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The Copyright Protection Issue of Artificial Intelligence-Generated Creations: A Dialectical Analysis of Law and Practice

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Abstract: This article discusses the issue of the nature of works generated by artificial intelligence similar to ChatGPT and the protection of copyright laws. The author first analyzes the content of artificial intelligence generated products or the provisions on the nature of works in major national laws. This article further analyzes the legal practices of various countries in the qualitative analysis of artificial intelligence generated works based on cases of artificial intelligence copyright in different countries. We explored two theoretical perspectives regarding the copyrightability of two types of artificial intelligence-generated works. The first perspective emphasizes the absence of unique individuality in artificial intelligence creations and highlights the discord between the objectives of copyright law and the essence of artificial intelligence-generated works. In contrast, we delved into supportive viewpoints that underscore the potential legal basis for copyright in machine-generated works, the originality introduced by artificial intelligence, and the involvement of humans in the creative process. As the artificial intelligence industry matures, it underscores the necessity for effective legislative actions to fortify the existing legal framework, adapting it to the ever-evolving domain of AI-driven creativity. This approach is pivotal for fostering innovation while concurrently safeguarding the legitimate rights and interests of artificial intelligence creators and users.

Keywords: copyright, artificial intelligence

1. Introduction

In today's era of rapid development of digitalisation and artificial intelligence, AI technologies are profoundly changing our social and cultural life. Among them, ChatGPT, a representative technology in the field of natural language processing, has attracted widespread attention for its excellent performance in text generation and dialogue interaction. However, the emergence of this groundbreaking technology has also ignited fresh challenges within the domain of copyright protection. Striking a balance between AI-driven creation and traditional copyright, safeguarding the rights of creators, and fostering technological innovation are all crucial areas warranting in-depth research.

Nowadays, the copyright laws of countries around the world are based on traditional works, and there are no detailed provisions for AI generated works. Consequently, a pivotal question arises: Does

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content generated by artificial intelligence qualify as copyrighted material, and can it be protected under existing copyright laws? This inquiry lies at the heart of contemporary copyright jurisprudence, where the intersection of AI and intellectual property rights presents both complexities and opportunities. Addressing this question will not only enhance our understanding of the evolving copyright landscape but also facilitate the refinement of copyright protection mechanisms.

This paper seeks to shed light on this pertinent issue by examining pertinent judicial cases and established legal frameworks pertaining to AI-generated works across various jurisdictions, ultimately contributing to the discourse on the subject. It begins by examining existing legal provisions related to AI creations in China, the United States, and the European Union. The subsequent section explores key judicial practices and cases, including those such as the Tencent vs. Dreamwriter case and the Express Newspaper v. Liverpool Daily Post case, which shed light on the qualification of AI-generated content. Following this, the paper presents various viewpoints, including opposing perspectives questioning AI's creative capacity, supportive arguments for AI's independent creative potential, and a nuanced approach that emphasizes both attribution and user rights. In conclusion, this paper contributes to the ongoing discourse on AI and copyright by providing insights into the evolving landscape of AI-generated works within the context of intellectual property rights.

2. Existing Legal Regulations Concerning Artificial Intelligence Creations

2.1. China

2.1.1. Definition and Requirements of "Copyright Law"

In China, the Copyright Law of the People's Republic of China, in Article 3, explicitly defines works. It specifies that works mentioned in this law encompass original intellectual achievements in literature, art, and science, which can be expressed in a tangible form. Chinese law, therefore, distinctly delineates works based on their scope and originality.

2.1.2. Regulations on Creation in "Copyright Law Implementation Regulations"

Additional insight into the notion of creation is available in Article 3 of the Regulations for the Implementation of China's Copyright Law. This provision explains that creation, as defined in the Copyright Law, involves intellectual endeavors that directly result in literary, artistic, and scientific works. It explicitly states that activities such as organizing work on behalf of others, providing advice or material support, or performing auxiliary tasks do not qualify as creation. This provision underscores the essential point that the origination of a work is a result of direct human involvement and that indirect contributions do not constitute elements of originality within a work.

