



CAN AI BE CONSIDERED AN “AUTHOR” UNDER COPYRIGHT LAW?

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Abstract

One of the biggest challenges in intellectual property law as AI keeps improving is to figure out if copyright law should recognize AI as an "author". This paper reviews the intricacies of the problem of authorship for works created by AI and the effects of these phenomena on copyright law. Human authorship has always been the premise of copyright law which grants it protection to the works made by humans and recognizes the characteristics of creativity, intellect, and expression that come from humans (authors). Nonetheless, with the rise of AI-powered technologies, there are machines that can come up with original ideas and do the content creation task without any human intervention; hence it is not clear who the author is anymore. Arguably, a major concern in assigning authorship is the creative input and decision-making part. An AI model may give an output it learned from huge data sources and a mathematical procedure but still it does not have the capability to come up with an original idea and to relate to humans emotionally. Opponents of the idea point out that there be no such things as a conscious idea or emotional side in a computer program, so computer-generated works are not able to have the qualities that are typically associated with human-authored creations.

Keywords: *Artificial Intelligence, Authorship, Copyright Law, Creativity, Agency, Innovation, Ownership, Legal Framework*

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I Introduction

COPYRIGHT is a medium that protects the expression of an idea rather than the idea itself.

Section 13 of the Copyrights Act, 1957¹ (“the Act”) provides that copyright can be obtained for works such as: - original artistic works; cinematographic films; and audial recordings – as under Section 2(c).² Interestingly, the scope of the Act has also been widened to include computer programs that have a tangible technological impact within its ambit.

Section 2(d) that defines “author” provides that:³

- (i) in relation to a literary or dramatic work, the author of the work is;
- (ii) In relation to a musical work, the composer;
- (iii) In relation to an artistic work other than a photograph, the artist;
- (iv) In relation to a photograph, the person taking the photograph;
- (v) In relation to a cinematograph film or sound recording, the producer; and
- (vi) In relation to any literary, dramatic, musical or artistic work which is computer generated, the person who causes the work to be created;”

¹ The Copyright Act, 1957 (Act 14 of 1957), s. 13.

² *Id.*, s. 2(c).

³ *Id.*, s. 2(d).

Similarly, Section 2(o) defines "literary work" to include "computer programmes, tables and compilations including computer databases".⁴

Computer software's eligibility as a "creative work" under the Act is measured via a metric of its originality, keeping in paramount consideration that a substantial amount of time and effort must have been put by the author into its making.⁵

WIPO (World Intellectual Property Organization) has classified AI (Artificial Intelligence) systems into three categories, namely: (i) "expert (or knowledge-base) systems," (ii) "perception systems," and (iii) "natural language systems."⁶ AI along the same lines may be interpreted as an author of its generated work, produced via a mechanism of machine learning based upon its training set and deep neural networks. The scope of such an interpretation has been up for discussion by the WIPO. It has also found mentions in the Supreme Court of the United States.

On the other hand, supporters of AI authorship claim that the point of the argument should not be where the creative idea came from but rather novel and original work. Without a doubt, an AI program can create something new that is not similar to any other work, so it is worthy of protection under copyright law. Besides, by refusing to give a copyright to AI-generated works, it may discourage innovators and slow

⁴ *Supra* note 1, s 2(o).

⁵ *Id.*

⁶ WIPO, 'Worldwide Symposium on the Intellectual Property Aspects of Artificial Intelligence' available at: www.wipo.int/edocs/pubdocs/en/wipo_pub_698.pdf (last visited on 21 April 2024).

down developments regarding AI technologies that are creative in nature.

To resolve the problem of AI authors, the courts and lawmakers have in recent years taken steps in this direction with some legal precedents and legislative initiatives. These measures in different jurisdictions extend copyright protection to AI-generated works, thus considering the AI system or its developer as the owner. The strategy, however, poses a problem of stimulating more investment in AI research without acknowledging the human creators' contributions.

Besides, some people believe that a more refined stance should be taken that reflects the co-creative nature of AI-generated works. According to this model, copyright ownership could belong to the AI system, the developer, and any human collaborators who participated in the creative process, thus showing the most fair distribution of rights.

Whether AI can be considered an "author" under copyright law is still a complicated and controversial matter. With the continuous development of AI, the challenge to define authorship in the digital age will be faced by decision-makers, legal scholars, and stakeholders. It will be vital to maintain a balance between innovation, creativity, and legal standards so as to determine the future of copyright law in relation to AI-generated works which will be influenced by these technologies.

