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# AI, IP & Art: where do we stand

What is art? What is artistic expression? Can machines express art as humans can and how should society value and protect machine generated art? These questions are not new. However, the explosion of generative AI systems into the public consciousness over the last year has pushed these questions to the fore. In this article, partner Peter Dalton and managing associate Joshua Cunnington consider how the technology interfaces with intellectual property laws, in particular whether artists can protect their AI works through copyright and whether the systems carry inherent infringement risks for their creators and users.

## The state of the (AI) art

The concept of using statistics and rules to generate images is not new; as early as the 1970s the AARON system utilised a rule-based approach to generate images which were, while basic, described as art. In recent years there has been an explosion of innovation in AI, and a combination of significant advancements in hardware processing power, the AI techniques used, and the availability of extremely large datasets has led to AI image creation becoming vastly more powerful and innovative, and widely available to the public at large. Generative AI systems such as Midjourney, Stable Diffusion or DALL-E are capable of producing detailed images based on simple text prompts and can be accessed with ease from almost any internet connected device using web-based interfaces. Whilst the output of these tools can be erratic, recent examples have highlighted the creative possibilities of harnessing AI. In 2016, a collaboration between ad agency J. Walter Thompson Amsterdam, ING Bank and Microsoft used AI to analyse all 346 of Rembrandt van Rijn's paintings and 3D print *The Next Rembrandt*, a physical painting which imitates the Dutch Master's style down to the brushstrokes and layers of paint. More recently, a photograph titled *The Electrician* won an award at the Sony World Photography Awards before the apparent creator of the image, Boris Eldagsen, rejected the award and revealed that the image was created using AI.



*The Next Rembrandt – J Walter Thompson Amsterdam, ING Bank, Microsoft and others*



*The Electrician - Boris Eldagsen*

## The issues with AI image generation

The generation of images with no or very little human input (other than the training of the systems to begin with) raises big questions which been in discussion, largely on the periphery of the art world, for decades. If there is no human expressing the work, is there an artist? Is it the human prompter, or can the machine be an artist even though it is incapable of understanding its outputs in the human sense of the word? Is this even art? Esoteric these questions may be, they go to the core of the first question we discuss in this article, namely whether images generated by AI systems are protected under the existing copyright regimes. We then go on to discuss whether the training of AI systems and the creation of images by these systems might constitute copyright infringement. Given the rapid development of publicly accessible AI systems in recent years, the answers to these questions are not clear cut and there are differing approaches between jurisdictions, in particular between the UK, EU and US.

## How do generative AI systems work?

Before exploring the legal questions around copyright ownership and infringement in AI image generation, it is helpful to explore how AI systems generate images. AI images and art works are typically created using generative AI systems trained on huge pre-existing data sets, which were created by 'scraping' huge volumes of data from publicly available sources on the internet. Once trained, generative AI systems use generative algorithms and deep learning techniques to produce new images autonomously, based on machine learning points and statistical weights developed during the training process. These systems are not, therefore, intelligent in the human sense and are incapable of experiencing or expressing human feelings or emotions; they have been described as "stochastic parrots" by one former Google researcher.

As we have explained, AI art is not new and has been in development since at least the 1970s. More recently, we have seen the design and creation of generative adversarial networks (or GANS), which use a generator to create new images and a discriminator to help decide which images are 'successful' or not. Current models, such as those used for Stable Diffusion and DALL-E, are 'diffusion' based. This involves training the AI system on huge databases of existing works, with the system then adding 'noise' to the images, which the system then learns how to remove, or 'de-noise', to recreate to the original image. Once the AI system has been trained over millions of iterations, it is then able to create new images by applying the 'de-noising' technique in accordance with text prompts.

As noted above, generative AI systems need to be trained on vast data sets, with most of the best-known AI image systems using data from the Large-scale Artificial Intelligence Open Network ("**LAION**"). LAION is a non-profit organisation that provides multiple data sets for use with AI, notably including the LAION-5B image data set which includes data from over 5.85 billion images scraped from the internet.

## Copyright protection for AI artworks

Without copyright protection, artworks do not benefit from any protection against being copied. The consequence of this is that it becomes almost impossible for artists, especially those who produce prints of their works, to control supply and therefore the value of their works. Of course, original paintings and signed limited edition prints will hold value in and of themselves, but the question becomes more difficult when we enter the realm of digital works. If the art work is a digital image generated by an AI system, it is difficult to see how the art work can attract value without copyright protection.

Divergent approaches to whether AI generated images can benefit from copyright protection have recently emerged from the UK, EU and US.

The UK is something of an outlier in this regard, as the Copyright, Designs and Patents Act 1988 (CDPA) specifically provides for the protection of computer-generated artistic works (defined as artistic works generated "*in circumstances such that there is no human author*"[1]). The author of the work is deemed to be "*the person by whom the arrangements necessary for the creation of the work are undertaken*"[2]. Computer-generated artistic works are given a 50 year term of copyright under the CDPA, distinguishing them from works created by a human author for which copyright subsists for the life of the author plus 70 years. The reason this specific computer-generated copyright exists can be traced back to the UK government's extensive AI development programmes of the 1970s and 1980s. At the time, there was significant interest and belief in AI and records of parliamentary debates over the CDPA in the 1980s highlight the belief at the time that AI works needed protection to allow the AI industry to flourish. Whilst there may have been a comparatively fallow period between the introduction of the law and now, the statute has suddenly gained much greater importance with the rise of generative AI systems. That said, it remains to be seen how the UK courts will approach the issue of copyright in AI generated images because of the different way in which EU copyright law – which has influenced UK case law over the last few decades, especially as regards to the test for originality – approaches the issue.