2.2. United States

2.2.1. Copyright Law Provisions in U.S. Copyright Law

U.S. copyright law does not treat all works uniformly; rather, it categorizes and defines various types of works. In the context of AI-generated works, U.S. copyright law addresses "works made for hire." A "work made for hire" encompasses a work created by an employee within their employment scope or a work specially commissioned for specific purposes. These purposes may include contributions to collective works, elements of motion pictures or other audiovisual works, translations, supplementary works, compilations, instructional texts, tests, answer materials for tests, or atlases. Importantly, whether a work qualifies as a "work made for hire" depends on a written agreement signed by both parties, explicitly confirming the work's classification as such.

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2.2.2. Impact of the Fair Use Doctrine on Artificial Intelligence Creations

The Fair Use Doctrine is a pivotal aspect of U.S. copyright law that significantly influences the realm of artificial intelligence creations. The Fair Use Doctrine provides flexibility for utilizing copyrighted material without requiring permission from or payment to the copyright holder, given specific conditions. Applying the Fair Use Doctrine to AI-generated works prompts important inquiries regarding the degree to which AI-generated content qualifies as fair use and the resulting consequences for copyright protection. This aspect of U.S. copyright law plays a crucial role in shaping the boundaries and constraints of AI-generated content within the legal framework.

2.3. European Union (EU)

2.3.1. EU Copyright Law and Definitions of Works

Within the European Union, copyright law is characterized by a harmonized legal framework that seeks to address the digital age's evolving challenges. The definition of works under EU copyright law is a fundamental aspect that shapes the protection of intellectual property. EU copyright law recognizes works as intellectual creations, regardless of their specific form or expression, provided they are original. This inclusive definition underscores the EU's commitment to accommodating various forms of creative expression, including those generated by artificial intelligence systems.

The EU's copyright framework also emphasizes the importance of originality and creativity as essential prerequisites for work qualification. The EU Copyright Directive and associated rules offer instructions concerning the extent of copyright protection, with the objective of finding an equilibrium between creators' rights and societal interests.

2.3.2. Impact of the Digital Single Market Strategy on Artificial Intelligence Creations

The European Union's Digital Single Market Strategy, an ambitious initiative aimed at unifying the digital landscape within the EU, plays a pivotal role in shaping the environment for artificial intelligence creations. This comprehensive strategy encompasses various facets of the digital economy, including the digitalization of copyrighted works.

The strategy's influence on AI-generated content is multifaceted. It seeks to harmonize copyright rules across EU member states, facilitate cross-border access to content, and encourage the development of innovative technologies, including artificial intelligence. As such, the Digital Single Market Strategy's impact on AI creations encompasses issues related to copyright protection, licensing, and the broader digital ecosystem.

3. Qualification of Artificial Intelligence Creations in Judicial Practice

The examination of how artificial intelligence creations are qualified within the legal sphere is a vital aspect of understanding the evolving landscape of intellectual property. This section delves into specific cases that provide valuable insights into the determination of whether AI-generated content qualifies as copyrighted works.

3.1. China: Analysis of the Tencent vs. Dreamwriter Case

3.1.1. Case Background and Points of Contention

Dreamwriter, an intelligent writing assistance system, relies on data and algorithms and was developed by Tencent Technology (Beijing) Co., Ltd, an affiliate of the Plaintiff. This system has received computer software copyrights from the National Copyright Administration of the People's

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Republic of China. The Plaintiff, Shanghai Yingxun Technology Co., holds a license for this "Dreamwriter" software. On August 20, 2018, the Plaintiff published a financial report article on the Tencent Securities website (referred to as the "article in question"). This article was produced with the assistance of the Dreamwriter intelligent writing tool by the creative team at Yingxun Technology Company. The Plaintiff included a statement at the end of the article, indicating that it was "automatically written by the Tencent robot Dreamwriter," thereby expressing that the article was a product of the Plaintiff's intent. On the same day, the defendant, without the Plaintiff's consent, copied and disseminated the Plaintiff's article on the "home loan" website over the information network. The infringing article duplicated the content of the Plaintiff's copyrighted work, consequently infringing on the Plaintiff's network dissemination rights. The central dispute in this case revolved around the classification of the article in question as a literary work.

3.1.2. Basis of Qualification and Court Ruling

In this case, the court conducted a thorough evaluation of the AI-generated article, considering both its creativity and the process of its creation.

With respect to creativity, the court determined that the news report generated by Dreamwriter met the formal criteria of a written work, both in terms of its presentation and its content. The article demonstrated the selection, analysis, and interpretation of pertinent stock market data from the morning of the day in question. It was logically structured and expressed in a clear and coherent manner, exhibiting a certain degree of originality.

