



Special Section on Artificial Intelligence

AI Systems and the Future of Intellectual Property Regimes

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Abstract

The rapid progress of artificial intelligence (AI) technology is transforming the world of intellectual property rights (IPR), offering both unprecedented opportunities and novel challenges. This article explores how AI-driven innovation affects the evolving IPR framework. It emphasises the need for collaboration among lawmakers, courts, regulators and intellectual property (IP) professionals. Protecting IPR in the dynamic AI landscape is crucial as technology advances. This article delves into the legal and practical aspects, to enable an understanding of how AI and IP intersect.

The article deals with key aspects relating to authorship,² risk and complexity,³ balancing innovation and societal access,⁴ global competition⁵ and AI supremacy.⁶

Keywords: Artificial intelligence (AI), Intellectual property (IP), Copyright, Patents, Algorithm, Invent.

Introduction

The dawn of the artificial intelligence (AI) era has ushered in a new wave of innovation, propelling society into uncharted territories of automation and machine learning and

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- 2 Current legal frameworks often require human authorship, involving both human creators and AI systems, making it necessary to revisit existing definitions of authorship within copyright laws.
- 3 IPR must consider the risk and complexity associated with different AI applications, as AI-driven innovation may lead to new forms of IP infringement.
- 4 Striking a balance that fosters innovation while preserving broader societal access to knowledge and creativity is essential.
- 5 The global landscape of AI development is characterised by a race for AI supremacy, with countries investing heavily in research and development. The USA arguably stands as the leader in AI development, with major tech corporations at the forefront of innovation.
- 6 The emergence of powerful AI models like ChatGPT has fuelled competition, particularly between the USA and China. The USA is set to unveil LaMDA, a language model designed to provide answers to user queries, positioning it as a primary hub for AI development and securing a pivotal role in shaping the global AI landscape.

unprecedented computational capabilities. As AI becomes an integral part of our daily lives, in roles ranging from virtual assistant to autonomous vehicle, the implications for intellectual property rights (IPR) have become increasingly profound.

Historically, IPR have been designed to protect the creations of the human intellect, providing inventors, creators and innovators with the incentives and rights necessary to foster innovation and creativity. However, the advent of AI challenges conventional notions of authorship, ownership and originality. Can an algorithm be considered an inventor? Who holds the rights to the outputs AI systems generate? These questions underscore the pressing need to re-evaluate and adapt existing intellectual property (IP) frameworks to accommodate the distinctive characteristics of AI-generated innovations.

This article navigates the intricacies of AI and IP, examining key areas of contention such as patent law, copyright and trade secrets. Additionally, it scrutinises the ethical dimensions surrounding AI-generated content and the potential impact on fair competition. By addressing these issues, it aims to contribute to the ongoing discourse on shaping a future-proof IP landscape that both encourages innovation and safeguards the rights and interests of all stakeholders.

Methodology

A systematic literature review was conducted using scholarly resources such as Google Scholar, Lexis Nexis, Westlaw and other reputable databases. The search utilised keywords including 'Artificial Intelligence' and 'Intellectual Property' to identify relevant articles published within the past five years. This approach ensured the inclusion of recent scholarly contributions and up-to-date insights into the rapidly evolving field of AI and IP law. Additionally, Google searches were employed to gather current affairs information, enabling the incorporation of real-world examples and case studies to enrich the analysis. Qualitative and quantitative analyses were used to assess the identified literature and data. Qualitative methods involved in-depth examination and critical evaluation of the identified articles and legal documents to extract key themes, trends and arguments pertaining to AI and IP regimes. Quantitative methods entailed statistical analysis of relevant data points, such as the frequency of certain legal concepts or trends in patent filings related to AI technologies.

Artificial intelligence and intellectual property rights

In recent decades, the rise of AI has been nothing short of transformative, ushering in an era marked by unprecedented advancements in technology. From machine learning algorithms to autonomous systems, AI has permeated various facets of our daily lives and industries, demonstrating its potential to reshape the way we work, communicate and innovate.

