



# Generative AI

+ Ask anything



## What is it? How does it work?

Generative AI is a type of artificial intelligence designed to create new content—like text, images, music, code, or video—based on patterns it has learned from existing data. Instead of just analyzing or classifying things, it generates outputs that can look or sound original.

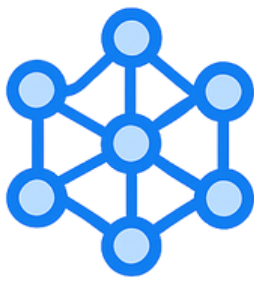
The model doesn’t “memorize” exact data—it learns probability distributions. For text: Given a sequence of words, what’s the most likely next word? For images: Given a description, what pixels or features should appear?

Generative AI doesn’t “understand” the world like humans do—it generates based on patterns. It can sometimes be biased, inaccurate, or overly confident. Outputs depend heavily on the data it was trained on and the prompt given. (This explanation was written using ChatGPT) (IBM, 2024)



### Data

Generative AI starts by learning from huge collections of data — everything from books and websites to photos and sounds.



### Training & Pattern Learning

The AI model analyzes data using complex algorithms to spot patterns and relationships. Instead of memorizing, it learns probabilities — predicting what comes next based on what it’s seen before.



### Generation

Once trained, the AI can generate new content based on its predictions— text, images, music, or code — that looks or sounds original.



### Prompts & Refinement

The user’s prompt guides what the AI creates. Feedback and additional training make results safer and more useful over time.



## Who owns it?

AI is a costly business. These programs are developed and run by companies who are able to select which information to train the AI models on, determine its intended use, and influence the way it answers.

Remember that AI has to be fed information and trained, giving the creators of the AI some control over the information it shares with its users. (Geneva Internet Platform, 2025) (Wong, 2025)

Many companies have their own AI models that are built into existing software: Google has Gemini and Google AIO, Microsoft has Copilot, modern phones come with a built-in AI assistant. Some models exist on their own, like ChatGPT or DeepSeek.



## Where does its information come from?

Generative AI needs to process large pools of information to learn how to respond. Where does it get this information? Early on, models were trained by publicly available materials, like books, articles, websites, art, and more. This allowed models to learn the basic patterns of speech and reasoning. This action lead to questions about ownership and copyright of the materials produced by AI. Many artists and authors have attempted (unsuccessfully) to sue AI companies claiming that training AI using their art (i.e., a book like Game of Thrones) is theft, as the AI can now replicate their style. (Appel, Neelbauer, & Schweidel, 2023) (The Authors Guild, 2023).

The information it is trained on is not regurgitated exactly. The training function is to teach the model how to recognize common patterns in language and general knowledge. This training gives the AI model the ability to predict the answers you are seeking, and generate new answers based on those predictions. Many AI models can also search the web in real time to bring up immediate results.

AI models are often trained or fed information for a specific purpose. An AI designed to help legal researchers will be fed legal cases and articles. A company’s customer service chatbot will be trained on their policies and offerings. Some smaller AI models that have a specific purpose (like company specific chatbots) can be fine tuned to give exact answers, but this takes a lot of time and effort, and limits the capability of response. Large language models (i.e., Chat GPT, DeepSeek) are generalized and not trained on anything specific.

Knowing that AI is a generative tool that can create new information and predicts what you want to hear, there is one important message to share:

## Artificial Intelligence is NOT a Research Tool!

While it is a handy tool, AI does not have the capability to distinguish truth from fact. It also suffers from a few issues that frequently cause misinformation.

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Ask anything

Common issues with AI







Hallucinations

“Generative AI tools carry the potential for inaccurate and misleading outputs. Content generated by AI tools like ChatGPT, Copilot, and Gemini have been found to provide users with fabricated data that appears authentic. These inaccuracies are so common that they’ve earned their own moniker; we refer to them as ‘hallucinations’”(MIT, 2024).

Generative AI is predicting wanted outputs and generating new information. Its intention is not to provide facts, but to make new content. It often creates false information to answer a question, and does it so well that it seems completely plausible.

We have seen real world examples of this. There have been multiple cases of legal professionals using Chat GPT to do research. In many instances, the AI ‘found’ resources to support the lawyers claims that turned out to be fake. Not only did the AI make up false information (previous cases, articles), but it also made false citations, indicating they could be found in legal databases, when in reality they were completely made up. (Weiser, 2023) (Cecco, 2024)



Bias

AI systems can produce biased results that, “reflect and perpetuate human biases within a society, including historical and current social inequality. Bias can be found in the initial training data, the algorithm, or the predictions the algorithm produces.” (IBM Data & AI Team, 2024)

Humans are teaching AI, it can only learn based on the information we feed it. This means human biases such as racism, sexism, ageism, and more have been known to show up in AI responses.

These Biases can show up in regular AI generated content, but also have harmful impacts on AI tools used in professional fields. An example can be seen in the Healthcare sector: “Underrepresented data of women or minority groups can skew predictive AI algorithms. For example, computer-aided diagnosis (CAD) systems have been found to return lower accuracy results for black patients than white patients.” (IBM Data & AI Team, 2024)



Echo Chambers

Echo chambers are environments where individuals only encounter beliefs or opinions that align with their own. These repeated encounters lead to existing views being reinforced, while alternative ideas are underrepresented.

Echo chambers often lower an individual’s critical analysis of the information presented, which can lead to misinformation or skewed perceptions of reality.

We see this in AI in many ways. AI algorithms on social media are known to create echo chambers for their users. Large language models like Chat GPT can also create problems. The model is designed to give you the answer you are seeking. AI can be prompted to agree with a users opinion without having factual evidence or sources to confirm it. (Hao, 2020).



AI Generated Content

A few bad actors have been using AI in harmful ways. Some people knowingly circulate false AI generated content, often on social media. This content can be text based, but is often generated images or videos of people saying or doing false things.

This content may be shared for many reasons. Some people do it support their own narrative or opinion. Others share false inflammatory information on purpose to get more engagement on their page. Regardless of why, this content it very harmful and makes it difficult for people to know what is real online.



Scams

This AI generated content can also be used in modern scams. Fraudsters can create fake images that trick you into believing them (like a fake bank statement), or duplicate the voice of a loved one to claim they’re in trouble over the phone. Be very cautious online, and have a family codeword for emergency situations.



Critical Thinking in School

There is also cause to be concerned over the impact AI has on education. A recent study found that participants who used a large language model had less brain activity when writing an essay than those who did not use AI. Participants who relied on AI had less ownership over their essay, and were less able to recall a direct quote from their own work. They also found that those using AI had uniform opinions based on the information gathered from the AI model, meaning they were less likely to form their own opinion and just went with the outcome provided by the language model. (Kosmyna, Hauptmann, Yuan, et al., 2025). Excessive use of AI may hinder the development of critical thinking skills.



Check out this video to learn more about AI generated content and scams.