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SYNERGIES AND CHALLENGES: EXPLORING THE INTERSECTION OF INTELLECTUAL PROPERTY AND ARTIFICIAL INTELLIGENCE

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ABSTRACT

Artificial Intelligence (AI) has emerged as a transformative technology, revolutionizing various industries and reshaping the way information is created, processed, and shared. The rapid advancement of AI technologies has presented novel opportunities and complexities in the realm of IP law. AI tools serve not only to streamline the search, examination, administration, and enforcement of intellectual property (IP) rights but also hold significance in terms of being subjects of IP protection themselves. The works produced by these AI tools can qualify for copyright or patent protection. This dual aspect of protection serves as an incentive for the continued advancement of AI technologies while also placing restrictions on their usage and dissemination, striking a balance between innovation and safeguarding intellectual property interests.. This piece analyses to what extent patent and copyright protection is currently available for AI technologies and AI-assisted and future AI-generated works, particularly under Indian law. In this piece I delve into the intricate interplay between intellectual property (IP) and artificial intelligence (AI), shedding light on the synergies and challenges that arise at their intersection. It examines how AI-generated content, AI-driven innovation, and AI-assisted IP management are shaping the IP landscape. It also explores the associated legal, ethical, and policy issues, including questions of ownership, infringement, and the need for adaptive regulatory frameworks.

Key words- AI-generated works, AI-assisted works, AI inventorship, AI ownership, Patent, Copyright.

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INTRODUCTION

In the ever-evolving landscape of technology, Artificial Intelligence (AI) has emerged as a transformative force, revolutionizing industries and reshaping the way we live and work. As AI continues to advance, it brings to the forefront a crucial aspect of innovation and creativity: Intellectual Property Rights (IPR). Artificial Intelligence (AI) is transforming industries across the globe, revolutionizing how businesses operate and how we interact with technology. However, this technological advancement also raises important questions about intellectual property rights (IPR) in the digital age. As AI continues to evolve, understanding the intricacies of IPR in this context is crucial to protect innovation and encourage further development.The advent of Artificial Intelligence (AI) has ushered in a new era of innovation, transforming industries and enhancing productivity across the globe. However, as AI technologies continue to evolve, so do the challenges surrounding Intellectual Property Rights (IPR). Protecting the creations and innovations generated by AI systems is a complex and evolving issue that requires careful consideration.

AI AS CREATIVE FORCE

Traditionally, Artificial Intelligence (AI) was perceived as a technology deeply rooted in logic and calculations, devoid of any imagination or creativity. This view has undergone a radical transformation, as evidenced by recent breakthroughs that show AI can not only emulate human creativity but exceed it in various ways.[2]

AI systems have demonstrated remarkable creative capabilities, from composing music and generating art to producing written content. These outputs blur the lines between human and machine-generated work, raising questions about ownership and authorship. Traditionally, IPR has been designed to protect the rights of human creators, but AI challenges these norms.

The world has been wowed by the newest displays of text-to-image technology by DALL-E 2 from OpenAI and Imagen from Google. Beautiful, amazingly creative compilations all

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[2]PROMPT ENGINEERING GLOBAL, https://www.promptengineering.global/post/the-unexpected-turn-ai-as-a-creative-force (last visited Sept. 27, 2023).

generated by artificial intelligence (AI) systems. This is possible because AI has learned natural language understanding by looking at countless texts and images.[3]

Take, for instance, an artwork showcased in the press release by the Australian company "The Cannabis Company," which is hailed as the world's inaugural AI-generated cannabis artwork. In this case, the artist, Tom White, developed an algorithm enabling a computer to generate its unique visual representation of cannabis. This process was informed by a dataset consisting of 1000 photos of the plant that Tom White provided as input. This image was printed onto hemp paper and released as Forest Weed, a limited-edition print.[4]

Additional instances include an AI program that authored a short novel in 2016, which came close to winning the Nikkei Hoshi Shinichi Literary Award in Japan. Furthermore, in 2018, an AI-generated artwork titled the "Portrait of Edmond Belamy" was sold at Christie's Auction House for an impressive sum of nearly $620,500.And this year, Warners Music signed the world's first-ever record deal with an AI algorithm to produce 20 albums.[5]

The creation process of AI-generated artwork introduces complexity in pinpointing its origin.

