

Investigación

Pondering the Impact of Generative AI on Copyright Validity

Reflexiones sobre el impacto de la Inteligencia Artificial generativa en la validez de los derechos de autor

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Abstract

As artificial intelligence (AI) continues to evolve as a creative agent, it becomes imperative to reassess the foundational principles of copyright law. The ability of generative AI to produce works indistinguishable from human creations challenges the very core of creativity and copyright law. Historically, legislation has evolved in tandem with technological advances, from the printing press to the digital age. But, as AI emerges as an autonomous creative agent, questions arise about the fair allocation of rights and the preservation of economic incentives for human creativity. While AI can serve as a powerful tool to enhance human ingenuity, the potential for legal loopholes and economic inequities requires prudent and adaptable regulations that reflect the complexities of our ever-changing world.

Keywords

Intellectual Property, Artificial Intelligence, Creativity, Copyright, Generative Art.

Resumen

A medida que la inteligencia artificial (IA) sigue evolucionando como un agente creativo, se hace imprescindible replantear los principios fundamentales de la adjudicación de derechos de autor. La capacidad de las IA generativas para producir obras indistinguibles de las creaciones humanas desafía la esencia misma de la creatividad y del derecho de autor. Históricamente, la legislación se había ido transformando en paralelo con los avances tecnológicos, desde la imprenta hasta la era digital. Sin embargo, con la IA emergiendo como un agente creativo autónomo surgen interrogantes sobre la asignación justa de derechos y la preservación de los incentivos económicos para la creatividad humana. Si bien la IA puede servir como una poderosa herramienta que promueve el ingenio humano, los vacíos legales y las inequidades económicas requieren regulaciones prudentes y adaptables que reflejen las complejidades de nuestro mundo en constante evolución.

Palabras clave

Propiedad intelectual, Inteligencia artificial, creatividad, derechos de autor, arte generativo.

Creativity constitutes the fundamental pillar of intellectual property rights and is the gist for the economic and artistic advancement of society. Every month, and every week, new generative AI systems are developed and consumed to generate audiovisual and written works of ever-increasing quality, almost indistinguishable from human works (Dash & Agres, 2024). Artistic, scientific, and literary works, such as software, have been protected by copyright for years. However, the dynamics of the internet and the widespread use of AI as a creative tool compel us to pose a prompt reassessment of the existing paradigms concerning creativity, intellectual property adjudication, and legal protection. These reflections start from a broader descriptive study on the urgency of regulating disruptive technologies such as AI, proposing as an intervention approach legal realism and the unification of public and private law to find fairer ways of understanding copyright from the understanding of artistic expressions and the social function of property.

Professor Manuel Castells (2002) has introduced the concept of the “knowledge society” as an emerging paradigm, emphasizing the immense value of information and knowledge as driving forces for development and competitiveness. Just as the steam engine and electric motor were pivotal during the Industrial Revolution, information technologies, particularly AI and the internet, are of huge importance at this moment in history. The capacity of AI systems to generate works that are increasingly indistinguishable from human creations, coupled with the usual and constant accelerated exchange of information exchange on the internet, poses great challenges to our legal system in terms of copyright.

Copyright has evolved to adapt to various modes of work reproduction, ranging from the printing press to radio and television; functioned relatively harmoniously the advent of the Internet, which has rendered traditional legislation increasingly obsolete due to the dynamics of free and open information exchange inherent in the web. The widespread use of AI in the creation of audiovisual and written works raises questions that go beyond traditional intellectual property criteria and even have a direct impact on the economic sustainability of the “incentives for creativity” model (Sprigman, 2018). In particular, as creativity is no longer understood as a purely human trait but also a capability of generative AI systems, redefining our understanding of creativity is essential to reconsidering intellectual property rights.

