**<https://www.lifewire.com/strong-ai-vs-weak-ai-7508012>**

**Strong AI (General AI) vs. Weak AI (Narrow AI): What's the Difference?**

[Strong artificial intelligence](https://www.lifewire.com/what-is-strong-ai-7555699) can do anything a human can, while weak AI is limited to a specific task. Here's everything you need to know about strong AI vs. weak AI, including how they relate, how they differ, as well as the advantages and limitations of each.

**Overall Findings**

**Weak AI**

* Performs one specific task.
* Programmed for a certain purpose.
* Learns how to perform tasks faster.
* No self-awareness.

**Strong AI**

* Performs any task a human can.
* Learns how to perform brand new skills.
* Uses creativity to solve problems.
* Potentially sentient.

All AI uses [machine learning](https://www.lifewire.com/what-is-machine-learning-7495518) to constantly improve as it takes in new information. The major difference between weak and strong AI is that weak AI is programmed to perform a single task. The task could be very complex, like driving a car, or as simple as recommending movies to watch. All real-world examples of AI fall under the category of weak AI.

Although AI chatbots like [ChatGPT](https://www.lifewire.com/what-is-chatgpt-7105508) and [Bing AI](https://www.lifewire.com/what-is-bing-ai-chatbot-7371141) are very advanced, they are still considered examples of weak AI because they perform only one job (responding to written text prompts). [Virtual assistants](https://www.lifewire.com/virtual-assistants-4138533) like [Alexa](https://www.lifewire.com/amazon-alexa-voice-assistant-4152107) also fall under the umbrella of weak AI since they only respond to voice commands.

Strong AI, also called artificial general intelligence (AGI), possesses the full range of human capabilities, including talking, reasoning, and emoting. So far, strong AI examples exist in sci-fi movies like *A.I.: Artificial Intelligence*, *WALL-E*, and *2001: A Space Odyssey*.

**Weak AI Pros and Cons**

**Advantages**

* Faster and more efficient than humans.
* Capable of reasoning in limited situations.
* Can improve human life in many ways.

**Disadvantages**

* Can't learn new skills own its own.
* Requires human oversight.
* Could replace many human jobs.

Weak AI may be capable of human-level reasoning to some extent, such as considering an ethical problem, but it doesn't possess the full range of human intellect. Nonetheless, weak AI can perform specific tasks faster and more accurately than humans.

Weak AI has many applications, including fraud detection, financial planning, transportation, image enhancement, medicine, and scientific research. Robotics use weak AI to recognize and manipulate objects, while services like Netflix use weak AI to recommend movies based on your tastes. Gmail and other email providers use AI to detect and filter spam.

**Because weak AI can't learn new skills independently, it can't continuously adapt to change, so human oversight is always needed to some degree. For example, if there were a sudden change to traffic laws, self-driving cars wouldn't know about it unless a human updated the AI's algorithm.**

There is understandable anxiety about weak AI taking jobs from humans, leading to increased unemployment and economic uncertainty. There's also concern about [bias in AI](https://www.lifewire.com/why-companies-are-using-ai-to-increase-diversity-but-it-may-not-work-6754422) and governments using AI for surveillance.

**Strong AI Pros and Cons**

**Advantages**

* Can perform almost any task better than a human.
* Capable of reasoning at a human level or even higher.

**Disadvantages**

* New technologies are hard to predict.
* Limits of strong AI are a subject of strong debate.

Whereas weak AI is constrained in the type of tasks it can perform, strong AI can learn new skills to solve any problem. In addition to doing the job it was designed for, strong AI could theoretically develop its own goals, just like a human.

A real-life example that pushes the boundaries between weak and strong AI is a program called [MuZero](https://nature.com/articles/s41586-020-03051-4.epdf" \t "_blank), which can master video games that it hasn't been taught how to play. MuZero is technically weak AI since it's limited to playing video games, yet it can identify and pursue new goals without human intervention, a feature of strong AI.

Presumably, strong AI could identify human emotions and motivations, but whether AI can experience and process emotions as humans do is unclear. For now, that remains a debate for philosophers and futurists.

Strong AI could have game-changing effects in security, healthcare, and robotics. On the other hand, AI engineers like Dr. Geoffrey Hinton have warned that [strong AI could develop goals and behaviors that are harmful to humans](https://www.technologyreview.com/2023/05/02/1072528/geoffrey-hinton-google-why-scared-ai/).

**Where Is the Line Between Strong vs Weak AI?**

The standards for what constitute artificial intelligence have shifted as computers have advanced, and the line between weak vs. strong AI will continue to blur. Weak AI is easily identified by its limitations, but strong AI remains theoretical since it should have few (if any) limitations.

**FAQ**

* **What is narrow AI?**

Narrow AI is another term for weak AI. It describes systems that can only do a single, specialized task.

