



## How to cite ChatGPT and AI products

### Olimpius Istrate

Universitatea din București, Facultatea de Psihologie și Științele Educației, Departamentul Formarea Profesorilor  
olimpius.istrate@unibuc.ro

**Abstract:** In the context of increasing access to tools that use artificial intelligence, the outcome of debates about intellectual property is important because it allows us to set the limits in which we can appropriate or refer to a product we have created with the help of AI applications, constructed as original or derivative work, using in its turn, indiscriminately, a large amount of original works protected by copyright law as a source of inspiration.

At this time, texts, images or sounds generated at your request by an artificial intelligence tool cannot be attributed to it. Content generated with artificial intelligence applications does not carry intellectual property restrictions - it can be used freely, for any legal means, including commercial use. The partial or exclusive contribution or intervention of artificial intelligence in the development of a text, image or any other product cannot be detected with certainty. To acknowledge the AI contribution, it is recommended to add a note in a visible place.

Artificial intelligence is not "concerned" about truth or originality, it is concerned with constructing a plausible product, generating the most likely sequel for each sequence of text, image or sound, using as a benchmark a database of similar digital products. Therefore, the result must be checked carefully.

In this article:

- How do we access AI tools?
- Under what conditions do works made with the contribution of AI benefit from copyright protection?
- Does content generated with artificial intelligence applications have intellectual property restrictions?
- How to cite ChatGPT?
- How to cite Bing Chat?
- How to reference images generated with AI programs?
- Can content generated by AI applications be detected?

**Keywords:** artificial intelligence, digital pedagogy, Bing Chat, Chat GPT, citation, copyright, intellectual property, tehnologii digitale

### How do we access AI tools?

Access to artificial intelligence programs is easy, many of them being free. In education, they have opened up a range of possibilities, among which the most immediate relate to helping teachers create teaching materials and supporting learners to study independently.

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For conversations or text generation, the best-known application is ChatGPT, launched by the company OpenAI (<https://chat.openai.com/chat> – account required), with a slightly more advanced version embedded in Bing search engine (<https://www.bing.com/search?q=Bing+AI&showconv=1> – with free access, but only through Edge browser).

For longer texts, such as syntheses, reports and essays on a specific topic, Playground OpenAI (an OpenAI product) or Playground AI21Studio (created by AI21) can also be used. Both require the creation of a user account and allow control of the length of the generated text by setting a maximum number of characters (maximum length). They also allow selection of a language model as needed from several predefined options. Some examples of texts developed with the Playground tool on the topic of education can be found here: [digital-pedagogy.eu/ariadna-experiment-the-role-of-artificial-intelligence-in-education-sciences/#signal](https://digital-pedagogy.eu/ariadna-experiment-the-role-of-artificial-intelligence-in-education-sciences/#signal) (December 2022).

To generate images, you can use, among many others, Bing Image Creator (<https://www.bing.com/create>), DALL-E (<https://openai.com/product/dall-e-2> – account required) and Fotor (<https://www.fotor.com/features/ai-image-generator/>). A complete and updated list of AI tools can be found here: <https://opentools.ai>.

## Under what conditions do works made with the contribution of AI benefit from copyright protection?

For now, there is no clear answer to this question. Specifically, there are still some steps to be taken before the contribution of artificial intelligence is introduced into the legislation. In any case, professional ethics require mentioning the fact that a work was done with the help of AI.

In the United States, the institution that administers the national copyright system and regulates most aspects of intellectual property is the U.S. Copyright Office (USCO). For a work to be eligible for copyright protection, the answer to each of the following questions must be yes (USCO, 2017, Art. 302, pg. 48):

- Is the work eligible for copyright protection in the United States?
- Has the work been fixed in a tangible medium of expression?
- **Was the work created by a human author?**
- Does the work constitute copyrightable subject matter?
- Is the work sufficiently original? (Was the work independently created? Does the work possess at least a minimal degree of creativity?)

