A Study of Copyright Issues in Artificial Intelligence text-generated images--The case of "Spring Breeze Sends Tenderness" as an entry point

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Abstract. The continuous advancement of artificial intelligence technology has triggered many controversies. In the field of AI text-generated images, the current controversy focuses on the issue of copyrightability and attribution of rights. This paper takes the case of "Spring Breeze Sends Tenderness" as an entry point, and concludes that when the user has made certain influence and personalized choices on the final output of the image, and the user has made substantial contributions in the process of generating the image, it can be considered that the relevant AI text-generated image constitutes a work in the sense of the copyright law, and its rights are attributed to the user.

Keywords: AI text-generated image; copyrightability; rights attribution.

1. Introduction

With the rapid development of artificial intelligence technology, artificial intelligence generators in various fields have gradually come into the public's life. Among them, AI literatus has become familiar to the public due to its relatively convenient operation and the existence of free open source software open to the public. In the general field, a variety of AI Venn diagrams are commonly found on the Internet. In the commercial field, many companies have used AI Venn diagrams in their pay-to-play games. In the field of art, AI Venn diagrams are also gaining recognition. In the year 2019, the artist Mario Klingemann alone organized 11 exhibitions related to AI Venn diagrams. The technology of AI sketchbook is gradually maturing, leading a new round of development of the industry, but at the same time, the problems arising from the copyright protection of AI sketchbook are becoming more and more prominent, and the development of the technology has put forward a new question to the existing copyright system, whether AI sketchbook constitutes a work protected under the copyright law, and if it does, how to determine the attribution of its copyright. In this paper, we will take the case of "Spring Breeze Sends Tenderness" as an entry point to analyze the copyright issue of AI Bunsenmu.

2. Controversy over Artificial Intelligence text-generated image

With the rapid development of artificial intelligence technology, its application, as a key driving force for scientific and technological progress and economic development, has attracted extensive attention and focus from countries around the world. However, the ensuing controversy is over the copyrightability and attribution of rights to AI textual drawings, i.e., whether AI textual drawings constitute a work in the sense of copyright law and, if so, to whom their rights should be attributed. On the one hand, under the current system of copyright law, the object of copyright protection is intellectual expression with originality. However, the process of generating AI Bunsen burners involves the operation of AI algorithms and the processing of data, and it is still controversial as to whether the images generated by them satisfy the requirement of originality in the sense of copyright law. On the other hand, since the process of generating AI text-generated images involves the interests and contributions of multiple parties, including the designers and developers of the AI model and the users of the AI program, there is a greater controversy over the attribution of copyright to the AI text-generated images. Therefore, the resolution of these two controversial issues is of great significance.
in promoting the rational operation of AI Venn diagrams in the market economy and protecting the legitimate rights and interests of all parties, and has become the focus of heated discussions among the public and academics, and is urgently in need of a clear and definitive conclusion.

Take the case of Li Moumou v. Liu Moumou Infringement of the Right of Attribution and the Right of Information Network Dissemination of Works (hereinafter referred to as the "Spring Breeze Delivers Tenderness Case") as an example, the plaintiff, Li Moumou, utilized the open source AI text-generated image software Stable Diffusion to generate the image in question and posted it on the Xiaohongshu platform under the name of "Spring Breeze Delivers Tenderness". Spring Breeze Delivered Tenderness" and published it on the platform of Xiaohongshu. Defendant Liu Moumou, without the Plaintiff's permission, used the image in question, with the watermark of the author of Xiaohongshu truncated, as an illustration for his original poem "Love in March, in Peach Blossoms", and published it on Baike's platform. The Plaintiff claimed that the Defendant had violated its right to authorship and right to disseminate information network. If the plaintiff enjoys the copyright of the image in question, the plaintiff's claim can be established. Therefore, the focus of the case was whether the images generated by artificial intelligence constituted a work, and whether the Plaintiff, as the user of the artificial intelligence program, enjoyed the copyright of the images.

3. Specific determinations of copyrightability and attribution of rights in artificially intelligent text-generated images

The case of "Spring Breeze Sends Tenderness", as the first domestic artificial intelligence literatus infringement case, provides an important path of reflection for solving similar disputes, and is worthy of reference and in-depth analysis, so as to better cope with the legal and ethical challenges brought about by the rapid development of artificial intelligence technology.