II Artificial Intelligence

Artificial neural networks possess the ability of self-learning, allowing them to enhance their performance with increasing data availability over

time. "Machine Learning" and "Deep Learning" are subsets of AI.⁷ Machine learning enables an AI system to learn via training algorithms that enable it to learn from input data, adapt, and make all further decisions autonomously if unsupervised or reinforcement learning is used, or as directed in case of supervised learning.

The programmer sets the parameter, and the AI starts autonomously generating output once it has been trained.⁸

The criteria of originality, skill and judgment might be fulfilled through the programming, training, and parameters of the AI which it relies upon to create its work.⁹ In case of supervised learning, human involvement exists and an author may be easily ascribed, but that is not the case for unsupervised learning.

On the other hand, ascribing authorship to AI could give rise to a different set of problems as AI output may be biased, and contains a "black-box" character, i.e. AI models cannot explain how they reached the conclusion or why, and this serves an element of uncertainty and ambiguity in their results.

⁷ WIPO Secretariat, *Revised Issues Paper on Intellectual Property Policy and Artificial Intelligence* (WIPO/IP/AI/2/GE/20/1).

⁸ Andres Guadamuz, 'Artificial Intelligence and Copyright' (WIPO Magazine, October 2017), available at: www.wipo.int/wipo_magazine/en/2017/05/article_0003.html (last visited on 21 April 2024).

⁹ Lucy Rana & Meril Mathew Joy, 'India: Artificial Intelligence And Copyright – The Authorship' (Mondaq, 18 December 2019), available at: <http://www.mondaq.com/india/copyright/876800/artificialintelligence-andcopyright-the-authorship> (last visited on 21 April 2024).

II Indian Stance

India is the first country to have recognized AI as a joint author.¹⁰ As opposed to the Dutch “The Next Rembrandt”, “Raghav” a painting application created a painting called “Suryast” by combining Vincent Van Gogh’s ‘Starry Night’ and a photograph taken by Mr. Ankit Sahni.¹¹ Raghav’s first application to the Copyright Office to be the sole owner was rejected while its second application that listed it as the joint author along with its creator was accepted, thus, laying down history.

However, a notice for withdrawal was issued by the Indian Copyright Office later with a statement that the grant of the registration was mistaken. The website of the office still displays the application status as ‘registered’ currently – the court is yet to rule on the same.¹²

Further, Parliamentary Standing Committee on Commerce in its 161st Report discussed on intellectual property rights. It opined that the present IP (Intellectual Property) Laws- including law of copyrights is not well-equipped to protect works born out of AI. The Committee, thus, suggested amendments in the laws in this regard.¹³ It further

¹⁰ Dr. Mezei Péter, ‘Artificial Authorship under Indian Copyright Law?’ (Copyright 21, 13 August 2021), available at: <https://copy21.com/2021/08/artificial-authorship-under-indian-copyright-law/> (last visited on 21 April 2024).

¹¹ Hema K, “Protection of Artificial Intelligence Autonomously Generated Works under the Copyright Act, 1957- An Analytical Study” 28 *JIPR* 193, 194 (2023).

¹² Rajiv Sharma & Ninad Mittal, ‘Artificial Intelligence Lacks Personhood to Become the Author of an Intellectual Property’ (LIVELAW, 22 September 2023), available at: www.livelaw.in/law-firms/law-firm-articles-/artificial-intelligence-intellectual-property-indian-copyright-act-singhanian-co-llp-238401 (last visited on 21 April 2024).

¹³ Department Related Parliamentary Standing Committee on Commerce, *Review of The Intellectual Property Rights Regime in India* (Rajya Sabha 23 July 2021, Report No. 161)

recommended that AI- autonomously generated works should be protected under copyright laws to incentivize AI-creators.

The Hon'ble Supreme Court in its landmark judgment of *Som Prakash Rekhi v. Union of India*¹⁴ laid down what constitutes a "person" in the eyes of the law.¹⁵ Person must have "personality" which means it must have the right to sue or be sued. Since AI does not fulfil various the criteria for a person such as the right to hold, move or acquire property or the right to sue or get sued *inter alia*, it cannot be considered as a juristic person. Therefore, when AI cannot fulfil the *prima facie* requirement of being an author, patent cannot be granted the content it generates.