The intersection of AI with IPR stands as a pivotal juncture in the evolution of both technological and legal landscapes (Davies, 2011). As AI technologies become integral

to innovation, the traditional paradigms of IP face novel challenges. Examining this intersection is crucial not only for safeguarding the rights of inventors and creators but also for fostering an environment that encourages further AI development. It prompts us to reconsider established notions of authorship, ownership and innovation in the context of machine-generated creations.

IP plays a pivotal role in incentivising innovation by providing creators and inventors with exclusive rights to their creations. The prospect of obtaining patents, copyrights or other protections encourages investment in research and development, fostering a competitive environment that drives technological progress (Davies, 2011). In the context of AI, striking a balance between protecting the interests of innovators and ensuring the accessibility of knowledge is crucial for sustaining a vibrant ecosystem of innovation. Understanding the nuances of IPR is fundamental to navigating the evolving landscape shaped by the integration of AI technologies.

The ascent of AI heralds a new era of innovation, challenging the foundations of IPR that trace their roots to statutes often outdated in comparison with the rapid evolution of AI technologies. The historical context of IP laws, based in statutes such as Singapore's Patents Act (based on the UK Patents Act 1977) and Copyright Act (originally adopted from the Australian Copyright Act 1968), exposes their inherent anthropocentric orientation. Developed without foresight into the advent of AI, these laws are now grappling with the question of how to accommodate the revolutionary emergence of AI and, potentially, artificial general intelligence (AGI), as explained by Jaketch (2023). The fundamental principles underpinning IP, such as the conditions for patent grants and the types of works eligible for copyright, were crafted without the notion of non-human creators in mind.

The anthropocentric reasoning behind IP laws becomes evident when considering the three commonly accepted justifications for IP protection: the labour theory, the extension-of-personality theory and the provision of economic incentives. These justifications, grounded in human-centric philosophies, raise questions about their applicability to AI entities (Kang'Ethe, 2023). While humans are motivated by economic rewards, express individuality and develop as persons through their creations, the same cannot be presumed for AI, which operates mechanically without intrinsic motivations or expressions of personhood.

The potential dissonance between AI and IP laws becomes pronounced when examining the limitations of current IP frameworks. AI entities, lacking human-like personhood and motivations, challenge the conventional justifications for IP protection. Current laws typically deny AI entities the legal recognition as authors or inventors, reflecting the difficulty in attributing human-centric motivations to these entities. The absence of emotional and social intelligence in AI further complicates the application of moral justifications rooted in human personhood (Davies, 2011).

The rise of AI prompts policy-makers, academics and legal experts to grapple with fundamental questions regarding the regulation of AI and its creations. Should

longstanding anthropocentric concepts of IP law be imposed on AI? Are patent and copyright protections applicable to creations by AI entities? These questions necessitate careful consideration, as they encompass not only legal intricacies but also ethical concerns surrounding the treatment of non-human entities within established legal frameworks.

Ownership and attribution in AI-created content

The advent of AI has disrupted the traditional landscape of copyright law, challenging established principles that revolve around human authorship and creativity. Traditionally, copyright laws were crafted to protect the fruits of intellectual labour grounded in the creative powers of the human mind. The notion of authorship was closely tied to human creativity, and copyright qualified for protection if a work was fixed and original.

The rise of AI, particularly advanced forms capable of decision-making without human intervention, challenges these traditional assumptions of copyright law. AI-generated works, ranging from music and journalism to gaming content, disrupt the conventional understanding of authorship and creativity (Lichtenauer and Turner, 2023). As AI systems evolve to become creative forces in their own right, the traditional paradigm where copyright is vested in a human author is being redefined. The famous case of the monkey selfie, where a court ruled against copyright for a non-human entity, sets the stage for grappling with similar questions concerning AI-generated works. The latest types of AI represent a departure from their historical role as mere tools. They have emerged as dynamic creative forces capable of independently making decisions in the creative process, challenging the traditional ownership structures embedded in copyright law, which inherently assume human authorship (ibid.).

The use of AI in creative processes has introduced new complexities to copyright and IP laws, prompting legal debates and challenges. Recently, there have been legal actions, such as the lawsuit filed by authors, including Sarah Silverman, against OpenAI and Meta for alleged copyright infringement (Kang'Ethe, 2023). The central question revolves around the ownership and authorship of content generated by AI tools, especially those trained on potentially copyrighted material without the original creators' consent.