3.1 Specific Determination of Copyrightability of Artificial Intelligence text-generated images

Article 3 of the Copyright Law of the People's Republic of China (hereinafter referred to as the Copyright Law) stipulates that: "The works referred to in this Law refer to intellectual achievements in the fields of literature, art and science that are original and can be expressed in a certain form." From this, it can be seen that when judging whether the AI Wensheng diagram constitutes a work, the following elements need to be considered: whether it belongs to the field of literature, art and science; whether it is original; whether it has a certain form of expression; and whether it is an intellectual achievement. In this case, the image in question is firstly a "image", and its form meets the first and third elements. Therefore, the focus of the case was on whether the image in question was original and whether it was an intellectual product.

3.1.1 The images in question constitute intellectual work

To judge the intellectual achievement element is to judge whether the relevant content reflects the intellectual input of a natural person. Specifically in this case, the analysis is to determine whether the Stable Diffusion model fully covers the intellectual input of the plaintiff, so that the plaintiff's intellectual input cannot be recognized.

From the perspective of the artificial intelligence creation model, the working principle of the Stable Diffusion model is to generate corresponding brand-new images according to the textual descriptions inputted by human beings, which can be analogized as a tool that replaces human beings in outlining the lines and filling in the colors, and materializes the creativity and ideas of human beings, and therefore will not cover the Plaintiff's intellectual input. Specifically, the Stable Diffusion model generates images not by outputting ready-made images from a search engine, nor by arranging and combining them according to various elements or templates predetermined by the software designer, but by training on a large database of images and their corresponding textual descriptions on the Internet to "learn" and "summarize" them. Rather, by training on a large database of images and their corresponding text descriptions on the Internet, it "learns" and "summarizes" the
correspondence between the semantic information contained in the text and the pixels contained in the image, and then generates a brand new image based on the text information input by the user. As we can see, the output of the final image depends on the textual information input by the user, which is a reflection of the user's intellectual input.

Analyzing from the perspective of the user of the artificial intelligence model, from the beginning of the Plaintiff's conception of the image in question to the end of the final selection of the image in question, the Plaintiff has made a certain amount of intellectual input[1], which should be recognized. Specifically, first of all, the plaintiff in the Stable Diffusion model input prompt words, such as "ultra-realistic photo", "Japanese idol", "fantastic black eyes, reddish-brown braids", "cool pose, looking at the camera," "golden hour, dynamic lighting," and so on, respectively, in order to set the type of artwork, the subject of the image, the details of the character's appearance, the character's pose, and the environmental setting. Second, Plaintiff set relevant parameters including sampling method, clarity, and leading coefficient. Finally, Plaintiff tried repeatedly by adding positive cue words and modifying the parameters to generate a total of four images, and finally chose to keep the fourth one. It can be seen that the Plaintiff's choice of cue words, parameter settings, and the selection of the final image were all a reflection of its intellectual input.

In summary, the output of the Stable Diffusion model depends on the cues and parameters entered by Defendant, and Defendant's use of the model to generate the images reflects its intellectual input, so the images in question constitute intellectual work.

3.1.2 The image in question meets the element of originality

The element of originality of a work includes both "originality" and "creativity", which should be argued separately. Only when an intellectual product meets both the elements of "originality" and "creativity" can it be judged to meet the requirement of originality and thus constitute a work protected by copyright law.

The "uniqueness" of the element of originality requires that the work must originate from the author and be created by the author independently. The dispute in this case is whether the image in question was created by man and machine, i.e. whether the artificial intelligence model Stable Diffusion was involved in the creation of the image in question. There are two types of "independent" creation: one is independent creation from scratch, and the other is re-creation based on an existing work, provided that there is an objectively recognizable difference between the new work and the original work.[2] As mentioned above, the Stable Diffusion model works by generating a completely new image based on a textual description entered by a human being, and the output of the final image depends entirely on the textual information entered by the user. It can thus be argued that Plaintiff's act of generating the images in question with the help of the AI model is an independent creation from scratch. Further, even taking into account the large number of "source images" as training data for the AI model, the court held that the image in question "embodies recognizable differences from prior works"[3], which also meets the element of "independent creation". The court found that the images in question "manifested recognizable differences from earlier works", which also met the element of "uniqueness.