Under the classic Lockean and functionalist paradigm of intellectual property, Sternberg and Lubart (1995) posited creativity as a multifaceted skill dependent on a range of intellectual capacities, knowledge, cognitive styles, personality traits, motivation, and environmental factors. Over the time, great doctrinaires like Amabile (1996), MacKinnon (1962), Stein (1953) among others, have extended this perspective, observing that highly creative individuals often have internal drive, a wide understanding of their environment, a greater receptiveness to new experiences, and a readiness to embrace more risks. In this regard, Wertheimer (1945) underscores the link between creativity and diverse cognitive approaches, stressing that the capacity to break down and restructure patterns in problem-solving is essential for both creativity

and specific cognitive styles found in humans and AI systems. AI systems can mimic human problem-solving processes by employing neural networks model inspired on the human brain, classifying information according to its importance in a smart way (Kumar, 2024). These systems also exhibit a certain level of autonomy and intelligence that may be enhanced by their capacity for self-learning, much like humans do when they continuously receive feedback from their own interactions with reality to improve their abilities (Xie, Wu, & Xie, 2024).

Given that the essence of intellectual property is to encourage the creation of works by acknowledging both “in rem” and moral rights (Andrade & Martínez, 2013), it is important to analyze the level of distinguishability between AI-generated works and human creations. And considering AI works can be mass-produced, these generative capabilities raise serious questions about the loss of value of works by artists who do not use AI in their creative processes and the potential patrimonial detriment that creators of all types of works may suffer. Although these questions of ownership and creativity may seem novel, they have been explored even decades before the Berne Convention by defenders of the authentic *droit d’auteur* (Malik & Shaikh, 2024), and just as before, when controversies arose over economic rights and forms of artistic expression. A contextualized review is required today to adjust the standards of creativity and originality in our different legal systems.

Artists like Elizabeth Stephens and Tara Heffernan (2016) have explored this subject, pointing out that the first instance of automatic art production was at the 1959 Paris Biennale, where Jean Tinguely displayed *Méta-Matic No. 17*, a machine capable of producing abstract art. Later, in 1965, artist and mathematician Georg Nees laid the groundwork for automatic or “generative art” with his doctoral thesis and cultural exhibition *Generative Computergraphik* (Hernández, 2018).

Generative art was traditionally based on machines that produced creative results based on parameters or algorithms that respond to external stimuli. With the massification of AI systems with creative autonomy, the concept of generative art began to dispense with human intervention. Machines are no longer only capable of producing works based on predefined rules and parameters, they can now also make judgments based on their neural network architecture and algorithmic structure thanks to machine learning and deep learning technologies, which completely eliminate the dependence on human interaction in the learning process of an AI for its qualification (Patil et al., 2024). Consequently, AI systems are becoming independent creative agents with cognitive processes similar to those of humans, underscoring the urgent need to reassess the entire system of intellectual property rights allocation.

Professor Miguel Lacruz (2021) commented on an article by the Director of the Seminar on Automatic Generation of Plastic Forms at the Computing Center of the University of Madrid titled “Can a Calculator Create a Work of Art?” agreeing that this question should be correctly posed. “In the scientific realm, no one asks if a calculator can make a discovery worthy of a

Nobel Prize. They simply ask if the calculator can help make it. In art, the question should be analogous”. This perspective aims to broaden the discussion on creativity thresholds to develop a flexible legal framework that accommodates rapid technological advancements and new forms of creativity.

One of the best examples of how the idea of creativity is changing is the AI DALL-E 2, which can generate images by text descriptions. Concerns about the commercialization of AI-generated works and the possibility of these technologies replacing their jobs are highlighted in a Frankfurter Allgemeine Zeitung article (2022) about the challenges perceived by illustrators and graphic novel artists in the face of their potential replacement in the labor market. This fear is reminiscent of past conflicts between creativity and mechanization, as demonstrated in their time by countercultural movements such as Russian Formalism and Surrealism, which sought to counteract perceived mechanization through art and transcend rationalist thinking (Sanmartín Ortí, 2006). But since change is imminent, sensible regulations must be created to guarantee a seamless transition while preventing injustices and minimizing possible harm.