Examining the generation process, the court identified four key stages in the creation of the article: data service, triggering and writing, intelligent calibration, and intelligent distribution. Throughout these stages, the input of data types, data format processing, trigger condition settings, selection of article templates, corpus configuration, and training of the intelligent checking algorithm model were all orchestrated by the creative team. The automatic operation of the Dreamwriter software did not occur spontaneously or independently but rather reflected the deliberate choices made by the Plaintiff's team. The article's expression was shaped by the personalized decisions and selections made by the creative team, resulting in a product that, while not entirely unique, possessed a certain level of originality.

Consequently, the court ruled in favor of the Plaintiff, affirming their copyright claim on the work in question.

3.1.3. Implications of the Ruling for Subsequent Similar Cases

The ruling in the Tencent vs. Dreamwriter case has substantial implications for future cases involving AI-generated content. It sets a precedent by affirming that AI-generated works can indeed qualify as copyrighted material. This landmark decision provides valuable guidance for legal practitioners, creators, and stakeholders in navigating the complex intersection of artificial intelligence and copyright law. It highlights the importance of examining the creative input and decision-making processes of human agents in the generation of AI content, reinforcing the principle that originality remains a key factor in copyright qualification, even in the era of artificial intelligence. The implications extend beyond this specific case, shedding light on the evolving nature of copyright protection in the digital age.

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3.2. United Kingdom: Express Newspaper v. Liverpool Daily Post

3.2.1. Case Background and Points of Contention

The case of Express Newspapers v. Liverpool Daily Post [1], often cited in discussions of copyright and computer-generated works, offered valuable insights into the attribution of authorship and copyright protection for digitally generated content. In this notable case, the plaintiffs, Express Newspapers, conducted a promotional campaign known as the "Millionaire Weekly". As part of this campaign, they disseminated cards to their readers, each bearing a five-letter sequence. The purpose of these sequences was to be matched against the winning sequences issued by the Express group newspapers.

The critical issue arose when Liverpool Daily Post, representing one of the four defendants, reproduced the winning sequences without authorization in their own newspapers. Express Newspapers reacted by initiating a legal process, aiming to secure an injunction against this unapproved practice. In response, the defendants contended that the computer-generated sequences didn't qualify for copyright protection due to the absence of a human author.

3.2.2. Basis of Qualification and Court Ruling

The crux of this case revolved around the determination of authorship for computer-generated works. The court examined two central aspects, authorship attribution and role of the computer. Specifically, whether the programmer of the computer program or the computer itself could be considered the author of the generated sequences, and whether the computer could attain authorship status given its role in generating the sequences.

The presiding judge, Whitford J, offered a decisive ruling. First, the computer was deemed a tool employed to produce the sequences, analogous to a pen used by a writer. Therefore, the computer itself could not be recognized as the author. In contrast, the designer of the computer program that generated the sequences was acknowledged as the author since they played a pivotal role in configuring the program's instructions.

Whitford J's ruling underscored the distinction between human creators and automated systems, firmly establishing the former as authors. It affirmed that computer programs, while instrumental in generating content, lacked the capacity for creative expression and decision-making.

3.2.3. Implications of the Ruling for Subsequent Similar Cases

The judgment in the Express Newspapers v. Liverpool Daily Post case carries substantial implications for future legal disputes involving computer-generated works. It offers a clear precedent that human designers of computer programs, rather than the machines themselves, should be recognized as authors of the resulting content.

However, some ambiguity persists, particularly concerning the ownership of computer-generated works in different scenarios. To resolve this, it's essential to scrutinize the legal text and implement it on a case-by-case basis. Generally, if the artificial agent, like a computer program, is directly set into motion by the programmer and creates an artistic work, the programmer is usually considered the author, in accordance with Section 9(3) of the Copyright, Designs and Patents Act. In contrast, when a user obtains a program capable of generating computer-generated content and employs it to produce new material, ownership typically falls to the user.

In essence, while the law provides a foundation for clarifying authorship and ownership in computer-generated works, applying these principles effectively requires a nuanced assessment of the specific circumstances surrounding each case. This approach accommodates the evolving landscape of digital creativity and technology.

