

Copyright Protection for Users of Text-to-Image AI Art Generator Models

1. Introduction

The recent development and release of text-to-image AI art generator models like DALL-E, MidJourney, and Stable Diffusion raise interesting questions about the protection of traditional artists and AI artists alike. For our term project, we will be focusing on the issue of copyright protection for AI artists who use such models. In particular, we will discuss whether AI artworks and the text prompts used to generate such art can be copyrighted under Canadian copyright law in its current state, as well as some related practical tips.

2. Assumptions

We would like to acknowledge that in reality, many of the text-to-image models currently available for public use have terms of service that require users to waive certain rights, including their right to claim copyright protection over the works that they create using the said models. That said, for the purposes of our copyright analysis in Part 3 and 4, we will assume that no such terms exist and that the relevant issues are governed purely by Canadian copyright law rather than by contract. We have, however, included in Part 5 below some practical advice for AI artists regarding these terms of service.

3. AI Artwork

AI artists may seek protection for their works under s.5(1) of the Copyright Act. Based on current Canadian law, there is little controversy in identifying latent diffusion art as a form of artistic work. In the existing case law, the definition of artistic work is expansive. AI artworks likely meet the standard of artistic works, as they are forms of expression in a visual medium (*DRG v Datafile*) and are similar to traditional paintings, drawings, or photographs, which are common types of artistic works under s.2 of Copyright Act. But do AI artworks satisfy the requirements of originality and expression of ideas necessary to be copyrightable?

3.1 Originality

As set out in *CCH v LSUC*, originality is reflected in the author's use of skill and judgement that involves intellectual effort and is more than a purely mechanical exercise.

In the process of creating artwork using a text-to-image model, an AI artist must first convert their idea into descriptive text, and then input this text into the AI program to create the artistic work. Throughout this exercise, it can be argued that the AI artist has used their skill by describing their idea in text as well as their judgement by deciding whether the art outputted by the AI model matches their ideas or warrants further editing.

However, in relation to a final product that is in the form of an artistic work, this mere process of converting one's ideas into text may not be sufficient. One must look closer at whether there is

any further originality during the conversion from the text prompt to the image. Whilst different models may run on slightly different processes, AI text-to-image models are generally deep machine learning models that are trained on the [relationship](#) between images and corresponding descriptive words. For example, [DALL-E 2](#) learns the linkage between textual semantics and their visual representation through another model (Contrastive Language-Image Pre-Training, also known as [CLIP](#)) developed by OpenAI. It matches the prompt to a corresponding image encoding, which then digests the semantic information contained in the prompt and turns it into an image through “diffusion”, a [process](#) that starts with a pattern of random dots, and gradually alters that pattern towards an image when it recognises specific aspects of that image. These complex exercises may prima facie satisfy the “skill and judgement” requirement as laid down in *CCH v LSUC*, as during the matching, recognition and alteration of an image, it shows an ability to form an evaluation and compare different possible options.

Nevertheless, one remaining difficulty is McLachlin CJ’s statement in *CCH* that originality requires “intellectual effort”. Regarding this requirement, it could be argued that these models go beyond mechanical mixing-and-matching, as they involve complex judgements such as evaluating the relationship and its extent of relevance between certain texts and images, and choosing the major semantic features in the prompt to work on (for a detailed explanation on how a model like DALL-E 2 work, please click [here](#)). As such, the requirement of intellectual effort may also be satisfied. However, we recognise that this is controversial, as “intellect” may be considered something that can be possessed only by a human and not AI. To definitively resolve this issue, elaboration on this point will be needed from the Court.

3.2 Idea-Expression Dichotomy

The requirement that the work is a fixed expression of an idea rather than a mere idea itself is likely to be satisfied for AI artworks, which generally illustrate very specific articulations of the ideas that AI artists had in mind. Unless the idea fed into the AI generator is one that has only limited forms of expression (e.g., a hand holding a pencil completing a cross in a box, as in *Kenrick v Lawrence*), this requirement should not be an issue.

3.3 Who Owns the Copyright?

Assuming that the AI artwork is copyrightable, we now arrive at the difficult question of who owns the copyright. As we know from *Donoghue v Allied Newspapers Limited*, the copyright owner is the person who has clothed the idea in form or, in other words, expressed the idea.

For traditional artwork, it is typically clear that the artist clothed the idea in form by creating the painting themselves and should therefore be the copyright owner. We believe that this notion can be directly adapted to the context of AI artwork only when the AI program is coded by the AI artist themselves and trained using only their own works. Under these circumstances, the algorithm and the training material library would contain only the expressions of the AI artist, who can then be said to be responsible for clothing the idea in form. One example of this would be [Sarah Meyohas’](#) project, which made use of 100,000 individual rose petals photographed by her workers “to map out an artificial intelligence algorithm that learned to generate new, unique petals forever”. This clearly captured her own expression of the idea underlying her project, such that there is a strong argument in favour of Mehoyas being the copyright owner of her project.