Professor Jens Schröter (2024), in his book *Artificial Intelligence - Intelligent Art?*, references Michael Noll's 1967 essay “The Computer as a Creative Medium”, where Noll proposed that computers could be a new tool for the creative process, suggesting that creativity could be automated, thus challenging the notion that creativity is an exclusively human capacity. However, art remains an area in which originality and human intervention is decisive, for art arises precisely from the need for human expression (Caballero, 2021). There are still great discussions about the new generative AI systems that already generate complete albums of music, extensive software codes, great visual works, and even precious poetry completely indistinguishable from human poetry and even much more highly valued (Porter & Machery, 2024). But beyond the aesthetics and harmony of the works, there is still discussion about controversial aspects such as ethics of programming feelings for AI (LaGrandeur, 2015) and the impact it can have not only on art but on the reevaluation of what we consider to be the essence of the human being (Goodlad & Dimock, 2021). Then, ¿What is it that makes us human? It is a debate that must extend to all branches of knowledge and work together to find a way out of this serious crisis facing not only copyright law but our entire humanity in search of its place in the world.

Conclusions

Given this panorama of uncertainty regarding the protection of new forms of artistic and creative expression with a fair allocation of ownership, the use of expert systems specialized in detecting AI patterns in the various types of works submitted for registration, from audiovisual works to complex written works, can be proposed as a possible solution.

Such systems could streamline the registration process by assessing the content of each work and initially rejecting those that show clear signs of AI generation, such as pixel patterns, handwriting patterns, or wave frequencies that mainstream generative AI systems typically use. The applicant would still be able to appeal to a group of impartial and knowledgeable art curators, though. These committees, subject to protocols that make it impossible for them to know the identity of the applicant to avoid potential conflicts of interest, could thoroughly review each submitted work and determine whether it qualifies as a human creation, establishing ownership more fairly.

On the other hand, excessively restrictive legal frameworks, while might strongly guarantee property rights, can hinder innovation by limiting access only to those who can pay for it (Wagner, 2017). That would threaten the pillars of the knowledge society and freedom of expression if strong measures are taken on the Internet to prevent the reproduction and possession of works and endanger the public interest and related rights such as freedom of expression when works are used for transitory purposes or for social satire, which is very important for the functioning of democracy.

Limiting the quantity of copyright registration applications that are filed each month and distinguishing between natural and legal persons could be another solution. This limit would be based on an analysis of relevant data such as the average number of applications filed in each region over the past decade, accounting for fluctuations before and after the Covid-19 pandemic, a period marked by the widespread adoption of AI (Menon *et al.*, 2023). To this average, we could add an estimated growth rate in application filings to encourage the registration of new works. This would establish a reasonable and contextually appropriate cap for both individuals and legal entities, preventing mass filings or the dispersal of applications in regions that have not historically experienced significant increases in such activity.

Even with these proposed alternatives, copyright needs to move away from the legal perspective and bring into the debate artists, anthropologists, mathematicians, philosophers, and all those who can contribute to the creation of a regulation that harmonizes the subjective world of art with the apparent objectivity of law. In this way, precise criteria could be established so that those who assign ownership do so not based on their personal appreciations but on the complexity of the work, taking into account different means to verify the existence of factors such as the intention of the work, its potential cultural impact, the accreditation of creative processes and the emotionality that the work can transmit, which could also be susceptible to measurement (Liu, 2023).

This discussion of the foundations of copyright not only requires a review of the standards of authorship for determining ownership of rights, but also necessarily implies the primacy of the social function of private property, considering that property rights are not absolute when they collide with the public interest (Mercado, 2015). A fundamental transformation of the

principles that underpin our current understanding of intellectual property is necessary to ensure justice and equity. Clearly, there is an imperative need for a proactive, forward-thinking legal framework to replace the traditional reactive paradigm, which is becoming obsolete in the face of impending social and technological shifts. This reflective process must recognize that creativity is no longer a uniquely human trait and propose a legal structure that protects the general well-being while also encouraging innovation and creativity through a fair and equitable distribution of copyrights.

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