

## Overview

Artificial intelligence (AI) can be broadly defined as systems that respond to stimulation consistent with the traditional responses of humans. These systems generally have three distinct qualities: intentionality, intelligence, and adaptability. The systems continuously compile information and often help people make decisions using a variety of methods such as sensors, digital data, or remote inputs. Some AI systems are constantly learning and adapting in order to make clear conclusions, while other AI systems are trained on static sets of data and are only updated periodically. AI technology is used in many different sectors and industries including manufacturing, healthcare, legal, technology, and transportation.

## Artificial Intelligence Applications

In the transportation industry, artificial intelligence methods are currently being used in a variety of ways. For example, autonomous vehicles are equipped with light detectors, cameras, and remote sensors that are used to analyze the vehicle's surroundings. The material is analyzed instantly, and the AI technology helps vehicles avoid potential harm such as accidents and drifting into other lanes. This technology has the potential to increase passenger safety, reduce traffic congestion and accidents, lessen carbon emissions, and minimize the overall financial expenses of individuals and transportation companies. While AI technology not only improves driver safety, it has the ability to change the trucking industry in the United States. In the trucking and logistics industry, autonomous trucks are currently being tested and fully autonomous, completely driverless trucks will be expected around 2027. The trucking industry currently moves about two thirds of all goods shipped in the United States. With full autonomy, operating costs in the industry would decline by about 45 percent, which means that the United States trucking industry would save between \$85 billion and \$125 billion. This technology will likely be used in various sectors of the entire transportation industry, including the railroad industry, warehouse and fulfillment centers, and shippers.

Businesses in the technology industry are using AI to improve security through a variety of ways. Facial recognition systems have the ability to identify or verify a person from a digital image by analyzing facial patterns. It is being used in a variety of ways including surveillance systems, banking systems, criminal detection, and unlocking mobile phones. The facial recognition technology is also being used in glasses, smartphones, and social media platforms to help the blind and low vision community. Additionally, voice assistants such as Siri, Alexa, and Google home use artificial intelligence technology to recognize and respond to voice commands. This increased security can also protect people against online

## Center Forward Basics

Center Forward brings together members of Congress, not-for profits, academic experts, trade associations, corporations and unions to find common ground. Our mission: to give centrist allies the information they need to craft common sense solutions, and provide those allies the support they need to turn those ideas into results.

In order to meet our challenges we need to put aside the partisan bickering that has gridlocked Washington and come together to find common sense solutions.

For more information, please visit [www.center-forward.org](http://www.center-forward.org)

## Key Facts

- By 2030, AI has the potential to contribute \$15.7 trillion to the global economy.
  - China is expected to have a 26% boost to GDP in 2030 and North America is expected to have a 14.5% boost. Together this is equivalent to \$10.7 trillion and accounting for almost 70% of the global economic impact.
  - There is expected to be a 26% boost in GDP for local economies from AI by 2030.
- From 2015 - 2018, active AI startups in the United States increased 113%. Active startups as a whole increased by 28%.

impersonation, online terrorism, and hate speech.

AI systems are also used in the healthcare industry, the financial services sector, and building technology. For example, AI systems are used in buildings to control the heating, cooling, and lighting based on whether a person is in a room in order to conserve energy and resources. In the financial sector, AI algorithms can quickly analyze stocks and important market transactions. AI technology also has the ability to help develop customized investment planning for customers. In the healthcare industry, AI is currently being used in CT scans or EKGs to identify high-risk patients and help doctors determine the right treatments and medicines for cancer. AI has also recently shown promise in helping physicians with better image identification for radiology and pathology, which can identify breast cancer at an early stage. In the future, AI is expected to assist physicians accurately diagnose various health conditions. Finally, AI technology can help to improve consumer health by allowing them to check their symptoms and get personalized health recommendations, including preventative treatment.

## The Future of AI

While the advancements in artificial intelligence technology are still in the early stages of development, it is expected that AI technology will rapidly change as it is implemented over the next decade. Based on these advances and adaptations, AI has the ability to drive greater product variety, with increased personalization, attractiveness, and affordability over time. While there are many positives with current AI advances, many are concerned about the potential adverse effects that technology will have on safety, loss of jobs, laws and government regulations, and hacking. For example, the concern over job loss and displacement is expected to dominate the AI technology conversation in the coming years. Therefore, it is important to focus on maximizing AI benefits while mitigating the potential risks. Many expect companies and lawmakers to pass various laws and regulations in addition to principals, codes of conduct, and standards that will encompass a broader set of guidelines for the future of AI in order to protect citizen's safety and privacy.

## Links to Other Resources

- AI - [Artificial Intelligence Index: 2018 annual report](#)
- Brookings - [What is artificial intelligence?](#)
- Brookings - [What jobs are affected by AI? Better-paid, better-educated workers face the most exposure](#)
- Forbes - [How AI Can Transform the Transportation Industry](#)
- United States Government Accountability Office - [Artificial Intelligence: Emerging Opportunities, Challenges, and Implications](#)
- House Committee on Oversight and Reform - [Chairman Hurd and Ranking Member Kelly Release New Report on Artificial Intelligence](#)
- McKinsey & Co - [Distraction or disruption? Autonomous trucks gain ground in US logistics](#)
- PwC - [Sizing the prize: PwC's Global Artificial Intelligence Study: Exploiting the AI Revolution](#)
- Technology Review - [Artificial Intelligence](#)