However, for most AI artworks that involve more than one contributor, it appears that there are a number of potential candidates for copyright ownership: the AI artist; the programmer who created the AI program; the AI program itself which converted the text prompt into the artwork; and other artists whose works were used to train the AI model, such that the artwork generated may well contain elements of their expressive styles. As a result, the AI artist themselves, even if able to show that their AI artwork is copyrightable, must also be able to show that they are the appropriate owner of the copyright, which can be a monumental task. It may even be argued that the AI artist contributed the least to the expression of the idea as compared to the other candidates because they contributed no expressive style other than in the comparatively mechanical tasks of formulating the text prompt and polishing the final output.

The notion of joint authorship is also unlikely to help under the BC Supreme Court expanded test for joint authorship, which requires that collaborators intend to regard each other as joint authors (*Neudorf v Nettwerk Productions Ltd*). This is unlikely to be true between AI artists and those who created the AI model or whose works were used to train the model.

4. Text Prompts for AI Art

Given the above difficulties that an AI artist is likely to face in claiming copyright protection over their AI-generated artworks, they may seek copyright protection of something else that can be thought of as truly their own contributions — the text prompts that they use to generate their AI artwork (assuming that these prompts are not also AI-generated!). As texts, these prompts may arguably amount to literary works under s.5(1) of the Copyright Act. It should be noted that here, we are not discussing one-word prompts like “dog” that are likely too minimal to constitute copyrightable literary works (*Exxon*). Instead, we are referring to longer prompts that people have been using to generate their artworks (as can be seen [here](#) in the top left corner of the embedded image), which may sufficiently amount to literary works.

4.1 Originality

Assuming that text prompts can constitute literary works, the requirement of originality under s.5(1) must then be considered. As we know from *CCH*, an original work must involve the exercise of skill and judgement. It is arguable that an AI artist, in choosing exactly what words to use in the prompt so as to generate the desired artwork, is using their ability to form an evaluation by comparing between different descriptors, such that originality may be established. Assuming that the text prompt was created by a human artist rather than another AI program, the requirement of intellectual effort is also not a problem here as compared to the above discussion on AI art.

4.2 Idea-Expression Dichotomy

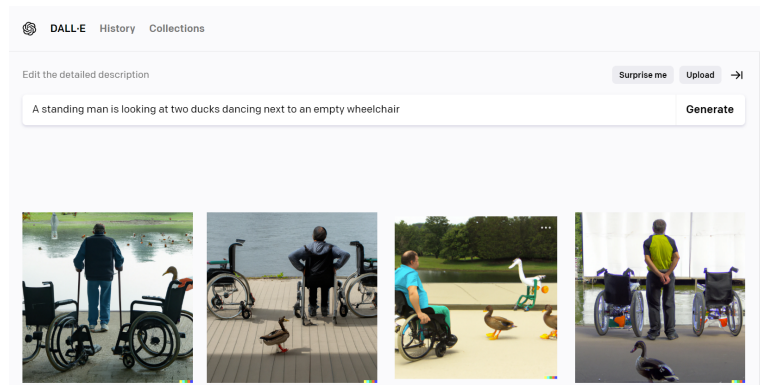
Next, the AI artist must overcome the hurdle of the idea-expression dichotomy, which, in our opinion, is a significant barrier preventing a text prompt from being copyrightable.

It is well-established that there is copyright not in an idea itself, but only the fixed expression of an idea (*Kenrick*). However, text prompts for AI art often contain a string of descriptors which

are clearly only ideas (i.e., “a woman in an astronaut helmet posing for a picture” from the above example); these barebones descriptions compiled in a list to make up a prompt can hardly be said to meet the threshold of a fixed expression of an idea.

But can AI artists who seek copyright protection over their text prompts overcome this hurdle by simply reformulating their ideas using more elaborate writing styles and thus have their prompts be copyrightable? The answer to this seems to be yes, as nothing would really distinguish between such a prompt and a piece of creative writing created purely for literary purposes, which no one would argue is not a fixed expression of an idea.

At the current stage of AI development, however, there are practical limitations to this strategy, in that AI models may be unable to deal with these more complicated prompts. For instance, we found that DALL-E 2 could not fully understand the prompt of “a standing man is looking at two ducks dancing next to an empty wheelchair”. From the images it generated, it clearly could not identify whether the man should be standing or sitting, how many ducks there should be, and what the ducks should be doing. Therefore, AI artists may not yet be able to use complex prompts that both meet the requirement of expression and generate art that captures their vision.



4.3 Rights of Copyright Owner

Assuming that text prompts are copyrightable, the next question is: what rights does this copyright protection confer to an AI artist in relation to their text prompt? Can one AI artist effectively use their copyright to prevent another from using their text prompt to create another piece of AI artwork?