AI-GENERATED WORK AND OWNERSHIP

One of the primary challenges with AI-generated content is defining ownership. In many cases, AI systems operate autonomously, using vast datasets to create content without direct human input. Who should be considered the creator when AI generates a valuable piece of work? Is it the programmer, the owner of the AI system, or the AI itself? These questions remain largely unanswered in existing IPR frameworks.

UK legislation provides copyright protection to a work generated by a computer in circumstances where there is no human author. The law provides that such works will be owned by a human or corporate person, but the computer program or AI itself can never be the author or owner of the IP.[6]

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[3]VENTUREBEAT, https://venturebeat.com/datadecisionmakers/the-future-of-creativity-brought-to-you-by-artificial-intelligence/(last visited Sept. 27, 2023).
[4]THE LIGHTHOUSE, https://lighthouse.mq.edu.au/article/december-2019/AI-generated-art-who-owns-the-copyright(last visited Sept. 27, 2023).
[5]*Id*. at 3.
[6]LEWIS SILKIN, https://www.lewissilkin.com/en/insights/ai-101-who-owns-the-output-of-generative-ai#:~:text=IP%20ownership%20can%20be%20a%20complex%20issue%20and%2C,under%20the%20T%26Cs%20of%20the%20relevant%20AI%20platform (last Visited Sept. 26, 2023).

Instead, section 9 of the Copyright Designs and Patents Act 1988 designates the human "author" of computer-generated works as "the person by whom the arrangements necessary for the creation of the work are undertaken" and protection lasts for 50 years from the date the work is created. This means for wholly AI-generated artwork the law would most likely designate that the platform creators are the authors (i.e., those that have designed the AI technology), rather than the AI itself.

In contrast, in the US a work must be the result of original and creative authorship by a human author to enjoy copyright protection. As a result, the U.S. Copyright Office will not register a work that was created purely by an autonomous artificial intelligence tool.[7]

Many countries, including India, Ireland, New Zealand, follow the practice of granting copyright ownership to the programmer of the AI system.[8] This approach recognizes that the AI's existence is a result of the programmer's intellectual creativity. Recently, India has opted for this lenient approach by providing the work by the AI RAGHAV the co-ownership for its creation called Suryast, the other co-author being its creator.[9]

Given this perspective, there is an argument that if an AI system autonomously creates a wholly original work, it should be regarded as the author and thus hold exclusive copyright ownership. This perspective gained support when, in 2016, Japan included a short novel composed by a computer program in the selection rounds for a national literary prize, suggesting a willingness to acknowledge AI as a creative entity capable of authorship.[10]

Nonetheless, adopting this approach presents notable challenges due to the fact that AI machines are not generally recognized as legal personalities in the majority of jurisdictions. Copyright laws traditionally mandate human creativity and intellectual input as prerequisites for authorship, which could present hurdles to recognizing AI systems as legitimate authors

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[7]LEWIS SILKIN, *supra* note 5.

[8]Andres Guadamuz, 'Artificial intelligence and copyright' (WIPO MAGAZINE, October 2017)https://www.wipo.int/wipo_magazine/en/2017/05/article_0003.html (last visitedSept. 27, 2023).

[9]MONDAQ,https://www.mondaq.com/india/copyright/1284668/ai-works--the-future-of-intellectual-property-law#:~:text=In%202021%2C%20an%20AI%20painting,owner%20of%20the%20AI%20App.&text=Initially%2C%20the%20Indian%20Copyright%20Office,sole%20author%20for%20an%20artwork(last visited Sept. 27, 2023).

[10]Michael Schaub, 'Is the future award-winning novelist a writing robot?' (LOS ANGELES TIMES, 22 March 2016) https://www.latimes.com/books/jacketcopy/la-et-jc-novel-computer-writing-japan-20160322-story.html.

with exclusive copyright ownership. Countries like the United States, Spain and Germany have explicitly stated that copyright is granted only to works created by human beings.[11]

In the landmark decision of ***Infopaq International A/S v Danske Dagbaldes Forening[12]***, the Court of Justice of the European Union (CJEU) had declared that copyright only applies to original works that must reflect "author's own intellectual creation." In another case of ***Acohs Pty Ltd. v Ucorp Pty Ltd***.[13], the Australian Court had refused to grant copyrights to AI-generated work because it had not been produced by a human.