If the answer to all these questions is "yes", then the work can be registered for protection. In other words, only if it meets these 5 conditions the product can be the subject of an intellectual property dispute. Article 306 stipulates the need for the author to be a human being, also referring to a text from 1879, which states that copyright law protects only "*the fruits of intellectual labor*" that "are founded in the creative powers of the mind". The Copyright Office refuses to consider any appeal if it is determined that the product is not created by a human being.

*But what if, in a collaborative intellectual effort, one of the "creative minds" is artificial?*

More recently, the need to revise these regulations on the protection of intellectual property has led to the initiation of broad debates, both in the United States, starting in 2019, and in Europe, to respond to the challenges brought by artificial intelligence.

The outcome of intellectual property debates is important because it regulates behaviour and how to report on it – it clearly establishes the conditions under which intellectual property is infringed and provides support for fraud prevention and countermeasures. Moreover (because it seems to be needed), this debate reinforces and updates some ethical principles, outlines and supports a moral stance, recalls and clarifies the essence of the human spirit, in parallel with a more or less intelligent computer program.

The impact of AI concerns works of different nature, from texts of various types, fiction, scientific articles, computer programs, to films, images, procedures, and solutions to problems very diverse in their nature, prototypes, and sketches of innovative products. The current debate has deeper implications. It may involve a repositioning, a different perspective on how we relate to various situations or to the (use of) simpler or more complex tools. For example, if, in order to create an iron art object, someone uses a filter and protection tool (a welding mask), should they specify this explicitly, in a visible place, next to their name labelling their position as the author of the work? Similarly, to what extent does a selection of responses to a series of well-formulated and logically structured questions, along with my interpretation, constitute my own work? And to what extent does it constitute the work of the person who answered

the questions (in this case, an AI program)? In a (qualitative) research of 50 years ago, was every respondent credited as an author? Of course not. Should they be credited as the author? They probably should. But if I use the ideas from 100 articles on a certain topic to develop another article, reformulating, synthesizing, arranging in a certain logic – is this my work, original, protected by copyright law? If a computer application does this at my direction, who is the author(s)?

In the situation where we use AI to support the development of intellectual products, *crediting* the AI tool cannot give it the authorship, but rather consists of a note acknowledging its contribution, the author being the person who used the application/tool / artificial intelligence program and who is accountable for the work.

*Text, images or sounds generated by an AI tool cannot be attributed to it.*

The examples in the compendium of the United States Copyright Office seem hilarious, but they are needed to understand and manage various current situations that use artificial intelligence. The following types of works cannot constitute an eligible work to be protected (USCO, pg. 63, Art. 313.2 et seq.):

- A photo taken by a monkey.
- A mural painted by an elephant.
- A piece of wood shaped by the ocean.
- A song naming the Holy Spirit as the author of the work.
- Reducing or increasing the size of a pre-existing work.
- Converting a work from analog to digital, such as transferring a motion picture from VHS to DVD.
- Transposing a song from B major to C major
- Medical imaging produced by X-rays, ultrasounds, magnetic resonance imaging or other diagnostic equipment
- A product based on a mechanical weaving process that randomly produces irregular shapes in the fabric without any discernible pattern.

We see many similarities with how we can interpret the contribution of ChatGPT or any artificial intelligence program nowadays to the development of an intellectual product. A current question is: *Is there a case where a machine could or should actually own the copyright for something that it created on its own without significant human involvement?* (Cochetti, 2023). More discussion and research are needed at the intersection of AI and intellectual property to redraw the scope and effects of copyright (UNESCO, 2022, pg. 33, Art. 99).

Many of the AI-generated texts, while appearing coherent and semantically plausible, are actually similar to the last counterexample on the U.S. Copyright Office's 2017 list, *"a product based on a mechanical weaving process that produces random irregular shapes in the fabric without any discernible pattern"*, with the difference that the AI is now trained to make the generated item appear to have a pattern.

Artificial intelligence is not "concerned" about truth or originality, but with constructing a plausible product, generating the most likely sequel for each sequence of text, image or sound, using as a benchmark a database of similar digital products.

Pending general and specific legislation on the role and contribution of AI in each case, it seems important to have this starting point – some ideas to reflect on, alongside a suite of recommendations and examples of current practice.

