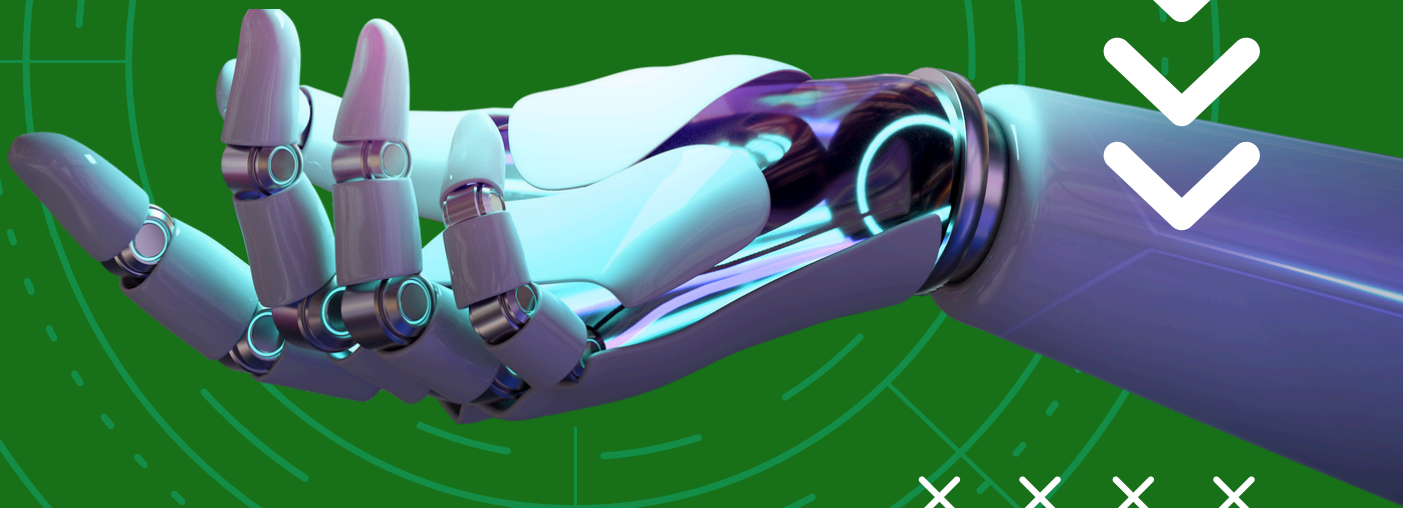


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GENERATIVE ARTIFICIAL INTELLIGENCE



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Generative Artificial Intelligence (AI)

What is Artificial Intelligence (AI) – Key Terms

Artificial Intelligence (AI): Term commonly used to describe machine-based systems that can perform tasks that otherwise would require human intelligence, including making predictions, recommendations, or decisions.

Augmented Intelligence (AI): A conceptualization of artificial intelligence that focuses on an assistive role, emphasizing that its design enhances human intelligence rather than replaces it.

Generative Artificial/Augmented Intelligence (GAI): Algorithms that can be used to create new content, including audio, code, images, text, simulations, and videos.

Machine Learning (ML): The construction of algorithms and statistical models that can draw inferences about patterns in data to make accurate predictions about future outcomes.

Computer vision technologies, such as those that match identities based on fingerprint or iris scans, that detect objects in images to enable better search and accessibility, that enforce cash free tolling, or that count pedestrians in a public space;

Natural language processing applications, such as those that auto populate search results, provide predictive text in messaging apps, provide dynamic customer support with chatbots, or translate text into another language.

Large Language Models (LLMs): A computerized language model consisting of an artificial neural network trained on large quantities of text. Specifically, this is a language model that contains at least 10 billion parameters. As the number of parameters increases above this number, models develop what are called “emergent properties” such as in context learning and chain of thought processing not acquired with smaller models.

10 Tips on Generative Artificial Intelligence (AI)

1. What is Generative AI?

The broad term Artificial Intelligence (AI) refers to computer software that imitates human intelligence. Generative AI is a specific type of AI that is concerned with the creation of new content such as text, pictures, music, and more. Generative AI can also behave like a search engine such as Google by answering your questions.