The element of originality requires that the work must be the fruit of the author's intellect, reflecting the author's personalized choice. On the one hand, from the perspective of creative space, on the other hand, the image in question does not belong to "mechanical intellectual achievement", and does not deprive the user of creative space. "Mechanical intellectual achievement" refers to the deprivation of the creator's creative space, which ultimately manifests itself as the result of the uniqueness of the expression, such as the transformation of sheet music from five-stringed music to simple music. In contrast, the Stable Diffusion model is capable of outputting completely new images that are not unique according to the user's textual input. First, each time the user uses the Stable Diffusion model, he enters hundreds of cue words, sets more than three parameters, and performs multiple iterations to generate multiple random number seeds. This process already fully represents sufficiently ample room for creativity. Secondly, even if users input exactly the same cue words and
parameters, the generated images are different. This is because the Stable Diffusion model introduces randomness, which is manifested in the random initialization of the model parameters and the random perturbation during the iteration process. It can be assumed that different people will get different results, i.e., the expression is not unique. Therefore, the Stable Diffusion model gives the Plaintiff some room for creativity. On the other hand, the Plaintiff entered hundreds of cues, set and modified the relevant parameters and carried out several iterations in the process of using the AI model to generate the images in question. These behaviors reflect more than enough room for creativity. From the perspective of "the height of creation", whether in the common law system or civil law system, the requirement of creativity in originality is not high, and only requires a minimum level of creativity. Although most of the reverse cue words in this case are directly copied by the plaintiff, but the rest of the cue words and parameter settings and the final image selection has reached the minimum creative requirements.

To summarize, the image in question satisfies both the elements of "unique" and "original", and has originality.

3.2 Specific determination of attribution of rights in AI text-generated images

On the basis of determining that the image in question constitutes a work in the sense of copyright law, the next key step is to determine the issue of attribution of rights to the image in question, i.e., to determine whether the plaintiff enjoys the copyright of the image in question. In this case, the focus of the issue of attribution of rights mainly involves three subjects: the AI model itself, the designer of the AI model, and the Plaintiff, i.e. the user of the AI model.

3.2.1 Artificial intelligence models do not constitute authorship of the images in question

On the one hand, according to Article 11 of the Copyright Law, the natural person who creates a work is the author, and if the work is created by a legal person or an unincorporated organization under the auspices of a legal person or an unincorporated organization on behalf of the will of the legal person or the unincorporated organization and the legal person or the unincorporated organization bears the responsibility for the work, the legal person or the unincorporated organization is considered the author. And the artificial intelligence model is neither a natural person nor a legal person or legal person organization. As a result, the artificial intelligence model cannot be the author in the sense of copyright in China, and naturally does not constitute the author of the image in question.

On the other hand, the core purpose of our copyright law is to stimulate and encourage the creation of literary and artistic works. The image output of the Stable Diffusion model depends on the prompts and parameters inputted by the user, and cannot operate completely independently. Therefore, the Stable Diffusion model is similar to a camera and a smartphone, only an extension of human tools, and does not have free will itself. Given that AI models cannot be motivated per se. It would be inconsistent with the core legislative purpose of our copyright law to consider the AI model as the author of the images it generates.

3.2.2 The designer of the AI model in question does not constitute the author of the image in question

"The designer of the AI model in question had neither the will to create the images in question nor the pre-set subsequent generation of content, and he or she was not involved in the process of generating the images in question," and "the intellectual input of the designer is reflected in the design of the AI model, i.e., in the production of the 'authoring tool,' not the images in question."[4] Moreover, the license for the Stable Diffusion software (CreativeML Open RAIL M License) expressly states that except as set forth herein, licensor claims no rights in the output you generate using the model.[5] Therefore, the designer of the AI model in question does not constitute the author of the image in question.
3.2.3 Plaintiffs constitute the authors of the images in question

As mentioned in the previous section, the Stable Diffusion model "learns" the correspondence between the semantic information contained in the text and the pixels contained in the image, and generates a completely new image based on the textual information entered by the user. The Stable Diffusion model is highly dependent on the user, and cannot independently generate images without being given specific textual information. On the other hand, the Plaintiff's actions in the process of generating the images, such as inputting prompts and parameters, were creative and constituted intellectual work; therefore, the images in question constituted the Plaintiff's intellectual work, reflecting his personalized expression, and the Plaintiff had the legitimacy of being the author.