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4. Reconsideration of Copyright Attributes for Artificial Intelligence Creations

These cases serve as poignant illustrations of the challenges and complexities surrounding the attribution of copyright to AI creations, sparking a broader dialogue on the fundamental attributes that define creativity and its intersection with the realm of artificial intelligence. In the evolving landscape of artificial intelligence-generated content, there is a growing debate regarding the eligibility of such creations for copyright protection. This debate revolves around fundamental questions, including the presence of creativity and the alignment of AI-generated works with the objectives of copyright law.

4.1. Opposing Views: Does Artificial Intelligence Creation Possess Creativity?

These cases serve as poignant illustrations of the challenges and complexities surrounding the attribution of copyright to AI creations, sparking a broader dialogue on the fundamental attributes that define creativity and its intersection with the realm of artificial intelligence. In the evolving landscape of artificial intelligence-generated content, there is a growing debate regarding the eligibility of such creations for copyright protection. This debate revolves around fundamental questions, including the presence of creativity and the alignment of AI-generated works with the objectives of copyright law.

4.1.1. Lack of Unique Individuality in Artificial Intelligence Creations

One perspective takes a firm stance against recognizing AI-generated content as eligible for copyright protection. Central to this argument is the contention that artificial intelligence creations lack the hallmark of unique individuality and human creativity. Professor Wang Qian, among others, contends that the content produced by artificial intelligence is fundamentally an outcome of algorithms, rules, and templates [2]. As such, it does not embody the distinct personality of a creator, nor can it be deemed a work of art. This perspective asserts that there is no need to engage in discussions regarding authorship, as these creations do not fulfill the criteria traditionally associated with human-authored works.

This view further underscores the absence of unique human creativity in AI-generated content. It emphasizes that the technical limitations and inherent characteristics of artificial intelligence constrain and preclude the infusion of human creativity into the "creation" process [3]. Consequently, the argument posits that artificial intelligence-generated works lack the essential element of originality that is typically associated with copyrightable creations.

4.1.2. Incompatibility of Copyright Law's Objectives with Artificial Intelligence Creations

Another perspective in the discourse on copyright protection for AI-generated content centers on the misalignment between the core objectives of copyright law and the nature of artificial intelligence creations. Copyright law primarily seeks to incentivize human creativity by granting exclusive rights to creators for their original works. This framework aims to reward and promote innovation, motivating individuals to produce fresh and imaginative content. However, proponents of this opposing viewpoint argue that artificial intelligence operates outside these objectives. They contend that AI lacks the intrinsic human elements of creativity, imagination, and emotional depth, functioning based on algorithms, data, and predefined rules, without genuine inspiration or subjective experiences. Traditional copyright, designed to protect human authorship and creative labor, may struggle to accommodate AI-generated content [4].

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4.1.3. Inability to Incentivize Artificial Intelligence to Create

A crucial argument against recognizing artificial intelligence creations under copyright law centers on the incapacity of copyright incentives to motivate artificial intelligence systems. Copyright law primarily serves to inspire human creators by providing legal protection for their creative efforts. However, it is argued that artificial intelligence lacks the cognitive capacity to comprehend or respond to copyright incentives. Hence, content produced by artificial intelligence might not qualify as a work eligible for copyright protection, as copyright mechanisms are ineffective in motivating creative output from non-human entities [5].

4.2. Supporting Views: Does Artificial Intelligence Creation Independently Constitute Works?

4.2.1. Sufficiency of Machine-Independent Creation

One argument in favor of AI-generated content's eligibility for copyright protection rests on the notion of machine-independent creation. According to Prof. Wu Handong, when artificial intelligence autonomously generates content without direct human intervention, it meets the essential criteria for constituting a work protected by copyright law. This view asserts that AI-generated works, regardless of their ultimate use, societal value, or subjective evaluations, inherently possess the qualities necessary for copyright protection [6]. However, it is acknowledged that AI, as a tool, differs significantly from human authors in its capacity to exercise copyright rights.

4.2.2. Potential Legitimacy of Copyright for Machine-Generated Works

Another perspective in support of AI-generated content's eligibility for copyright protection raises questions about the legitimacy of copyright ownership for machine-generated works. This viewpoint argues that AI's creative output should not be dismissed merely because it lacks human authorship. Instead, it suggests that copyright law should adapt to accommodate the unique characteristics of AI-generated content. If AI, operating independently, meets the established criteria for a work under copyright law, it should be entitled to copyright protection, albeit with adaptations to account for the absence of a human creator [7].