Under EU law, a key factor for whether copyright subsists is whether the work represents the author's "own intellectual creation", which is the test applied under EU law to determine whether a work is original, and which to some extent has been applied by the UK courts alongside (with a degree of tension) the more liberal test simply requiring some element of labour, skill or effort. The "intellectual creation" test derives

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[1] Section 178 Copyright, Designs and Patents Act 1988

[2] Section 9(3) Copyright, Designs and Patents Act 1988

from a case[3] involving photographs, which held that portrait photographs would only attract copyright protection if creative choices, such as those in the setup, shooting and development of the photo could be demonstrated. Likewise, a recent EU Commission paper on AI generated works notes that AI images may be protected by copyright if they are the result of human creative choices "*expressed*" in the output. Such expression, however, can include the selection and arrangement of generated works, meaning that the potential for protection under the EU framework remains; how this will be applied in practice remains to be seen.

Meanwhile, the US takes the strictest approach, with copyright only subsisting in works created with an element of "*human authorship*". The US Copyright Office recently clarified the meaning of "*human authorship*" in the context of AI image generation noting that, generally speaking, only the "*human authored characteristics*" are capable of copyright protection and that copyright could not protect elements where there is insufficient human creative control. It is therefore unlikely that US law will allow protection of AI art works and that only elements added in the traditional sense by humans will be capable of protection.

The upshot of these diverging approaches means that whilst it is likely that AI works will be protected in the UK and, to some extent the EU, a much more stringent test will be applied in the US meaning that no – or extremely limited – protection will be granted.

## Does the training of AI systems or generation of images infringe copyright?

Under UK law, AI art presents two main potential infringement risks: (i) the gathering and using of training data; and (ii) when generating images.

Firstly, the 'scraping' and use for commercial purposes of data from the internet can constitute copyright infringement under the CDPA. Whilst the EU has introduced a general 'text and data mining' exemption to copyright infringement, the UK has recently decided against such an approach. The copyright infringement risks posed to generative AI art platforms are therefore significant in the UK.

Secondly, the generation of images and their subsequent use could also constitute infringement, thereby creating liability for the artist using the system to generate an image. The risk here is that the platform will create an image which is substantially similar to a pre-existing copyright work. Notably, the main platforms exclude liability for copyright infringement in outputted works and instead place that liability on the user.

These risks are not just theoretical: both are the subject of a recent UK and US claims brought by Getty Images against Stability AI, the company behind the Stable Diffusion platform. Getty claims that both the training and generation of images using the platform infringes its copyright, pointing to Getty Images watermarks reproduced in Stable Diffusion images. It is not an exaggeration to suggest that the cases pose an existential risk to the whole generative AI art ecosystem. Putting the damages to one side (Getty seeks a huge US$1.8 trillion), in the absence of an exception to copyright infringement or a licence, the training and potentially the use of these platforms is simply unlawful. Cases in the US are likely to centre on whether the "fair use" copyright defence under US law applies to the training of AI systems (a defence not available in the UK to the same extent), however recent caselaw from the US Supreme Court has made many commentators less positive about the prospects of fair use saving AI systems from copyright infringement claims.[4]

## Looking forward

Despite the risks noted above, generative AI is set to have a huge impact on the commercial art world. Over time this impact is likely expand beyond digital media to all artistic mediums if AI systems are applied in a similar manner as in the Next Rembrandt project. That project shows that it is already possible for an entirely new physical work to be produced by a machine based on the style of a long-dead artist.

Unless governments enact copyright exceptions for AI training purposes, it is likely that AI operators will have to obtain licences to data to have sufficient data sets for training. This could be a positive for the art world and could create new revenue streams for artists and galleries, who could look to obtain fees to license images to the AI systems. Moreover, it is possible that we will see artists licensing their 'style' for the production of AI works, in a similar fashion to the way in which some artists rely heavily on assistants and workshops now. Because of this we may also see developments in copyright and under the law of passing off to help protect artists' styles (rather than individual works), the nature and scope of which can be very difficult to define.

From a technical perspective, there has already been a rise of 'opt-out' mechanisms that theoretically allow companies and individuals to opt-out from allowing their data to be scraped for AI training, and these mechanisms are likely to become more prevalent with the increase in use of AI. However, AI operators have warned of the technical difficulties of implementing such schemes. Similarly, it is likely that web-based anti-copyright infringement tools will be introduced, which could be licensed to websites for a small fee to protect against unauthorised data scraping.

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[3] *Eva-Maria Painer v Standard VerlagsGmbH and others* (C-145/10)

[4] Andy Warhol Foundation for the Visual Arts, Inc., Petitioner v. Lynn Goldsmith, et al., 598 U.S. (2023)

It is also possible that new legislation will be introduced to enable generative AI systems to operate within a more regulated environment, offering protection to consumers whilst also enabling AI systems to lawfully access more data than they might otherwise be able to. Licensing structures, such as collecting agencies seen in the music industry, could be a solution, although to date government interest in these has been limited.

What is certain is that the rise of generative AI systems brings both opportunities and uncertainties for the art and legal worlds. Striking the balance between effective copyright enforcement, to protect artists' rights, and allowing AI systems sufficient access to data, to be able to function as a useful tool, will be key to the effective, positive and lawful development of AI systems for use in the art world.

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