4. Criteria for Determining Copyrightability of Artificial Intelligence text-generated images

Based on the in-depth analysis of the case of "Spring Breeze Sends Tenderness", the following section will explore the general criteria for determining the copyrightability of AI textual drawings with the help of its judgment. As mentioned above, among the four elements that constitute a work, the controversy over the copyrightability of AI text is mainly focused on whether it belongs to intellectual achievements and whether it has originality.

4.1 Artificial Intelligence text-generated image Satisfies Intellectual Outcome Properties

To judge the intellectual achievement element is to judge whether the relevant content reflects the intellectual input of a natural person. In the case of AI text-generated images, what needs to be judged is whether the substantial contribution of the AI model technology itself to generating the images is greater than the substantial contribution of the user, such that the intellectual input of the user is not recognized. For this reason, the following section will discuss in detail both the text-generated image AI model technology itself and the intellectual labor of the user.

From the point of view of artificial intelligence model technology itself, based on the degree of intelligence, artificial intelligence models can be divided into three categories: weak artificial intelligence, strong artificial intelligence and super artificial intelligence,[6] whose manifestations are, in order, technical procedures for performing specific tasks, performing tasks comparable to the intellectual behavior of human beings and having self-awareness, and performing tasks beyond the level of human intelligence.[7] Based on this categorization, the current Venn diagram AI can be divided into two categories. The first type of Venn diagram AI is weak AI, such as "data visualization" AI that generates relevant charts and images based on fixed data. This type of weak graphical AI relies on predefined templates and algorithms. In other words, even if the user inputs different data, the user cannot intervene in the final output image by inputting data because the output image content is always limited by the fixed template. It can be argued that weak text-generated graphic AI deprives users of the space for individual expression and intellectual creation, and the images generated by this type of AI cannot satisfy the attribute of intellectual achievement. The second type of text-generated image AI is in the middle stage between weak AI and strong AI. This type of AI has some learning ability and can perform tasks that require a certain degree of intelligence, but does not yet have self-awareness. In the following, the term "sub-strong AI" is used to refer to this type of Venn diagram AI. Currently, there are two types of AI models: Generative Adversarial Networks (hereinafter referred to as "GAN") and Diffusion Models (hereinafter referred to as "Diffusion Models").

GAN consists of competing generators and discriminators. The generator generates images and the discriminator evaluates these images. By training each other, the generators and discriminators are continuously improved so that the generated images become closer and closer to the real images. In addition, the user can influence the generator by adjusting its parameters, introducing conditional
information, etc., so as to determine the characteristics of the final output image and make it meet specific needs.

And the core idea of the diffusion model is to generate an image by iterative diffusion of noise. In digital images, noise is represented as a change in the color value of each pixel. In other words, the diffusion model learns the correspondence between textual information and pixel information. Eventually, the model can generate the corresponding pixels by the semantic information inputted by the user, and millions of pixels make up the image that conforms to the semantic information.

Although the principles of the above two sub-strong text-generated image AI models are different, they all have the same essential feature, that is, they have the ability to learn. They do not need to generate images with the help of fixed templates or elements for nesting or permutation, and the final output image relies entirely on the internal correspondence between the text information and the image information and the text information input by the user, which they have "learned" through training. However, learning ability should not be confused with free will. The learning ability of AI is ultimately given to it by the underlying code of the designer, and what it learns is only the correspondence between the information and the images, and it cannot generate images independently without instructions. The creation of literate images by humans using AI can be likened to taking a image with a camera. First, the camera records visual information through lenses and light-sensitive materials, while the Venn diagram AI outputs images by processing data through algorithms and models, both of which are capable of transforming the input information into a visual form. Further, neither the camera nor the Venn diagram AI is capable of independent thought and consciousness, and can only be considered as tools. The camera as a tool requires a human operator to decide when to take a image and stop it, and is not capable of setting parameters, adjusting angles, or conceptualizing compositions on its own. Similarly, the Vincennes AI can be viewed as a user's "drawing" tool, which relies on the user's inputs to generate images, and is not capable of deciding on its own the content of the image to be drawn. Since the camera has been widely accepted as a tool, the AI should also be considered as a tool. Therefore, the internal correspondence between machine-learned textual information and image information, as part of the technology of the tool, does not prevent the user's input of textual information from constituting an intellectual product, thus enabling AI text-generated drawings to satisfy the property of intellectual product.