* **What is AI art?**

AI art samples images from all over the internet (often without the creators' permission) to create new pictures based on text prompts. Because it only does one thing – convert text prompts to images – AI art generators are an example of weak AI.

[**https://www.analyticsvidhya.com/blog/2023/04/weak-ai-vs-strong-ai/**](https://www.analyticsvidhya.com/blog/2023/04/weak-ai-vs-strong-ai/)

**Weak AI vs Strong AI: Exploring Key Differences and Future Potential of AI**

[**avcontentteam**](https://www.analyticsvidhya.com/blog/author/avcontentteam/)**— Published On April 19, 2023 and Last Modified On July 3rd, 2023**

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Strong AI and Weak AI are two fascinating branches of [artificial intelligence](https://www.analyticsvidhya.com/blog/2021/09/introduction-to-artificial-intelligence-for-beginners/) that capture our imagination. Strong AI, like a smart character from a sci-fi movie, could think, learn, and perform tasks just like humans. On the other hand, Weak AI, the kind we encounter daily, focuses on doing one job well, such as recommending movies, giving us directions, or even helping us pick the perfect playlist. There are several differences between weak AI and strong AI, in the article, we will be discussing weak AI vs strong AI.

**Comparison of Weak and Strong AI**

| **Weak AI** | **Strong AI** |
| --- | --- |
| Limited to perform specific tasks | Perform intelligent human level activities |
| Programmed for fixed function | Have the ability to learn, think and perform new activities like humans |
| It doesn’t have any consciousness or awareness of its own. | It poses creativity, common sense and logic like humans. |
| They have a goal to complete a task with creative and accurate solutions. | They have a goal to solve problems at a faster pace. |
| Examples of weak AI include Alexa, Siri and Google Assistant. | There are no real examples of strong AI because it is a hypothetical theory. Some fictional examples are Wall-E and Big Hero 6. |

**What is Weak AI?**

Did you know that the clever chess-playing computer, Deep Blue, and Siri, the helpful voice assistant on your phone, are both examples of Weak AI? They may be impressive, but they’re designed for specific tasks and can’t handle anything outside their programming.

Weak AI, often known as **narrow AI**, is a category of artificial intelligence confined to a singular or limited domain. Weak AI mimics human thought processes. By performing time-consuming operations and conducting data analysis through methods that people can’t always use, this technology can be advantageous to society.

It concentrates on tasks such as responding to user input searches or playing games. Human intervention depends on specifying the learning algorithm’s parameters and supplying the appropriate training data to assure correctness.

It cannot break the rules; it just adheres to them and is constrained by them. Weak AI helps convert enormous amounts of data into useful information by identifying patterns and generating predictions.

**What is Strong AI?**

Strong AI, also known as artificial general intelligence (AGI) or deep AI, is a computer system with a comprehensive intellect capable of learning and employing its intellectual ability to solve any problem.

It can understand, work and have a thought process different from humans in certain situations. Strong AI uses an understanding of mind AI framework to understand the goals, motivations, standards, and cognitive processes that govern other intelligent beings.

Although it is in its early years, when it comes to **weak AI vs strong AI,**strong AI contends a lot of potential because of recent developments in nanotechnology. It is also a possible application for creating an artificial neural network that can function similarly to a human being.

**Applications of Weak AI**

When it comes to the question of **weak AI vs strong AI**, weak AI has more applications in different disciplines because of its easy-to-create ability. Some of the applications of weak AI are as follows:

**1.** **Natural Language Processing**

[NLP](https://courses.analyticsvidhya.com/bundles/certified-natural-language-processing-master-s-program) is a branch of AI that studies how computers and languages people speak interact. NLP employs weak or narrow AI systems to perform sentiment assessment, text production, and translating languages.

**2**. **Financial Sector**

In the finance sector, artificial intelligence is utilized for projects like credit assessment, identifying fraudulent transactions, managing portfolios, and forecasting financial results.

**3. Robotics**

Robotics uses weak AI to guide the motion and behavior of its machines. This covers grasping, establishing a path, and recognizing objects (valuable for automating business processes).

**4. Gaming**

AI is applied to [video games](https://www.analyticsvidhya.com/blog/2023/04/how-ai-is-revolutionizing-game-testing-in-2023/) to create smarter character designs and offers specialized experiences for players.

**5. Image and Video Processing**

[Weak artificial intelligence (AI) models](https://www.analyticsvidhya.com/blog/2023/04/virtual-world-created-by-ai-develops-human-like-features/) process images and videos for applications such as detecting objects, segmenting images, and recognizing facial features.

**6. Healthcare Industry**

Weak AI in healthcare is responsible for various tasks, including disease diagnosis, clinical results prediction, development of drugs, and individualized therapy planning.

**7. Transportation**

In transportation, weak artificial intelligence optimizes routes, improves traffic efficiency, and reduces fuel consumption.