AI systems, often comprising intricate software, algorithms and data, challenge conventional notions of authorship. The essence of copyright, rooted in the personality and creative input of an author, encounters complexities when applied to the collaborative and multifaceted nature of AI-generated creations (Kaindo, 2022). Unlike the unmistakable imprint of a human author evident in works like John Grisham's novels, AI-produced works raise the question: Do they reflect anyone's personality? (Jaketch, 2023).

The intricate process of creating AI-generated works involves the development of software, the crafting of algorithms and the training of these algorithms with extensive datasets. The collaborative effort includes programmers, data suppliers and users

activating the AI system, making it arduous to identify a singular author. The common proposition that the programmer should hold copyright encounters scepticism, as the software's functioning involves various contributors and the unpredictable 'black box' phenomenon (Korinek et al., 2021). The concept of Explainable AI (XAI) emerges as a potential solution, aiming to demystify the decision-making process and challenge the notion that programmers are the sole authors.

The ambiguous nature of copyright laws in the context of AI-generated content is a key concern. The legal framework, especially in the USA, relies on precedents and interpretations that may not have anticipated the challenges posed by AI. The language used in copyright laws, such as pronouns referring to the inventor or creator, assumes a human-centric perspective and raises questions about how these laws apply to non-human entities like AI systems (Korinek et al., 2021).

Ownership dilemmas further complicate the picture. Arguments proposing data owners as copyright holders face challenges related to originality, suggesting that licensing agreements may better govern data use. The notion of granting corporate personhood to AI-generated works, as akin to companies, introduces practical hurdles during licensing agreements (Korinek et al., 2021). Defining AI works as 'works made for hire' or 'derivative works' proves challenging, given that AI systems fundamentally 'learn' and generate something entirely new, not fitting the traditional scope of derivative works.

The question of who should be incentivised, a cornerstone of copyright law, takes a new turn with AI-generated works. Unlike human creators, AI systems do not respond to incentives in the traditional sense. There is often a proposed *a sui generis* system for protecting AI-generated works, acknowledging the rapid pace of technological evolution. A suggested duration of five to seven years aims to allow stakeholders to recoup investments before the works enter the public domain (Kaindo, 2022).

The legal dilemma at the heart of this evolution revolves around whether copyright law should extend protection to works generated solely by a computer. In Australia and Europe, legal frameworks are grappling with this question, particularly in the context of originality, which historically reflects the author's personality. On the other hand, certain jurisdictions, including Kenya, have taken an alternative approach, attributing authorship to the programmer (Gakuru, 2023).

This creates a legal conundrum, raising questions about the true author of AI-generated works. Under the Kenyan Copyright Act, authorship in computer-generated works is ascribed to the person who made the arrangements necessary for their creation (Jaketch, 2023). Ambiguities arise, however, regarding the identification of this person, leaving uncertainty about whether it is the programmer or the user who should be considered the true author.

The Act further suggests that, even a user's contribution as minimal as pressing a button for the machine to create the work qualifies this user as an author and owner of copyright (O'Brien, 2023). This interpretation introduces complexities surrounding the level of

creative input required for copyright ownership. Without robust copyright protection for AI-generated works, there exists a risk that these creations may be deemed free of copyright (Kaindo, 2022). This scenario could have far-reaching consequences for the creative economy, as AI-generated works may be freely used and reused without due compensation or acknowledgement. Striking a balance between fostering innovation and safeguarding the economic interests of creators is a paramount concern.

The lack of consensus among World Intellectual Property Organization (WIPO) member states on the ownership issue in AI-generated works underscores the urgent need for international legal clarity. The current legal framework must be adapted to recognise the unique challenges AI poses, ensuring fair and equitable treatment for all stakeholders involved in the creation and use of AI-generated works.

The challenges to copyrighting AI-generated content stem from uncertainties about human involvement, the intentions behind AI-generated output and the training data used (O'Brien, 2023). The scraping of data from the web, often without consent, complicates matters, as the training data may include copyrighted works. Determining whether an AI-generated piece is transformative enough to qualify as fair use under copyright law adds another layer of complexity (Kang'Ethe, 2023).