As iterated by the WIPO in its 2019 Conversation on IP and AI,¹⁶ Indian courts took the position that creativity must be respected wherever it comes from, and followed the modicum of creativity test. It stated how Indian Courts consider Holy Scriptures, rivers, animals, etc. as legal entities with the power to own, transfer, and dispose of property, and these traditional thoughts have been applied to modern day problems such as phishing, spamming, meta tagging, hyperlinking, and the protection of domain names to meet the ends of justice.¹⁷

¹⁴ *Som Prakash Rekhi v. Union of India*, 1981 1 SCC 449.

¹⁵ Renu Rampal and Swaraj Raghuvanshi, 'Demystifying Rights of AI Generated Inventions' (LIVELAW, 15 April 2023), *available at*: www.livelaw.in/law-firms/law-firm-articles-/ai-generated-inventions-chatgpt-indian-patent-act-dabus-united-states-patent-trademark-office-european-patent-office-226394 (last visited on 22 April 2024).

¹⁶ World Intellectual Property Organisation, 'Wipo Conversation on Intellectual Property (IP) and Artificial Intelligence (AI)' International Bureau (Oct, 31, 2019).

¹⁷ *Id.*, 69.

On authorship, as reiterated by the WIPO, the Indian copyright law refers to the author as a person who takes the initiative and accountability for the creative work – following the same consideration, the people who are involved with the AI who take the initiative and hold accountability and responsibility for the works could be taken as the authors.¹⁸

III Indian Copyright Act, 1957

There are two essential criteria under the Copyright Act, 1957 for a work to be eligible for protection- originality, and preservation in a tangible medium.¹⁹ Originality is measured by factors such as the application of adequate judgment, skill, and labour in the creation of the work.²⁰

Section 17²¹ of the Copyright Act states that only persons can be authors. Entities such as companies can be assigned copyright (Section 18)²² by the individual, based on an agreement, for a limited period. Section 17 also states that the human author always has the first copyright to the work unless there is a contract to the contrary.²³

However, the AI's developer asserting copyright over a chain of outputs that was based on publicly available information vetted out by other

¹⁸ *Supra* note 16, 73.

¹⁹ Prachi Pathak, "Challenges in Protecting Copyright for Ai-Generated Content" 12 *IJCRT* 772, 775 (2024).

²⁰ Immidisetty N.G. Sravani & Kurella Venkat, "AI-Produced Works and the Subject of Copyright - Its Legal Position" 5 *IJL&LR* (2023).

²¹ *Supra* note 1, s. 17.

²² *Id.*, s. 18.

²³ Harshal Chhabra & Kanishk G. Pandey, 'Balancing Indian Copyright Law with AI-Generated Content: The 'Significant Human Input' Approach' (IJLT, February 26) available at: [www.ijlt.in/post/balancing-indian-copyright-law-with-ai-generated-content-the-significant-human-input-approach#:~:text=The % 20 blog % 20 reasoned % 20 that % 20 AI, derived % 20 from % 20 pre % 20 Dexisting % 20 work](http://www.ijlt.in/post/balancing-indian-copyright-law-with-ai-generated-content-the-significant-human-input-approach#:~:text=The%20blog%20reasoned%20that%20AI,derived%20from%20pre%20existing%20work) (last visited on 23 April 2024).

people, and collected by an automated machine learning mechanism is not fair. Similarly, the prompt-giver asserting authorship is also wrong as there is no element of skill or judgment or artistic effort or labour put in collecting the output.

IV Issues

The ambiguity in the determination of authorship and ownership is the paramount issue that keeps a global standard regarding AI intellectual property rights from emerging. When AI, seemingly autonomously, generates content it blurs the lines of authorship, making it challenging to attribute creation to a human creator.²⁴

The question is imminent not just for the grant of patents and copyrights, but also for determining who would be the receiver of compensation in case of breach of their intellectual property rights.

Moreover, as AI models learn from wide datasets, should the entities whose data was unknowingly used to train the AI models, for example, if it was published on the internet, be entitled to compensation? Question also lies on who would be liable to pay such compensation, the creator of the AI practically would, but then what implication does that have on the status of "author" of the AI model itself remains unclear and undealt with by law presently.

²⁴ Priscilla A. Napitupulu, Clara A.F. Sinaga & Albert L.P. Hasugian, "The Implication of Generative Artificial Intelligence towards Intellectual Property Rights (Examining the Multifaceted Implications of Generative Artificial Intelligence on Intellectual Property Rights)" 1 *WSLHR* 274, 280 (2023).