As for the user's perspective, as mentioned above, when using the sub-strong text-generated image AI model, the user needs to specify the attributes of the desired image, including the style, composition, subject, and details of the image by inputting textual information and parameter settings. Users will also perform multiple iterations to optimize the generated image to reflect their aesthetic and personality choices. This process requires intellectual input from the user, by adjusting textual information and parameters to achieve the best results. Taken together, the images generated by Substrong Text Generation AI are the result of the user's intellect.

4.2 Artificial Intelligence text-generated image Complies with Originality Determination

According to the Copyright Law, only external expressions with "originality" can be recognized as works. The element of originality consists of both "originality" and "creativity" and should be argued separately. Only when the relevant content meets the conditions of both "originality" and "creativity" can it be recognized as meeting the element of originality.

4.2.1 Determination of "uniqueness" of originality

The word "uniqueness" refers to "independent creation, originating from oneself", emphasizing that the work cannot be the result of plagiarism.[8] As for the aspect of "originated from oneself", since the AI model must be trained on the basis of a huge amount of image data, the question that arises is whether the AI text-generated image is plagiarized from a large number of works in the database, so it does not meet the element of "originated from oneself". "The answer is also no. This issue needs to be analyzed from the perspective of expressive contact and ideological contact.[9]
Specifically, expressive exposure refers to the fact that the AI model is exposed to a large amount of image data during training and generates works by learning the expressions and features in these image data. Expressive exposure emphasizes the external expression form and style of the images. Ideational exposure means that through the training data, the AI model learns the correspondence between image information and text information. And ideational exposure emphasizes the understanding and transformation of the internal nature of things. This is similar to the human learning process. Before humans can create, they need to observe and think about previous works, and then internalize them to form their own understanding. On this basis, human beings can create new works. If the judgment of plagiarism extends to the level of thought, it is tantamount to curbing the freedom of thought and hindering the innovation and progress of human society, which is contrary to the legislative purpose of the copyright law. Therefore, ideological contact cannot be used as a basis for judging plagiarism. When we only look at expressive contact, as long as there is an objectively recognizable difference between the newly generated image and the previous one, it can be considered that the newly generated image does not constitute plagiarism, and meets the element of "uniqueness" in "originality".

4.2.2 Determination of "creation" of originality

The term "creation" refers to creativity. Specifically, "creation" requires that the work must be the result of intellectual creation, and that the labor results have a certain degree of "intellectual creativity".[10] In terms of the element of intellectual creativity, as mentioned above, when users use the sub-strong text-generated image AI model, they need to specify the attributes of the desired image by inputting textual information and setting parameters. The user will also perform several iterations to optimize the generated image. This process requires intellectual input from the user by adjusting the textual information and parameters to achieve the best results. Therefore, the images generated by SubStrong AI are the result of the user's intellectual creativity.

As far as "intellectual creativity" is concerned, the first thing that needs to be explored is the criteria for creativity. In the common law system, copyright is known as copyright, and the emphasis is on "copy", i.e., reproduction. It can be seen that the copyright law in the common law system emphasizes more on the ownership of the work. According to Locke's theory of labor and property, an individual, through the use of his own labor, can transform the resources of the natural world into property and obtain ownership of the created property. Therefore, the early implementation of the common law system is the principle of "sweat of the forehead", that is, the author through the creation of labor, can obtain copyright. It can be seen that the principle of "sweat of the forehead" only emphasizes "labor" but ignores "originality", which in effect encourages a large number of malicious copying behaviors and harms the interests of creators, thus affecting the creators' motivation and passion for creation. The principle emphasizes only "labor" and ignores "originality", which in effect encourages a lot of malicious copying and harms the interests of creators, thus affecting their motivation and passion for creation, and is not conducive to the innovation and development of the fields of science, art and culture. This principle was formally rejected in the American case of Feist Telephone Directory (Case No.: Feist Publications v. Rural Telephone Service, 499 U.S. 340, 1991). In this case, Feist, a publishing company, claimed that Feist had infringed on its copyright by making unauthorized use of telephone numbers that Rural had spent time collecting, organizing, and publishing. Ultimately, the Supreme Court held that phone numbers in a phone book are factual information that lacks originality and therefore do not meet the criteria for protection under copyright law. As a result, the U.S. courts rejected the "sweat of the forehead" rule in the common law system, clarified the "creativity" element of originality, and limited the standard of creativity to a "minimal degree", i.e., only a minimal degree of creativity is required. In other words, only a minimum degree of creativity is required to satisfy the requirement of "creativity" in originality, which is recognized worldwide.