## Does content generated with artificial intelligence applications have intellectual property restrictions?

Content generated with artificial intelligence applications does not (for now?) have intellectual property restrictions – it can be used freely, for any legal means, including commercial use. Moreover, the obtained content should be associated with the person who made the request, if they made it on their own behalf, or the company, if they have an institutional account or made the request for professional purposes. We are already talking about articles and even books co-authored with artificial intelligence. The policy of OpenAI, the company that owns ChatGPT and many other AI tools, states:

*Creators who wish to publish their first-party written content (e.g., a book, compendium of short stories) created in part with the OpenAI API are permitted to do so under the following conditions:*

- *The published content is attributed to your name or company.*
- *The role of AI in formulating the content is clearly disclosed in a way that no reader could possibly miss, and that a typical reader would find sufficiently easy to understand.*
- *Topics of the content do not violate OpenAI's Content Policy or Terms of Use, e.g., are not related to adult content, spam, hateful content, content that incites violence, or other uses that may cause social harm.*
- *We kindly ask that you refrain from sharing outputs that may offend others.*
- (Source: <https://openai.com/policies/sharing-publication-policy>, 19 Jan. 2023)

## How to cite ChatGPT?

There are two types of customs to indicate the addition of artificial intelligence, one is for in-text citation (just as one cites an out-of-print source) as well as addition to the bibliography, and the other is for the addition of visible informational text, usually placed at the end of the article. It is ideal to use both variants.

Example of in-text citation using the APA standard:

*(ChatGPT, personal communication, April 9, 2023)* or simply: *(OpenAI, 2023)*

Example of a bibliographic reference using the APA standard:

*OpenAI. (2023). ChatGPT (Apr. 9 version) [Large language model]. <https://chat.openai.com/chat>*

Example of an in-text reference/citation using MLA format:

*(OpenAI. ChatGPT. [chat.openai.com/](https://chat.openai.com/). Accessed Apr. 9, 2023)*

The information text suggested by [OpenAI](#) to add to content generated with Chat GPT is: *The author generated this text in part with GPT-3 [or later versions], OpenAI's large-scale language-generation model. Upon generating draft language, the author reviewed, edited, and revised the language to their own liking and takes ultimate responsibility for the content of this publication.*

## How to cite Bing Chat?

Microsoft's intelligent search assistant Bing Chat is available for free in the Edge browser, since March. It provides personalized answers to various questions, processing the relevant content obtained from various sites, developing texts in most cases original, new.

The content generated by Chat integrated into Bing is basically your property. The terms and conditions of use of Microsoft services, including Bing Chat, state (as of April 2023):

*Art. 8. Ownership of content. Microsoft does not claim ownership of Captions, Prompts, Creations or any other content you provide, post, input, or submit to, or receive from, the Online Services (including feedback and suggestions).*

However, we recommend you to quote and credit the source for content taken from Bing Chat.

Example of simple in-text reference/ bibliographic citation, using APA format:

*(Bing Chat, personal communication, April 9, 2023)*

Example of a simple in-text reference/ bibliographic citation using MLA format:

*(Microsoft. Bing Chat. <https://www.bing.com/chat>. Accessed 9 Apr. 2023)*

The informational text to be added at the end of the material can be similar, since it is anyway also about Chat GPT: *The author generated this text in part with Bing Chat/ GPT-3 [or later versions]. Upon generating draft language, the author reviewed, edited, and revised the language to their own liking and takes ultimate responsibility for the content of this publication.*

It should be noted that, unlike ChatGPT on the OpenAI platform, searching and generating new answers through Bing Chat also provides a „bibliography“ under the title „Learn more“, that includes the most important sources contributing to the development of the answer provided. We recommend that you go through them and, where appropriate, cite them separately – both in the text and in the bibliography, using the APA standard specific to that type of work.