V International Interpretation

According to the Copyright Office of the United States, and as reiterated by David Siegel, partner at Grellas Shah LLP, "If the only human involvement is the input of a chat prompt into ChatGPT, for example, one cannot obtain copyright protection for the raw result of that prompt."²⁵ However, on the other hand, "if a user inputs a prompt into an AI tool, gets a response and then modifies the result in creative ways that can potentially result in content afforded copyright protection. However, only human-authored parts of the work can be copyrighted."

A consortium of museums in the Netherlands in 2016 had revealed a three-dimensional printed painting called "The Next Rembrandt"²⁶ that was created by an AI computer system using Machine Learning after meticulous analysis of numerous pieces created by the seventeenth-century Dutch artist, Rembrandt Harmenszoon van Rijn.²⁷ As there was no human author, the portrait was seen as ineligible for copyright protection.

In a landmark judgment by the US District Court, *Stephen Thaler v. Shira Perlmutter, Register of Copyrights and Director of the United States*

²⁵ George Lawton, 'Is AI-generated content copyrighted?' (TechTarget 10 August 2023), available at: www.techtarget.com/searchcontentmanagement/answer/Is-AI-generated-content-copyrighted (last visited on 23 April 2024).

²⁶ Sharma & Mittal (n 13).

²⁷ Feodora Hamza, 'The Intellectual Property Saga: The Age of AI-Generated Content | Part 1' (DigWatch, 30 October 2023), available at: <https://dig.watch/updates/a-new-chapter-in-intellectual-property-rights-the-age-of-ai-generated-content> (last visited on 23 April 2024).

Copyright Office, et al.,²⁸ neither the machine itself – “Creativity Machine”, nor the owner – Stephen Thaler was given registration as an author under copyright laws as (a.) the machine does not show human authorship, and (b.) the human does not show original intellectual conception required to be an author, as the human did not create the work, the machine did.

Similarly, Stephen Thaler, the creator of another AI system called “DABUS” – “Device for the Autonomous Bootstrapping of Unified Sentience” had filed patent applications for his inventions in different countries, such as England, USA, New Zealand, Australia, and the European Patent Office. However, they were all rejected on the ground that their patent laws do not see an AI system, which is not a natural person, as an inventor.²⁹

Interestingly enough, South Africa’s IP Commission – the Companies and Intellectual Property Commission (CIPC) accepted Thaler’s PCT (Patent Cooperation Treaty) Application on the 24th of June, 2021. Thus, it became the first AI system to be granted a patent by being duly seen as an inventor.³⁰

The European Union Court of Justice in the case of *C-5/08 Infopaq International A/S v Danske Dagblades Forening*,³¹ emphasized that copyright is only applicable on works that are original, i.e. representing

²⁸ *Stephen Thaler v. Shira Perlmutter, Register of Copyrights and Director of the United States Copyright Office, et al.*, Civil Ac on No. 22-1564 (BAH).

²⁹ *Supra* note 26.

³⁰ *Id.*

³¹ *Case C-5/08, Infopaq Int’l A/S v. Danske Dagblades Forening*, [19 July 2009] ECR I-6569.

the author's own intellectual creation.³² European jurisdictions such as Spain and Germany support the aforeheld statement.³³

A recent Australian case, *Acohs Pty Ltd v. Ucorp Pty Ltd*³⁴ also laid down the court's declaration that a work that is not human-produced cannot be protected by copyright as it has been generated with the help of a computer.³⁵ Another approach that is followed by countries like the United Kingdom, India, Ireland, Hong Kong and New Zealand is to attribute authorship to the programmers or developers of the AI or the computer system.³⁶

The Copyright, Designs and Patents Act of 1988 of the United Kingdom expressly provides that computer-generated works without a human author can be protected under the copyright laws.³⁷ The United Kingdom Court of Appeal in *Nova Productions v Mazooma Games*,³⁸ decided on the authorship of a computer game based on the nature of the player's input. It said that since the player has contributed no skill or labour of an artistic kind, the input is not artistic in nature.³⁹ That leads to the implication that if an input qualifies as artistic, authorship may be held.

³² Hamza (n 28).

³³ Guadamuz (n 9).

³⁴ *Acohs Pty Ltd v Ucorp Pty Ltd*, [2012] FCAFC 16.

³⁵ *Supra* note 33.

³⁶ *Id.*

³⁷ 'Is AI-Created Content Protected by Intellectual Property Rights? The Answer Isn't Simple' (PYMNTS 30 October 2023) available at: www.pymnts.com/artificial-intelligence-2/2023/is-ai-created-content-protected-by-intellectual-property-rights-the-answer-isnt-simple/ (last visited on 23 April 2024).