However, the requirement for originality in the common law system is very low, which is directly reflected in the fact that the common law system has not directly set up the legal concept of neighboring rights. In the civil law system, the object of neighboring rights is some labor results that
do not meet the standard of copyright protection. These fruits of labor in terms of originality does not meet the requirements of traditional copyright protection, but they still have economic and creative value, so need a special protection mechanism, neighboring rights was born. Naturally, the scope of protection of neighboring rights is relatively narrow and the protection is relatively low. The absence of neighboring rights means that, compared with the civil law system, some of the less original labor results in the common law system enjoy the same protection as the more original works. Therefore, it can be argued that the common law system requires less originality than the civil law system. And even in the civil law system, its absolute requirement of originality is not high. Taking Germany as an example, where the standard of originality is considered to be on the high side, in 1993, Germany revised its copyright law and established the theory of “small coin” (kleine Münze), which holds that creativity is only "a little higher than a small coin".[11] In addition, there are also German scholars who argue that too high a requirement of individual creativity is not justified for technical works.[12] (Find the existing German law.) In China, the Supreme People's Court has also pointed out in a relevant judgment: "The Copyright Law protects works with originality, which must meet the conditions of 'independent creation' and 'minimum creativity' at the same time in order to be 'independent' and 'minimally creative. The conditions of both 'independent creation' and 'minimum creativity' must be met before a work can become a work in the sense of the Copyright Law."[13] From this, it can be assumed that countries around the world generally take a lenient attitude towards the requirement of creativity, and that it is sufficient to require that a work possesses a minimum level of creativity.[14]

So, do sub-strong text raw images AI-generated images meet a minimum level of creativity? Subjectively, it is no longer possible for the public to accurately distinguish between human-drawn images and sub-strong Vincennes AI-generated images. In 2017, Ahmed Elgammal, a lab director at Rutgers University, devised a social experiment. He exhibited AI Bunsenkatsu in Frankfurt, Los Angeles, New York, and San Francisco, each time displaying a different image and inviting viewers to answer which ones were created by humans and which ones were generated by AI. The results showed that in 75% of the cases, people mistook the AI Bunsen burners for those created by human artists. In addition, people used the terms "inspiring", "communicative", and "communicative", etc. These AI-literature drawings have been highly evaluated.[15] Objectively speaking, on the one hand, stochasticity is currently introduced in both types of strong Vincentian graph AI, the stochasticity of GAN models is mainly reflected in random weight initialization and random data augmentation. The former refers to the fact that the initial values of the weights are randomized at the beginning of each training, so the model behaves differently in different training iterations. The latter refers to the fact that during the training process, the model will perform random augmentation operations on the training data by itself, such as random cropping, flipping, rotating, etc., which in turn affects the training process of the model and the final output results. The randomness of the diffusion model, on the other hand, is mainly reflected in the selection of the initial noise and the random perturbation in the iterative process. The former refers to the fact that the initial noise vectors are randomly sampled from a certain distribution (e.g., uniform or normal distribution), resulting in different generated images. The latter refers to the fact that in each iteration, the model introduces some degree of random perturbation, such as adding noise, to increase the diversity of the images. As a result, even if the user inputs exactly the same cue words and parameters, the final generated image will be different due to the introduction of randomness. This makes the generated images different from the mechanical intellectual outcomes and non-unique. On the other hand, the textual information and parameters entered by the user each time, including the increase or decrease of textual information and the adjustment of parameters during the iteration, all belong to the user's intellectual judgments and choices, reflecting his aesthetic and personality choices, and his creativity should be affirmed. It should be noted that the user should have at least entered or adjusted the prompts or parameters by himself. In the case of inputting exactly the same prompt words and parameters, even if the randomness of the artificial intelligence model makes the two images have objective differences that can be recognized, but because the differences do not originate from the
user's intellectual work and personalized choice, the generated images cannot be considered as the results of their intellectual work, and do not have creativity. Therefore, on the premise that the user has not copied all of the existing cue words and parameters, it should be considered that the image generated by the Substrong Artificial Intelligence meets the minimum level of creativity and fulfils the requirement of "creation".