As set out in s.3(1) of the Copyright Act, the copyright owner owns the fundamental exclusive rights over the reproduction, performance, or publication of their work. Of these three fundamental rights, the most relevant to the discussion at hand is reproduction, which would forbid others from copying the prompt or a substantial part thereof for their own use, hence preventing them from being able to input the same or a substantially similar prompt into an AI model to generate art.

It should be noted that under s.3(1), the derivative works listed from (a)-(j) do not explicitly include an artistic work converted from a literary work. This seems to suggest that had it not been for the reproduction of the copyrighted prompt when used by another as an input in an AI model, there would be no copyright infringement in creating a piece of art based on the prompt. For instance, if a traditional artist were to create an artistic work based on the AI artist's text prompt without explicitly copying the texts of this prompt, there likely is no infringement of copyright. We wonder whether this distinction makes sense under the principle of technology

neutrality — what difference does it make from the perspective of the copyright owner that AI created art using their text prompt rather than a human being?

Moreover, we also question the overall effectiveness of claiming copyright protection over one's text prompt. This protection may be beneficial to AI artists in the sense that others cannot copy the exact prompt or one substantially similar to it and use it for their own works, but is it not possible for one to just describe the AI artwork that was generated from the text prompt in their own words and input this description into an AI model to generate a similar piece of artwork? In this situation, if only the text prompt is copyrightable and not the AI artwork itself, the independent creation doctrine may act as a defence for the other AI artist, as it was the uncopyrightable AI artwork and not the copyrighted text prompt that was the source from which the allegedly infringing work was derived. Accordingly, in order to successfully rely on copyright protection over a prompt as a means of dealing with a similar piece of AI artwork, one must collect evidence regarding the alleged infringer's conduct of inputting a substantially similar prompt into an AI model, a potentially difficult thing to do.

5. The Role of Contracts in Practice

In September 2022, [Kris Kashtanova](#), a US graphic artist, became the first person to receive U.S. copyright protection for his comics book, whose production was in part assisted by some text-to-image generators like MidJourney. Whilst there are no similarly successful registrations or lawsuits reported in Canada so far, the analysis above points to a realistic prospect that this issue may become a future subject of debate and has likely already puzzled various AI artists. We would therefore like to share some relevant considerations for artists that take into account the role of contracts in relation to copyright.

The text-to-image model is not yet a mainstream form of art generation. Instead of being a widely-accessible tool, most of these models are services of high-end AI research and deployment companies such as [OpenAI](#) and [Midjourney](#). Hence, despite the fact that under the traditional copyright analysis framework, the artwork produced and the prompt input may arguably be copyright-protected in favour of the original artist, the model companies in reality often retain substantial control of these artworks' ownership and reproduction via carefully-crafted contracts or terms of use.

For example, the [Terms of Use](#) of DALL-E 2 vests ownership of the prompt (or other input) in the artist contingent upon the artist's compliance with the Terms (Clause 3(a)). However it vests the output artwork's ownership in OpenAI, the company providing and maintaining DALL-E 2, such that the creator can only enjoy the right, title and interest in the output artwork as so assigned by OpenAI. Meanwhile, [Midjourney](#), another popular text-to-image generator, only allows certain categories like paid members and non-corporate users to enjoy ownership in their generated artwork. However, it is still subject to the irrevocable copyright licence automatically granted to Midjourney, and this licence survives even after the terms of service agreement is terminated between Midjourney and the individual artist (Clause 4).

The result is that even if the prompts and the artworks are copyrightable and are registered, these terms of use agreements between AI artists and the generator platforms rebut the presumption of the creators' ownership in the artwork and greatly limit the artists' future liberty

in using and creative derivative works based on the previous works they created. This is especially so when these terms of use agreements are not contracts carefully negotiated and signed at arm-length, but rather bind the artists somewhat unintentionally, such as when they continue to use the generation service [with](#) or [without](#) being presented with the actual term of use agreement. Artists interested in tapping into these areas should therefore be alert regarding their rights before inputting any prompts to these models, or better yet, train and use their own AI models to completely eliminate this issue.

6. Conclusion

Text-to-image models like those we discussed are at the forefront of AI technology and development, with the [first model](#) being introduced only recently in 2015 by a group of researchers at the University of Toronto, and commercial models like [DALL-E](#) being launched only in 2021. Whilst AI-related art creation is still at its infancy, its unique circumstances add significant uncertainties to the copyright analysis of an art piece and its prompt. Its actual rights conferred on artists, if any, might also be limited by the commercial reality that the owner of these models are keen to become either the owner or an irrevocable licensee of these artworks.

So far there are still limited domestic case law, or foreign precedents ruling on these disputes from which to take reference, and we are still awaiting the first pioneer to bring this matter to the Canadian courts to seek further judicial explanation. Perhaps when this market grows bigger, we could then better understand how this technology works behind the model and hence solve the puzzles above.