The legal landscape may need to evolve to address these challenges, potentially considering joint ownership models or extending copyright protection to styles and forms generated by AI (Say, 2020).

As the use of generative AI becomes more prevalent, the need for clear and adapted copyright laws becomes increasingly apparent to balance the protection of creators' rights with the advancement of technology. In navigating the intricate challenges of AI-generated works within the realm of copyright, the legal landscape must evolve to accommodate the distinctive nature of AI's creative capabilities (Smith, 2023). Achieving global consensus on the treatment of AI within copyright laws is crucial for fostering innovation while upholding the principles of IP. The ongoing discourse on AI and copyright should pave the way for a legal framework that aligns with technological advancements, supports the creative economy and promotes the public interest in the digital age (O'Brien, 2023).

Protecting creative works developed through AI systems requires a delicate balance between acknowledging the collaborative nature of AI creations, addressing ownership complexities and adapting copyright laws to the dynamic landscape of emerging technologies (Shemtov, 2019). The ongoing discourse calls for a nuanced legal framework that fosters innovation, protects investments and ensures responsible use of AI-generated works in the public interest.

AI and patent regimes

The recent granting of patent rights to an AI system in South Africa marks a significant development in the intersection of AI and IP law. The invention, a 'food container based on fractal geometry,' listed an AI system named DABUS as the inventor, with

the machine's owner, Stephen Thaler, recognised as the patent owner (Craig, 2021). This decision by South Africa to acknowledge an AI system as an inventor challenges traditional notion of inventorship.

However, the United States Patent and Trademark Office (USPTO) and the European Patent Office (EPO) rejected the application on the grounds that their patent laws explicitly require an inventor to be a natural person. The rejection was based on the linguistic use of pronouns like 'himself' and 'herself' in the patent laws, implying a requirement for human inventorship. The USPTO also argued that AI did not meet the threshold for 'conception,' a term traditionally associated with a mental act in the mind of the inventor (Sharma, 2023). Notably, South Africa's patent system differs in that it does not conduct formal examinations and relies on a check-box evaluation process. The country's Patent Act allows for patent applications from 'the inventor or any other person who has acquired the right from the inventor or both.' Interestingly, the use of the pronoun 'him' in the South African Patent Act raises questions about the legislative intent regarding AI inventorship (Shemtov, 2019).

This discussion raises complex questions within the legal framework of Kenya. The Industrial Property Act 2001, which governs patents in the country, is built on the premise that inventions are the result of human engagement processes. However, as technology evolves, the traditional interpretation of inventorship is being challenged (Kang'Ethe, 2023). In Kenya, the exclusive right to a patent belongs to the inventor, who is assumed to be a natural person. The Act requires the disclosure of the inventor's name; exceptions apply only in cases of legal representation or when the inventor chooses not to be named. The legislation does not anticipate non-human inventors, and the language used, such as pronouns like 'he' and 'himself,' implies a focus on natural persons (Jaketch, 2023).

The application process in Kenya emphasises the disclosure of details about the applicant rather than the inventor. This could suggest a degree of flexibility regarding who or what can be considered an inventor. However, on the question of patentability, particularly the requirement for an inventive step, there is ambiguity (Drexel et al., 2021). The determination of inventiveness involves a subjective evaluation by examiners, and questions arise about whether inventions by AI machines would be deemed prior art and whether AI machines can be considered 'persons skilled in the art' (ibid.). The Act does not explicitly address the possibility of non-human inventors, and its reliance on terms like 'person' and 'he' in reference to the inventor reflects a traditional understanding. The legal concept of succession, which involves the transfer of patent rights after a natural person's demise, reinforces the assumption that inventors are human beings.

The discussion around DABUS and AI-generated inventions highlights the need for a nuanced examination of IP laws. As technological advancements challenge established norms, there is a growing need for legal frameworks to adapt to new realities (Craig, 2021). The determination of whether an AI machine can be recognised as an inventor depends on interpretations of existing laws, discussions on the legal personality of machines and evolving perspectives on innovation in the digital age.