5. Justification Arguments for the Attribution of Artificial Intelligence text-generated images to Model Users

As mentioned above, as long as the user is using a sub-strong text-generating AI, has made a substantial contribution and personalized choices in the process of generating images, and there are objectively recognizable differences between the newly generated images and the existing image works, it can be assumed that the newly generated images constitute a work within the meaning of the copyright law. The next issue to be discussed is the attribution of rights. The focus of the attribution issue involves three main objects: the AI model itself, the designer of the AI model, and the user of the AI model.

First of all, the designer of the AI model should not be regarded as the subject of the right to the AI text-generated image. On the one hand, the designer has neither the intention to create the image nor is directly involved in the process of generating the image by, for example, inputting cue words, and does not materially contribute to the generation of the final image. The designer created the artificial intelligence modeling software, not the images it generated. On the other hand, the AI itself, when it meets the specific protection conditions, usually already enjoys the corresponding intellectual property rights by its designer. If the copyright of the content generated by the AI is then given to the designer, there is a suspicion of double rights protection and over incentivization.[16] In this way, the issue of attributing rights to AI-generated images focuses on the AI model itself and the user.

5.1 Artificial intelligence does not have the status of a legal subject

On the issue of the legal subject status of artificial intelligence, there are divergent views in the academic community. Some scholars believe that if the artificial intelligence can generate brand-new content based on the information input by the user, and can also generate different results when the same prompt words are inputted, it indicates that the artificial intelligence model has the ability of autonomous content generation, and cannot be treated as a tool, but should be given the status of legal subject.[17] However, the current strong text-generating artificial intelligence can not input information on its own, and its final output images can not be separated from the intellectual labor of people, so it can not simply think that it has the ability of autonomous content generation. In addition, some scholars have also suggested borrowing the idea of work in office, and anthropomorphizing the AI without subjective consciousness into a nominal author.[18] However, since the artificial intelligence itself does not have civil rights and behavioral capacity, it cannot independently undertake civil obligations and legal liabilities, and therefore cannot be given the status of civil subject. The author believes that, for the current strong textual artificial intelligence, should not be given the status of legal subject, is only the artificial intelligence user creation "tool".

From a legal point of view, article 11, paragraph 1, of China's Copyright Law stipulates: "Copyright belongs to the author, unless otherwise provided for in this Law." With regard to "authors", Article 11 of China's Copyright Law stipulates: "A natural person who creates a work is the author. If a work is created under the auspices of a legal person or an unincorporated organization, on behalf of the will of the legal person or the unincorporated organization, and the legal person or the unincorporated organization assumes responsibility for the work, the legal person or the unincorporated organization is regarded as the author." It can be seen that the author is limited to natural persons, legal persons or unincorporated organizations. On the one hand, artificial intelligence does not belong to natural persons. On the other hand, because at this stage, artificial intelligence
does not yet have independent will, and cannot become a civil subject similar to the legal person system. Therefore, China's current laws do not support the legal subject status of artificial intelligence.

From a jurisprudential point of view, on the one hand, legal relations are relations between human beings. The object of regulation of law is human beings, because only human beings have rational and moral capacities. Therefore, the subject of legal relations, i.e. the subject of rights, can only be human. Under the premise that the subject and object of private rights cannot be converted, artificial intelligence, as a creation of human beings, essentially belongs to the object of rights and the object of domination of rights, and cannot have the status of legal subject. On the other hand, the civil law system of copyright legislation is deeply influenced by the "personality theory", which will be regarded as an extension of the author's personality. As Kant said, works are the reflection of personality, works are essentially the author's will.[19] It can be argued that the civil law system emphasizes that the author's personality and will must be reflected in the work. For the sub-strong text-generating artificial intelligence that currently does not have an independent will, the images it generates naturally cannot reflect its personality and will. In other words, on the basis of recognizing that the images it generates constitute a work, the Vincennes AI cannot be regarded as an author. Further, Kant put forward the philosophical proposition of "man is the end", emphasizing that things are only means and man is the end. Therefore, artificial intelligence, as a human creation, can only be regarded as the means and tools of human beings, should not be given its legal subject qualification.