## How to reference images generated with AI programs?

In the case of images, the program used can be specified at the end of the material that contains them:

*The images in this material were generated with Fotor (fotor.com).*

Or you can insert a note next to each image:

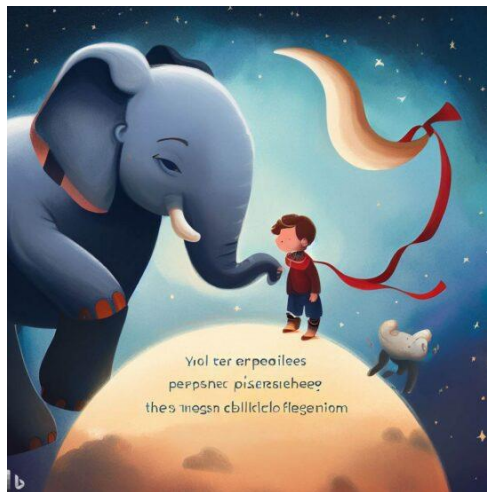
*Image generated with Fotor AI Face Generator (<https://www.fotor.com/features/ai-face-generator/>, Apr 9, 2023)*

Or, more specifically:

*This image was generated with Fotor AI Image Generator (<https://www.fotor.com/features/ai-image-generator/>, on April 9, 2023, with the request: „Little elephant talking with a boy on the Moon” )*

Or

*„Little elephant talking with a boy on the Moon” – image generated with Bing Image Creator (<https://www.bing.com/create>, 9 April 2023)*



In scientific works, a serial number and title must be added before the image, as well as a note after the image.

Figure 2. A boy talking to an elephant on the moon



Note. Generated with Fotor AI Image Generator (<https://www.fotor.com/features/ai-image-generator/>, on Apr 9, 2023, with the request: „Little elephant talking with a boy on the Moon”)

## Can content generated by AI applications be detected?

In short, the answer is that, for the moment, the partial or exclusive contribution or intervention of artificial intelligence in the development of a text or any other product in digital format cannot be detected.

No one can say with certainty whether a text was constructed by an AI program, except particular cases where the generated product has specific flaws (eg, invented bibliography or incorrect factual data). But a brief review of the text can remove any error. AI plagiarism detection apps provide a likelihood score – their output cannot be used to accuse someone of fraud. And the truth is that many of the texts constructed with artificial intelligence software resemble many of the texts produced by human beings (or vice versa):

- Sample of 27 texts developed by artificial intelligence on the topic of education: <https://digital-pedagogy.eu/ariadna-experiment-the-role-of-artificial-intelligence-in-education-sciences/#signal>
- Sample text with human author that resemble the constructions of AI applications: <https://edict.ro/artificial-intelligence-as-a-teaching-aid/>

*"Knowing that it is essentially a synthesis and knowing that AI is equidistant, one may be tempted to consider it an objective content, or rather an objective perspective on the field; but the result generated by AI only reflects a collective subjectivity, a current trend in the field, with its hesitations, biases, and shortcomings. Basically, at this stage in the development of artificial intelligence, we are only looking in a mirror; therefore we should not necessarily seek novel answers and solutions, but we should rather seek to better understand ourselves, as individual contributors to a scientific domain and as a collective."* (Istrate, Velea, Ștefănescu, 2022)

Obviously, the presentation of texts, images or films made with specialized content creation software without specifying the contribution of AI constitutes a moral problem. Cases where pupils and students complete essays, practical projects and scientific articles with the help of AI are common and almost impossible to detect. [Paraphrasing software](#), built "to avoid plagiarism" (sic!) are old tools, but, with the new technology, fraud techniques are evolving rapidly, even changing the meaning of the term *fraud*; now, apps like [gocopy.ai](#), [copyshark.ai](#), [instatext.io](#) or [quillbot.com](#) are created as "writing assistants".

For the evaluation of academic papers for fraud detection, AI-based tools have emerged (eg, [Plag.ai](#) or [Oxsico](#)), as well as software specialized in AI plagiarism detection.

All over the world, schools and universities have begun to take measures, [some outright banning the use of AI](#) or [others inviting teachers to explore with students and pupils](#) the potential of this new tool for intellectual work activities, productivity, human creativity.

*It seems certain that we need to rethink what we do, how we build knowledge and how we develop (our) skills.*

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