Balancing innovation and IP regulation

The intersection of AI and IP introduces a complex interplay between fostering innovation and safeguarding the public domain. As AI-generated creative works and inventions become increasingly prevalent, the traditional concepts within IPR face challenges that necessitate a delicate balance between incentivising creators and ensuring broader access to knowledge and creativity. The rise of generative AI algorithms, capable of autonomously creating content across various domains, prompts a re-evaluation of copyright law. The fundamental question of ownership and protection of AI-generated works challenges the existing framework, which traditionally attributes copyright to human creators. Debates over whether copyright should belong to the input provider, the AI developer or the AI itself underscore the need for a nuanced understanding of authorship (Abbott and Rothman, 2023). The originality of AI-generated works, lacking direct human input, adds another layer of complexity to copyright considerations. Striking a balance within copyright law requires addressing these questions to avoid potential stifling of creativity while acknowledging the transformative role of AI.

In the realm of patent law, AI's impact is twofold (Davies, 2011). On the one hand, AI facilitates the development of new inventions, streamlining the ideation and drafting process. On the other hand, concerns arise regarding the potential flood of patents and the challenge of determining inventorship in cases where AI systems contribute significantly. Recent cases, such as Stephen Thaler's patent application denial, highlight the current limitations of existing frameworks that insist on human inventors (*ibid.*). The global divergence in how jurisdictions approach AI-generated inventions introduces economic and geopolitical considerations, emphasising the need for a harmonised and adaptive international approach.

IP infringement by AI introduces another layer of complexity, particularly in cases where AI mimics the likeness of individuals or scrapes copyrighted content for repurposing. For such, no protection should be accorded, as this is an infringement on the rights of the person. IPR should not be accorded to works that already infringe the rights of others and, in the same manner, AI mimicking content and/or repurposing it is outright plagiarism. Legal disputes, such as Getty Images' infringement claims against Stability AI, underscore the need for clear guidelines and legal frameworks. As courts grapple with these novel challenges, the development of a robust legal and regulatory framework becomes imperative to balance the protection of existing IPR and the encouragement of AI-driven technological advancements (Craig, 2021). Amid these challenges, AI also presents opportunities for IP rights holders. AI-powered tools can automate the detection of potential infringements, streamlining the enforcement process. Additionally, AI's role in IP management and strategy, analysing vast amounts of data to identify trends and assess competitive landscapes, offers a strategic advantage to businesses (Bosher et al., 2020).

Responding to these questions and challenges requires collaborative efforts among legislators, courts, regulators and IP professionals. Updating existing IP laws, developing

new legal frameworks and establishing an environment conducive to responsible AI use in IP management are essential steps (Ahuja, 2020). This collaborative approach ensures IPR remain resilient in the face of rapid technological change, striking a balance that fosters innovation while preserving the broader societal access to knowledge and creativity.

To accommodate AI-driven innovation, policy-makers should consider several key aspects. First, a nuanced understanding of authorship needs to be developed. While current legal frameworks often require human authorship, the unique contributions of AI systems to the creative process cannot be ignored (Ahuja, 2020). An adaptive approach that recognises collaborative authorship, involving both human creators and AI systems, could be explored. This would entail revisiting existing definitions of authorship within copyright laws to encompass the evolving nature of creative collaboration.

Additionally, IPR must consider the risk and complexity associated with different AI applications. A tiered or risk-based model for regulation could be implemented, wherein high-risk applications, such as AI in critical decision-making or creative content generation, may be subject to more stringent regulations (Amatika-Omondi, 2019). This approach aims to foster innovation in low-risk areas while ensuring high-risk applications adhere to ethical and legal standards.

Moreover, fostering collaboration between stakeholders is crucial. Policy-makers, technology companies, legal experts and representatives from diverse sectors should engage in dialogue to formulate regulations that strike the right balance (Olsen, 2023). This collaborative approach ensures regulations are not only effective but also practical, considering the dynamic nature of AI technologies.