Another perspective contends that AI-generated works should be treated as public resources, akin to the principles of Creative Commons, and not be subject to exclusive ownership. While this approach may serve the broader public interest by promoting widespread access and use of AI-generated content, it could potentially discourage tech companies and innovators from investing in AI projects. The concern is that if economic rewards from the works produced by AI cannot be realized, it may reduce incentives for further development and investment in AI technologies. Balancing the interests of public access and innovation incentives is a complex challenge in the evolving landscape of AI-generated content.

LIABILITY FOR INFRINGEMENT

Determining accountability for works generated by artificial intelligence is a multifaceted challenge. It necessitates a comprehensive understanding of the roles played by AI developers, users, and the AI system itself. The responsibility for ensuring compliance with copyright laws falls on both the creators and consumers of AI-generated content. However, the intricacy arises when AI autonomously generates content, making it difficult to ascertain the rightful copyright holder. When AI leads to copyright infringement, legal complications emerge due to the absence of legal personality attributed to AI. Under typical Copyright Acts, individuals are held accountable for infringement, yet AI lacks recognition as a legal entity. To address these liability concerns, it is imperative to establish well-defined frameworks that attribute responsibility to the creators, owners, or operators of AI.

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[11]Andres Guadamuz,*supra* note 8.
[12]Infopaq International A/S v Danske Dagblades Forening(C-5/08) EU:C: 2009:465 (16 July 2009)
[13]Acohs Pty Ltd. v Ucorp Pty Ltd. [2012] FCAFC 16

The training data for generative AI often consists of numerous copyrighted creative works, many of which were included in the AI's training dataset without the creators' awareness or consent, posing ethical and legal concerns regarding intellectual property rights and potential copyright infringement.

"*So, you use the training data to train this model and then in the final step, you have a trained model and then you can use it to create new outputs. Now, even the first step, even just taking the data and training an AI model can raise copyright issues because you're now transforming this art into something new,*" Mahari.[14]

In US copyright law, there exists the notion of 'fair use' which basically allows creative work based on a copyrightable artwork - but it should be transformative enough that it's somewhat different from the original. This type of altered work is considered separate from the original work of art and is not subject to copyright infringement.[15]

Generative AI is one of the hot topics in copyright law today. In the EU, a crucial legal issue is whether using in-copyright works to train generative AI models is copyright infringement or falls under existing text and data mining (TDM) exceptions in the Copyright in Digital Single Market (CDSM) Directive.[16] In particular, Article 4[17]CDSM Directive contains a so-called "commercial" TDM exception, which provides an "opt-out" mechanism for rights holders. This opt-out can be exercised for instance via technological tools but relies significantly on the public availability of training datasets.[18]

CONCLUSION

In conclusion, the intersection of Artificial Intelligence (AI) and Intellectual Property Rights (IPR) represents a complex and evolving landscape that holds both promise and challenges for society. AI has the potential to revolutionize various industries, from healthcare and manufacturing to entertainment and finance, by enhancing innovation and productivity.

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[14]EURONEWS.NEXT, https://www.euronews.com/next/2023/07/10/copyright-challenges-in-the-age-of-ai-who-owns-ai-generated-content(last visited Sept. 27, 2023).

[15]*Id.* at 14.

[16] João Pedro Quintais, *Generative AI, Copyright and the AI Act*, KLUWER COPYRIGHT BLOG, (Sept. 27, 2013, 9:29 PM), https://copyrightblog.kluweriplaw.com/2023/05/09/generative-ai-copyright-and-the-ai-act.

[17] Directive (EU), § 4, 790, The European Parliament, 2019 (EU).

[18] João, *supra* note 16.

However, it also raises significant concerns regarding copyright, patent, and trademark issues, as well as the ethical and legal implications of AI-generated content.

To navigate this intricate terrain successfully, it is essential for policymakers, businesses, and legal experts to collaborate in developing comprehensive and adaptable frameworks that strike a balance between fostering innovation and safeguarding intellectual property. This includes defining clear ownership rights for AI-generated works, addressing issues of liability and accountability, and promoting transparency in AI systems. Furthermore, the international community should work together to harmonize IPR laws across borders, ensuring consistent protection and enforcement.

In the coming years, the relationship between AI and IPR will continue to evolve, and society must be prepared to address emerging challenges and opportunities. By fostering innovation, protecting intellectual property, and upholding ethical standards, we can harness the full potential of AI while safeguarding the interests of creators and innovators in a rapidly changing technological landscape.