4.2.3. Originality of Artificial Intelligence Works and Human Involvement in the Creative Process

Additionally, scholars contend that AI, while acting as a creative tool, cannot be disregarded as a mere extension of human creativity. They propose that AI, represented by ChatGPT, its main purpose is to assist users in acquiring and creating information and provide them with valuable help. Therefore, generative AI is a tool for humans to create works, which is essentially no different from tools such as pen and paper, tree branches, etc., and the works of generative AI are also the works formed by humans utilizing technological tools for creation [8]. Different users accumulate different knowledge based on their own, making this type of artificial intelligence product non repetitive and capable of generating text works with different styles, with randomness and innovation, and possessing the characteristics of the work [9].

Some scholars also argue their affirmative claims from the program principle of ChatGPT-like, generative artificial intelligence technology through generative pre-training language models superimposed on neural networks and other models to achieve product output, although the algorithmic model simulating the neural network model of the human brain outputs do not have the ideas, personality, and innovativeness of the work as a human being, but human beings carry out the

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pre-determined algorithms, rules, and template steps for the the generation of artificial intelligence generated products play a crucial role. According to the statutory standard for compilation works in Article 15 of China's Copyright Law, generative AI's retrieval of a huge information base and generation of content that meets the logical requirements actually approximates an independent act of compilation with a minimum standard of originality [10].

4.3. Personal Perspective: Copyright Protection for Artificial Intelligence Creations

In the realm of copyright protection for artificial intelligence creations, we hold a distinctive viewpoint that endeavors to strike a balance between recognizing the creative attributes of AI-generated works and safeguarding the rights of users.

4.3.1. Attribution of Creations to Works but Copyright Belongs to Users

Our perspective hinges on the premise that if an AI-generated work adheres to the established conventions of human expression, both in form and innovative content across various domains such as literature, science, and art, then it should be deemed as an original work of art. However, a critical distinction lies in our belief that the copyright for such artificial intelligence creations should vest with the user who engages with the AI. This contention finds its basis in the direct intervention and influence wielded by the user in the creative process driven by the artificial intelligence.

4.3.2. Influence of User Needs and Constraints on Creations

Although AI is a program developed by designers and developers, it requires the user to set certain rules and requirements when it comes to generating text, and the content it generates has been limited by the user. The user's ideas directly lead to the content of the work, which contains the user's needs, ideas and thoughts. Even though the AI software is based on the creation and development of the developer, this contribution is only to the work of the AI operation itself, and does not involve a specific piece of work. In the case of the AI generation, it is a direct response to the user's thoughts, and therefore the AI user has a copyright on this work.

4.3.3. Promoting the Coordinated Development of Law and Technology

At present, the generative artificial intelligence represented by ChatGPT still exists in the rapid development, due to the law has a certain lag, the law can't completely solve the legal conflicts generated by the generative artificial intelligence generator. Based on the needs of the development of law and technology, for dealing with the copyright of ChatGPT, the existing legal norms should be explored continuously, and legislation should be enacted when the development of the industry is mature, so as to improve the relevant legal system.

5. Conclusion

In this comprehensive exploration, we have delved into the intricate realm of copyright law as it pertains to artificial intelligence-generated creations. We began by scrutinizing the existing legal provisions of various nations concerning the categorization of works produced by artificial intelligence, fortified by illustrative legal cases from diverse jurisdictions.

We meticulously dissected contrasting theoretical perspectives on whether AI-generated works qualify as genuine works of authorship. We surveyed both dissenting views, emphasizing the absence of distinctive individuality in artificial intelligence creations and the incongruence between copyright law's objectives and the essence of AI-generated works. Conversely, we explored supporting perspectives that underscored the potential legitimacy of copyright for machine-generated works,

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underlining the originality infused by artificial intelligence and the role of human involvement in the creative process.

As the generative artificial intelligence landscape continues to evolve at a breakneck pace, it has become increasingly apparent that existing legal frameworks are grappling to keep pace with technological advancements. To ensure a harmonious coexistence between law and technology, we posit the need for ongoing exploration and adaptation of existing legal norms tailored to AI-generated content. As the AI industry matures, thoughtful legislative action should follow suit, enhancing the existing legal framework and accommodating the ever-changing terrain of AI-driven creativity. This proactive approach is instrumental in forging a symbiotic relationship between law and technology, fostering innovation, and safeguarding the rights of both creators and users in the dynamic landscape of artificial intelligence.

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