Balancing rewards for creators and facilitating broader access to knowledge involves reassessing the duration and scope of IP protection. Incentives for innovation should be preserved, but mechanisms such as shorter protection periods or alternative models like open-source licensing can be explored to encourage the dissemination of knowledge (Cho, 2023). This approach aligns with the original purpose of IP: to promote innovation for the benefit of society. Furthermore, transparency in AI-generated works is paramount. Clear documentation of the roles humans and AI play in the creative process ensures IPR are attributed appropriately. This documentation becomes crucial when seeking copyright or patent protection, providing clarity on the origin of ideas and innovation (Amatika-Omondi, 2019).

As the legal landscape adapts to AI-driven innovation, there is a need for ongoing evaluation and revision of existing laws. Policy-makers should remain proactive, considering the evolving nature of technology and its impact on creativity. Recent inquiries by entities like the US Copyright Office indicate a recognition of the need for legislative or regulatory steps in response to AI advancements (Cho, 2023). Achieving a harmonious balance within IPR amid AI-driven innovation requires a thoughtful, collaborative and adaptive approach. Recognising the unique contributions of both

humans and AI, implementing risk-based models and fostering transparency are key elements in shaping regulations that reward creators while ensuring broader societal access to knowledge and creativity (O'Brien, 2023).

The global landscape of AI development

The race for AI supremacy is a defining feature of the technological landscape, with countries worldwide investing heavily in research and development. The emergence of powerful AI models like ChatGPT has fuelled competition, prompting major players, particularly the USA and China, to showcase their advancements. The USA stands as the unequivocal leader in AI development, housing major tech corporations like Google, Facebook and Microsoft at the forefront of innovation (Lee, 2020). The country's commitment to AI is evident through substantial investments and continuous research and development efforts. Google is set to unveil its response to OpenAI's ChatGPT with LaMDA, a language model designed to provide detailed answers to user queries. This technological prowess positions the USA as a primary hub for AI development, securing a pivotal role in shaping the global AI landscape.

China, while currently in second place, is rapidly advancing in the AI arms race. The Chinese government has allocated significant funds to AI research and development, aiming to challenge US dominance (Cho, 2023). Corporations like Alibaba, Baidu and Tencent are actively involved in ground-breaking AI projects, contributing to the country's ascent in AI capabilities. Despite the fierce competition, China's progress suggests it could emerge as a serious contender soon, setting the stage for a dynamic shift in the global AI hierarchy.

While the USA and China dominate headlines, other nations are making significant strides in AI technology. Canada, with a robust AI strategy backed by substantial funding, Japan's 'Society 5.0' plan and Korea's commitment to becoming an AI powerhouse showcase the diverse efforts worldwide (Lee, 2020). These countries are investing in research, development and talent to bolster their national competitiveness in AI. Although currently trailing behind the top contenders, their strategic initiatives position them as potential disruptors in the evolving AI landscape (Abbott and Rothman, 2023).

Europe, as a continent, is making strides in AI development, with individual countries like France and Germany leading the charge. While the region lags the USA and China, substantial investments and initiatives, such as the 'AI for Europe' initiative, demonstrate a commitment to catching up. The EU's collaborative approach aims to foster a competitive environment, ensuring Europe remains a strong contender in the global AI arms race (Abbott and Rothman, 2023).

As AI technologies continue to advance, it is crucial for nations to collaborate, ensuring the benefits are shared globally and ethical considerations are paramount. The future of AI development will likely witness further innovations, collaborations and strategic shifts, ultimately shaping a collective future where AI benefits everyone.

IPR and AI crossroads

Getty Images and Stability AI

The recent developments involving Getty Images and Stability AI reflect the intensifying legal battles at the intersection of AI and IP. Getty Images has filed a lawsuit in the USA against Stability AI, the creator of the open-source AI art generator Stable Diffusion. Getty Images accuses Stability AI of 'brazen infringement' on a massive scale, alleging that the startup copied over 12 million images from Getty's database without permission or compensation to build a competing business. The lawsuit, which follows Getty's legal proceedings in the High Court of Justice in London, is part of a broader legal struggle between AI startups and rights holders (Craig, 2021).