The notion that AI does not have the status of a legal subject has also gained some international acceptance. In the civil law system, Article 7 of the German Copyright Law declares that "the creator of a work is the author."[20] It can be seen that the German copyright law clearly stipulates that the object of its protection is a natural person. In the common law system, the U.S. Copyright Office provides that it will refuse to register a work if it determines that it was not created by a human being.[21]

5.2 Artificial intelligence models cannot be motivated

From the point of view of the purpose of the legislation, the copyright law, by granting certain exclusive rights to authors, provides them with reasonable financial rewards and legal protection, which in turn encourages authors to be more creative and thus promotes the development of the fields of culture, art and science. In order to achieve the effect of copyright law in stimulating creativity, the key lies in the fact that the targets of the incentives set by the legislation must be able to understand and utilize these incentives. At present, the core of artificial intelligence lies in computer programs, algorithms, models and databases, etc., and its essence is still based on models, algorithms set output corresponding content, and does not yet have an independent subject consciousness, so that the incentive mechanism of the copyright law can not play a role. Therefore, artificial intelligence itself cannot be incentivized by copyright law. If it is given the status of legal subject, it is contrary to the legislative purpose of copyright law.

5.3 The user's individualized choice satisfies the finding of originality

As mentioned earlier, Strong Text Generation AI introduces a randomized algorithm, so that even if the user inputs the same cue words and parameters, the final output will be different, and thus the output image is non-unique. However, this also raises questions. Some scholars believe that even if the user has made intellectual inputs in the process of image generation to satisfy the determination of originality, but since the user cannot completely and precisely control the final generated image, the artificial intelligence is also partially involved in the creative process, and the relevant rights cannot be fully attributed to the user. In the author's view, on the one hand, as mentioned above, the artificial intelligence itself cannot enjoy the relevant rights as a legal subject. On the other hand, even if the generated images cannot be predicted with complete accuracy, they are still limited by the range of parameters set by the user. In other words, even if the AI is considered to be involved in the creation, it only introduces randomness within the user's personalized choices. For example, in the case of "Spring Breeze Sends Tenderness", the plaintiff entered the prompts "Japanese idol" and "reddish-
brown braid” without specifying the hairstyle. As a result, the character's braid in the resulting image could be a ponytail or a twisted braid. In any event, the image generated by the Stable Diffusion model must be of an Asian person with reddish-brown dreadlocks, which reflects Plaintiff's personalized choice. It can be seen that the artificial intelligence model did not have an impact on the user's personalized choice, and its final output of the image can still reflect the user's aesthetics and personality, satisfying the determination of originality. Because the artificial intelligence does not have the status of legal subjects, in the artificial intelligence text can reflect the user's personalized choice and judgment, constituting a work of art, the resulting copyright can be attributed to the user of the artificial intelligence model.

6. Summary

At this stage, artificial intelligence technology is at the stage of sub-strong artificial intelligence, which does not yet have autonomous consciousness and can only be regarded as a tool. When the following two major elements are met, the AI text-generated image can constitute a work, and the rights should be attributed to the AI user. First, the user of the final output of the image to make a certain impact and personalized choice, that is, constitute the originality of the creation and intellectual property; Second, the user did not copy all the existing cue words and parameters, in the process of generating the image to make a substantial contribution, that is, constitute the originality of the unique elements. Of course, the copyrightability of the artificial intelligence graphic and the attribution of rights is extremely complex, at present, there are fewer relevant judicial cases in China, and there is still controversy in the academic community. In judicial practice, the use of elements should be adjusted and innovated by taking into account various factors such as AI technology, law, ethics and social interests, so as to adapt to the continuous development of AI technology, maintain judicial justice and promote the sustainable development of society.

References

[1] See Beijing Internet Court (2023) Beijing 0491 Minchu 11279
[3] See Beijing Internet Court (2023) Beijing 0491 Minchu 11279
[4] See Beijing Internet Court (2023) Beijing 0491 Minchu 11279