2. What are the Primary Uses of Generative AI?

Generative AI can perform an extraordinary variety of tasks. At its core, it is used for content creation such as writing new text, producing original images, and even developing software code. It does this based on requests written in plain language by a person. Beyond content creation, generative AI can provide capabilities such as answering all manner of questions, creating schedules, automating tasks, and solving math problems.

3. What can Generative AI do for me?

a. Small business

Generative AI solutions can provide many valuable capabilities to assist small business owners. These includes help with marketing efforts, customer service, research, sales, project management, and report generation.

b. Home user

Home users can benefit from the ability of generative AI to help in areas such as learning, school homework, hobbies, games, organization, DIY projects, financial management, cooking, and fitness plans.

4. How do I use Generative AI Prompts to get Accurate Results?

The most common way to interact with generative AI is through plain language text-based conversations. These are called prompts. Creating good prompts will help you to get high quality results. Generative AI prompts value clarity and specificity. Provide detailed context and request the style and format of the response. For example, rather than simply asking, “Produce an exercise plan” instead write, “I am a 25-year-old man who would like to lose 10lbs in 4-months. Create a detailed weekly exercise and dietary plan.”

5. Can I Trust the Content that Generative AI Produces?

In general, most results from generative AI have a reasonable degree of accuracy. However, the nature of the technology at this time means that occasionally it can produce content that is not correct. This is an inherent limitation today that everyone must recognize. To reduce the risk of this, be particularly diligent when creating content that requires certainty or is particularly sensitive such as medical, legal, or financial matters. It can help to request sources in your prompt and cross reference results against another reliable source.

6. Can Generative AI Replace Human Creativity?

Using generative AI can greatly help with being creative. For example, it can generate a lot of ideas for you on any given topic, it can draft the first version of a story, and it can help you convert a text description into a beautiful picture. In this way, generative AI can augment human creativity. However, there is uncertainty to the degree that generative AI may eliminate the role of people in the creative process. No doubt, some creative work will go away and the way that work is done will change. New technologies have always changed what we can do and the way that we do it.

7. What are the Limitations of Generative AI?

Generative AI is a relatively new technology, and its capabilities are progressing rapidly. Despite its remarkable features, it does carry some limitations today that all users should consider when using it. Some answers may be incorrect or outdated, and this should be recognized and accounted for depending on the importance of the result. Since results are based on large volumes of historical data, they can also contain biases and stereotypes. In addition, this historical data may limit the creativity of output or use copyrighted material. Some prompts may confuse generative AI which can produce erroneous interpretations of what is being requested.

8. What are the Risks of Using Generative AI?

While generative AI provides remarkable services, everyone should be aware of some risks in using it. These include having confidence in the accuracy of results, the possibility of bias, knowing whether content is current, leaking private information, inappropriately using copyrighted material, over-dependence on its use, and enabling unethical and illegal activities.

9. How can I Protect my Privacy?

There are several ways to lower the risks to your privacy when using generative AI. Avoid using any personal information in your prompts and try to write without providing information that could be used to identify personal data. Use generative AI tools that come from reputable companies. Report issues through the feedback or contact pages of the service you are using. Be extra vigilant when using your device on a public network by, for example, using a VPN service. Keep apprised of privacy and security developments in generative AI.

10. Where can I Learn More about Generative AI?

Today there is an abundance of resources for learning more about new technologies including generative AI. However, not all resources are high quality. Services such as

Coursera, Udemy, and LinkedIn Learning all provide resources that are generally vetted and accurate. YouTube can be an excellent choice but pay attention to the video source. Stick with recognizable names in the technology industry, media, academia, or research world.

On October 30, 2023, the Biden Administration released Executive Order (E.O.) 14110 on Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence. It establishes a government-wide effort to guide responsible artificial intelligence (AI) development and deployment through federal agency leadership, regulation of industry, and engagement with international partners.

Here are links to some emerging national standards:

- Highlights of the 2023 Executive Order on Artificial Intelligence for Congress can be found here: <https://crsreports.congress.gov/product/pdf/R/R47843>
- The Presidential [Executive Order on AI](#)
- The Office of Management and Budget's [draft memorandum on AI](#)
- The National Institute of Standards and Technology's [AI Risk Management Framework](#)

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