Getty's case appears to be on a stronger footing than a previous artist-led lawsuit against Stability AI. Legal experts suggest Getty Images' complaint is technically more accurate and focuses on the unauthorised use of its images, contrasting with the class action lawsuit's emphasis on occupational harm to artists caused by AI tools (Eapen et al., 2023). The lawsuit delves into copyright infringement arguments, emphasising the violation of Getty's copyright and trademark protections. The case hinges on the interpretation of the US fair use doctrine and the concept of 'transformative use,' as AI art tools often scrape images from the web without creators' consent.

The legal battle underscores the challenges posed by AI-generated content to traditional IP frameworks. Getty Images' decision to also venture into AI image creation with Generative AI by Getty Images signals a dual strategy: legal action against infringing AI tools and the development of a commercially viable AI service that respects creator rights. The new service, built in collaboration with Nvidia, aims to offer a commercially viable option for businesses while addressing IP concerns. Getty Images emphasises that its Generative AI model avoids using stolen imagery from the open internet and promises full indemnification for commercial use.

These developments highlight the evolving landscape where legal, technological and economic considerations intersect. The ongoing legal struggles underscore the need for clear guidelines and legal frameworks to address the challenges and opportunities presented by AI-driven innovation in the realm of IP. As stakeholders navigate this complex terrain, the outcomes of these legal battles will likely set important precedents for the future of AI and IP.

USA declares AI art to be unprotected copyright

The rise of generative AI technologies, such as Gan's and Google's DeepDream, has had significant impacts on the world of art creation since 2014 (Edwards, 2023). These AI tools have accelerated the creative process and empowered artists to produce a wide range of stunning artworks, from simple portraits to intricate imaginary worlds. However,

this transformative technology has sparked a debate over whether AI-generated art can be eligible for copyright protection.

In the USA, a federal judge recently ruled that pieces of art created by AI were ineligible for copyright protection owing to the absence of human authorship. The judge emphasised that copyright law had never been extended to protect works generated by technology without human guidance, stating that copyright protection applied only to works of human creation (Weinbaum and Veitas, 2018). The CEO of Imagination Engines, Stephen Thaler, is leading an effort to challenge this ruling. Thaler aims to copyright AI-generated works and has contested the US Copyright Office's rejection of his attempt to copyright an artwork titled 'A Recent Entrance to Paradise' in 2022 (Smith, 2023). He argues that the 'human authorship' requirement is unconstitutional and believes that AI should be recognised as a legitimate creator.

In Kenya, copyright laws currently lack specific provisions addressing whether machines can receive authorship or recognition. The Copyright Act in Kenya emphasises that copyright protection is granted to works that involve sufficient effort to give them original character (Amatika-Omondi, 2019). However, there is no clear definition of what constitutes 'effort' under the law. Authorship is traditionally attributed to a human mind but the evolving landscape of AI-generated art challenges these established notions.

The Copyright Act in Kenya defines artwork as an original work of visual art created by an artist or produced under their authority. The law suggests copyrightable work requires sufficient effort for original character. The challenge arises when considering scenarios where a person inputs data into a machine, and the machine, in response to the command, creates a piece of art (Gakuru, 2023). The law did not anticipate such developments, making it difficult to determine whether there is sufficient human effort expended to qualify auto-generated art for copyright protection.

To address these challenges, Kenya is taking steps to regulate the use of AI through initiatives like the AI task force and the Kenya Copyright Board (KECOBO). KECOBO's platform for the conversation about AI and copyright reflects ongoing efforts to adapt legal frameworks and protect the rights of creatives in the evolving landscape of AI-generated content.

KECOBO'S forensic audit

The recent decision by the High Court in Kenya to allow KECOBO to act on a forensic audit of three Collective Management Organisations (CMOs) holds significant implications for IP oversight, particularly in the context of AI. The Court's dismissal of a petition against the forensic audit reinforces the regulatory authority's right to ensure compliance within organisations responsible for managing copyrights. This decision underscores the need for transparent mechanisms in the context of the growing role of AI in content creation, distribution and rights management.