³⁸ *Nova Productions v Mazooma Games*, [2007] EWCA Civ 219.

³⁹ *Supra* note 33.

VI World Intellectual Property Organization

The WIPO conducted several Conversations on IP and AI wherein esteemed panelists, experts in the field were invited to shed some knowledge and opinions on the current matter. In the first conversation held in Geneva on September 27, 2019, one panelist said that the definition of intellectual property cannot be limited to the human intellect as AI can use training data as well as all available data subsequently to generate various types of content that is similar to the material used by it during training.⁴⁰

The panelists concurred that since AI systems are also now able to invent new devices, such new devices should be eligible to be patented, and the absence of a human inventor cannot be the sole reason to dismiss the same.⁴¹

They further emphasized that rather than looking at the current laws, one must look at the future. They pondered over the fact that the disclosure of ideas is the main aim of patent laws, with the final objective being the multiplication of the general knowledge of the commons. On the other hand, the anti-patent stance against AI-generated content will not encourage innovation, rather it will disincline people from publishing inventions, and thus, introducing a jealousy factor, according to the panelists.⁴²

⁴⁰ *Supra* note 26, 27.

⁴¹ *Id.*, 33.

⁴² *Id.*, 36.

The WIPO in its Second Session published the Revised Issues Paper on IP and AI in May 2020,⁴³ wherein it gave a suggestion as to authorship/ownership. It stated how designs are generated with the AI-intervention and may in future be produced by the AI model autonomously, and in this case, computer-aided design (CAD) had been in vogue and seemed to pose no remarkable threat to design policy.⁴⁴ Similarly, it suggested that AI-assisted designs may be treated the same way by deriving an analogous relationship between the two.

I. CONCEPTUAL CHALLENGES AND ETHICAL CONSIDERATIONS

A. *Absence of consciousness and subjective agency*

Artificial intelligence (AI) systems, while capable of generating content autonomously, lack the consciousness and subjective agency inherent in human authors. This absence of subjective experience and intent challenges traditional notions of authorship, which emphasize human creativity and originality.⁴⁵ Unlike human authors who draw upon personal experiences, emotions, and intentions to create, AI operates based on predetermined algorithms and data inputs. Consequently, questions arise regarding the authenticity and genuineness of AI-generated works, as they lack the conscious awareness and volition associated with human creativity. This conceptual challenge underscores

⁴³ *Supra* note 26.

⁴⁴ *Id.*, 35.

⁴⁵ Buccafusco, C. J. & Sprigman, C. J., "Artificial Intelligence and Authorship: Who (or What) Can be an Author under US Copyright Law?" 100(6) *BULR* 2183-2228 (2020).

the need to reevaluate the criteria for authorship within the context of AI-generated content.⁴⁶

B. Ethical considerations

a) Transparency

The issue of transparency arises concerning the involvement of AI in content generation. Users and consumers may not be adequately informed about the role of AI in creating content, leading to ambiguity in attributing authorship and determining ownership rights. Transparency requirements are essential to ensure that individuals are aware of the use of AI technologies in content creation, enabling informed decision-making and accountability. Clear disclosure of AI involvement in content generation is crucial to uphold transparency standards and promote trust among creators, consumers, and stakeholders.⁴⁷

b) Accountability

As AI systems autonomously generate content, questions regarding accountability for the accuracy, quality, and legality of AI-generated works emerge. The absence of human oversight and intervention in the content creation process complicates issues of accountability, liability, and copyright infringement. Clear lines of responsibility must be established to address these concerns and ensure that appropriate measures are in place to mitigate potential risks associated with AI-generated content. Establishing mechanisms for accountability is

⁴⁶ P. K. Yu, "Artificial Creativity and Authorship" 39(2) *CLR* 471-528 (2018).

⁴⁷ S Larsson "Artificial Intelligence and Copyright: A Study of Copyright Law's Pragmatic Response to New Technologies" 28(1) *IJLIT* 1-36 (2020).

essential to uphold ethical standards, protect intellectual property rights, and prevent potential harm arising from AI-generated works.⁴⁸

c) Algorithmic Bias

AI algorithms may inadvertently perpetuate biases present in training data, resulting in discriminatory or harmful content generation. Biases stemming from historical data or societal prejudices can manifest in AI-generated works, leading to misrepresentations, stereotypes, or discriminatory content. Addressing algorithmic bias requires careful examination of training datasets, algorithmic decision-making processes, and the potential impact of biases on content generation. Ethical considerations surrounding algorithmic bias necessitate the development of mitigation strategies, algorithmic transparency measures, and bias detection mechanisms to ensure fairness, equity, and inclusivity in AI-generated content.