**Applications of Strong AI**

Strong AI holds a stronger intellect when it comes to **weak AI vs strong AI**. The concept of strong AI is theoretical and is a fictional character in movies like Wall-E and The Terminator. It can do anything a human being can accomplish. Strong AI still stands as the unexplored land and is predicted to change how AI technology works. There are certainly some ways in which strong AI will be applicable and beneficial to us. Some of them include the following:

**1. Understand Thoughts and Emotions**

Strong AI utilizes the theory of mind-level AI. In addition to reading human needs and emotions, strong AI could also understand the opinions and thoughts of other living beings.

**2. Make Use of Common**

The ability to use logic and common sense is an essential human behavior, and technology will need some common sense to match human intellectual capacity.

**3. Ability to Reason**

Machines with strong AI will be competent to evaluate a scenario and choose an appropriate course of action, even if it deviates from the information the human being has instructed.

**4. Easy Adaptability**

Machines using strong artificial intelligence will be capable of adjusting to new situations. Weak AI can only behave according to parameters set into algorithms. At the same time, strong AI can make choices on the go.

**Examples of Weak AI**

Some examples of weak AI are as follows:

* **Cars like Tesla with self-drive technology**
* **Voice assistants like Alexa, Google, Siri and more**
* **Google Maps**
* **Chatbots like ChatGPT, Brad, etc.**
* **Recommendation systems like Amazon, Spotify, Netflix, etc.**
* **Spam Filters on Email**
* **Spotify shuffle**
* **Email spam filters**
* **Self-driving cars**
* **Apple autocorrects**

**Examples of Strong AI**

There is a significant **difference between strong AI and weak AI**. Weak AI has been easy to create and follows human commands, whereas strong AI is still working its way in and is still on paper and a hypothetical approach. You might have seen examples of strong AI **in sci-fi movies like Wall-E, Big Hero 6**, The Terminator, Vision from Marvel, etc. Some of the areas where strong AI is helpful:

* **Cyber Security**
* **Robots with high intellect**
* **Integration of strong AI in IoT (Internet of Things)**
* **Language translation machines**
* **Image recognition systems**

**Advantages of Weak AI**

If you are comparing **weak AI vs strong AI**, you might see that weak AI holds more advantages in the technology field. Some of the advantages of weak AI are as follows:

1. **Faster and Accurate Decision Making**: They enable improved decision-making by processing data and completing tasks far more swiftly than human beings. They enable us to increase total production and efficiency, which raises the standard of living.
2. **Complete Mundane Tasks**: The advancement of weak AI has spared humans from several tedious, repetitive, and everyday tasks. It has streamlined our daily activities, from using Siri to place online food orders to lowering the work required to process large amounts of data to produce solutions.
3. **Forecasting Results**: Weak AI algorithms can also do forecasting analyses based on received inputs. When supply chains fail, AI foresees revenue projections and manages the purchase of expensive materials and long-lead-time components. A weak AI can actively link the outcomes of quality assessments to the real-time analysis of huge quantities of sensor data.

**Advantages of Strong AI**

Talking about **weak AI vs strong AI**, we know that strong AI is still growing. Some of the ways strong AI could be advantageous to society are as follows:

1. Create and solve innovative puzzles
2. Can perform tasks faster and better than human capabilities
3. Comprehend human emotions and thought processes and work accordingly
4. Can be used to check for factual checking of news and content
5. Used in advanced medical care

**Limitations of Weak AI**

Some of the limitations which weak AI poses are as follows:

1. AI systems without broad intelligence cannot complete tasks they were not developed, as they cannot adapt.
2. Weak AI systems cannot adapt to new contexts or tasks; they are restricted to the particular duties for which they were created.
3. Weak AI systems need more human intelligence’s capacity for creativity and the ability to develop novel concepts.

**Limitations of Strong AI**

In this comparison of **weak AI vs strong AI**, we know that strong AI is still in the books and not in practical use. Some of the limitations of using strong AI have been:

1. The cost of developing the machines requires costly lab equipment and techniques.
2. The development of strong AI could lead to a decrease in employment.
3. Since humans cannot control strong AI, they can use destructive methods to achieve their goals.

**Wrapping Up**

We are living in a rapidly growing era. Every day there are innovations in technology making our lives easier. When we encounter **weak AI vs strong AI**, we know that both technologies are useful for human society. Weak AI is already employed in our lives, simplifying our everyday lives.

**\*\*\*\*.** For instance, before Deep Blue, many other AI systems had managed to beat most humans at chess. But the general public wasn’t ready to call those other computers intelligent because, “most humans kind of suck at chess,” as Rolfsen put it. It took Deep Blue beating Gary Kasparov in that 1997 chess match for people to acknowledge that these systems could be considered intelligent in any sense.  Deep Blue, for example, can play chess better than any human, making it a form of very specific superintelligence. But it’s still not generalized intelligence. Therefore, “we know that Deep Blue is not going to take over the world and enslave humans. We know that’s not going to happen because all Deep Blue knows how to do is play chess,” Rolfsen said.