The audit, prompted by suspicions of fraudulent transactions, reflects a proactive approach to addressing issues within CMOs and signals a broader trend of adapting legal frameworks to the challenges posed by AI-generated content (Jaketch, 2023). As AI continues to shape the landscape of content creation and distribution, regulatory bodies may need to adapt and enhance their oversight mechanisms to ensure that AI-generated works comply with copyright laws and ethical standards (Amatika-Omondi, 2019).

The involvement of law enforcement agencies and the Court's affirmation of the audit's legality in accordance with the Constitution and Copyright Act highlight the evolving landscape of IP governance in the digital era. As AI becomes more integrated into creative processes, lawmakers may need to revisit and update IP laws to address the distinctive characteristics and challenges associated with AI-generated works. This development underscores the importance of maintaining transparency and accountability within organisations responsible for managing copyrights. As technology continues to advance, legal frameworks and regulatory practices must adapt to ensure the responsible and ethical use of AI in the creative industries.

Taylor Swift's explicit images

A few weeks ago, the world woke up to hundreds of explicit AI-generated images depicting pop idol Taylor Swift. The images, originally posted by the website *Celeb Jihad*, had been shared by a user on the social site X (formerly Twitter), where they were reposted thousands of times and spread like wildfire. Despite the posts getting taken down by X for violating the site's community guidelines, the damage had already been done, as the images had been shared elsewhere on the information superhighway (Weatherbed, 2024).

Whereas this was shocking and disheartening to Swift, it should not come as a surprise. Before her incident, numerous popular personalities had reported incidences of explicit AI-generated images of themselves being shared online, deeply affecting their image and esteem. The profound development of AI technology has made it incredibly easy to generate deepfakes of anyone by feeding these technologies with the right prompts.

When AI produces content that closely resembles an individual, it can mislead and deceive audiences into believing the content originated from the person it mimics, thereby infringing on their identity and reputation. Granting IPR to content like this means individuals lose control over their likeness, potentially leading to exploitation, misrepresentation or even harm. Allowing AI-generated content to freely mimic individuals without consequences undermines the principles of creativity, ownership and integrity. This article does not advocate for absolute protection of all AI-generated imagery and or videos, as this would include the above-explained conundrum.

Recommendations

AI is reshaping creativity and innovation. It has reached a point where collaboration between countries is fast becoming necessary to protect IPR in AI-generated content. Given the unique challenges posed by AI-generated content, such as questions regarding authorship, ownership and infringement, countries can work together within existing frameworks like WIPO to develop guidelines and agreements tailored to these complexities.

International law can play a crucial role in assisting countries in assessing and agreeing on standards for IP designations concerning AI-generated content. International law principles, such as the principles of non-discrimination and equitable treatment, provide a framework for countries to negotiate and implement agreements that uphold the rights of creators, users and consumers of AI-generated content. Additionally, international law mechanisms, including dispute resolution mechanisms and the recognition of foreign judgements, offer avenues for countries to resolve conflicts and address discrepancies in the interpretation and application of IP standards.

Furthermore, industries should engage in proactive measures to address the challenges of protecting IP in AI-generated content. This involves promoting transparency and ethical practices in AI development, such as ensuring clear attribution of authorship and ownership of AI-generated works. Industry-led initiatives should establish voluntary guidelines and best practices for IP management in AI, fostering a culture of responsible innovation and equitable access to AI-generated content. Ultimately, fostering dialogue and knowledge-sharing among stakeholders, including researchers, technologists, legal experts and content creators, can help develop consensus on emerging IP issues in AI.

Conclusion

The question of IPR surrounding AI-generated content is a pressing one. This article asserts that the prompter owns the rights to AI-generated content. Just as an artist's brush is unable to paint on a canvas without the artist's hand moving it around on the blank canvas, an AI algorithm is unable to generate content on its own without the user's either sophisticated or mere three-word input. Conclusively, an algorithm cannot be an inventor.

Moving forward, achieving a harmonious balance within IPR amid AI-driven innovation demands a collaborative approach. Continual evaluation and revision of existing laws are essential to ensure fairness and accountability in the distribution of rights and recognition. Ultimately, navigating this complex terrain requires a blend of foresight, co-operation and adaptability to foster a legal landscape that supports innovation while safeguarding the interests of all stakeholders involved.

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