scan X-rays for cancerous growths, programs able to develop personalized treatment plans, and systems able to allocate hospital resources efficiently.

Computer systems powered by artificial intelligence have entered the healthcare industry. Popular AI applications include patient diagnosis, enhanced communication between doctors, physicians, and patients, document transcription, drug development, and remote patient treatment.

Business

[AI is revolutionizing](#) the business world, reducing costs and generating actionable insights. As a consequence, a growing number of businesses are seeking to incorporate AI into their workflows.

Its capacity to process vast amounts of data can improve key performance metrics such as revenue, productivity, company growth, digital transformation, and efficacy.

Artificial intelligence has entered virtually every aspect of our lives, from life-saving medical equipment to autonomous vehicles. AI can improve our lives through improved workflows, analytics, decision-making, and 24/7 capabilities.

According to a study published in the [Harvard Business Review](#), companies that adopted artificial intelligence into their sales and marketing saw a 50% increase in lead generation, a 60% to 70% reduction in call durations, and a 40% to 60% reduction in overall costs.

Supply chains

Goods can move freely around the globe because of supply chains. However, the number of possible delays, blockages, and failures in supply chains grows parallel with their complexity and worldwide connectivity. AI-enhanced [digital supply chains](#) help supply chain managers and analysts track shipments, predict delays, and find solutions to ensure on-time deliveries.

Manufacturing Industry

The manufacturing sector stands to benefit greatly from the application of AI. Possible benefits include higher output, lower costs, better quality, and less downtime. This technology can be used in various settings, including large factories. Many organizations of smaller sizes have yet to learn how simple it is to get high-value, low-cost AI solutions.

AI has numerous applications in manufacturing. It enhances defect detection by automatically classifying flaws across various industrial objects using complex image processing techniques # [Google](#).

Organizational efficiency is crucial in the industrial sector. Data analytics and machine learning can automate the following tasks among manufacturing leaders:

We can predict when machine

- Will break down using data from technological devices, analytics, and machine learning.
- The use of artificial intelligence software on a factory-based device to keep track of a production machine and issue maintenance reminders before a breakdown during production.
- Machine learning optimizes comfort and efficiency by studying HVAC energy use trends.

Benefits of using AI and ML

AI and machine learning provides organizations and consumers with numerous advantages. While consumers expect more personalized services, businesses can anticipate cost savings and improved operational efficiency.

Organizations of all sizes can reap the benefits of AI and ML, and the technology's potential keeps expanding. In particular, automated and intelligent systems are becoming increasingly important to help businesses automate tasks, unlock value, and generate actionable insights to achieve better outcomes as the amount of data grows in size and complexity.

As a result, the global market for AI will expand exponentially over the next several years.

[Fortune Business Insights](#) predicts that by 2029, the global artificial intelligence industry will be worth USD 1394.3 billion, growing at a CAGR of 20.1% from 2022-2029.

Businesses that make use of AI and ML in the real world typically reap the following advantages:

- Efficiency in processing large data sets in order to draw useful conclusions.
- Reduced labor costs result in a higher return on investment (ROI) for related services.
- Enhanced happiness and the ability to cater to customers' specific wants and needs.

Conclusion: Machine Learning vs. AI: Differences, applications, and Benefits.

AI and ML have opened a world of possibilities for everyone.

What seems obvious about machine learning and AI is only the tip of the iceberg.

However, there are many advantages to the rapidly expanding use of AI, which outweigh the risks. If we develop and implement A.I. in ways that minimise technology's risks, we can imagine a more productive society.

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