C. Potential Implications on Creative Industries, Cultural Diversity, and Societal Values

a) Impact on creative industries

The proliferation of AI-generated content may disrupt traditional creative industries, challenging established business models, and distribution channels. Creative professionals, such as writers, musicians, and artists, may face increased competition from AI systems, necessitating adaptation and innovation to remain relevant in the

⁴⁸ O. Tene & J. Polonetsky, "To Track or Not to Track: Towards Privacy-Friendly and Ethical AI" 100(6) *CLR* 1471-1516 (2018).

evolving landscape. Furthermore, the commodification of AI-generated content may impact the economic viability of creative endeavors, requiring stakeholders to explore new revenue models and collaborative opportunities in response to technological advancements.

b) Cultural diversity

AI-generated content has the potential to homogenize cultural expressions, preferences, and aesthetics, thereby impacting cultural diversity and local artistic traditions. The standardization of content creation processes and the replication of popular trends by AI systems may contribute to the erosion of cultural diversity, limiting the representation of diverse perspectives and narratives. Preserving cultural heritage and diversity requires a critical examination of the role of AI in content creation and its implications for cultural identity and expression. Efforts to safeguard cultural diversity may involve promoting inclusivity, supporting marginalized voices, and fostering cross-cultural dialogue in AI-generated content.

c) Societal values

AI-generated content raises ethical dilemmas concerning the authenticity, integrity, and meaning of artistic expression in society. The proliferation of AI-generated works prompts broader discussions about the role of technology in shaping cultural norms and values. Societal values such as creativity, human expression, and individual authorship may be redefined in the context of AI authorship, challenging established notions of authorship and ownership. Addressing societal values requires thoughtful consideration of the ethical, cultural, and

philosophical implications of AI-generated content, fostering dialogue and collaboration among creators, scholars, policymakers, and the public.

Addressing conceptual challenges and ethical considerations surrounding AI authorship is essential for developing regulatory frameworks, ethical guidelines, and best practices to govern AI-generated content effectively. By fostering transparency, accountability, and inclusivity in AI content creation, stakeholders can uphold ethical standards, promote cultural diversity, and safeguard societal values in the digital age.⁴⁹ Balancing technological innovation with ethical stewardship is imperative to ensure the responsible and equitable integration of AI in creative endeavors.

II. ALTERNATIVE MODELS OF ATTRIBUTION AND OWNERSHIP

The advent of AI has introduced new complexities to the traditional concepts of authorship and copyright ownership. As AI systems increasingly contribute to the creation of original content, it becomes imperative to explore alternative models that appropriately attribute authorship and allocate ownership rights. These alternative models must not only recognize the unique characteristics of AI-generated works but also address the collaborative nature of content creation in the digital age.⁵⁰

⁴⁹ M Shaw, "Artificial Intelligence and the Law of Copyright: The Case of the Authorless Code" 23(2) *VJETL* 343-387 (2021).

⁵⁰ P Samuelson, "Who Wrote This? AI and Intellectual Property" 59(9) *CACM* 20-23 (2016).

A. Proposal of alternative models for attribution and ownership

a) Co-authorship with AI

One proposed model involves recognizing AI as a co-author alongside human collaborators. This acknowledges the significant creative input of AI systems in the content creation process. While AI lacks consciousness and subjective agency, its ability to generate original content based on complex algorithms and data inputs cannot be discounted. Thus, under this model, AI would be granted a legitimate claim to authorship, contingent upon its substantial contribution to the final work. This approach seeks to balance the contributions of both AI systems and human creators, ensuring that AI-generated works receive the appropriate recognition and protection under copyright law.

b) Hybrid approach

Another model suggests a hybrid approach that distinguishes between the creative contributions of AI algorithms and human authors. In this model, copyright ownership may be allocated proportionally based on the degree of creative input from each party. For example, AI developers may retain rights to the underlying algorithms, while human creators hold rights to the expressive elements of the work. This nuanced approach recognizes the distinct contributions of both AI systems and human authors, fostering a more equitable distribution of rights and responsibilities in AI-generated content.⁵¹

⁵¹ L Edwards & M Veale "Slave to the Algorithm? Why a 'Right to an Explanation' is Probably Not the Remedy You are Looking for" 16 *DLTR* 18-84 (2017).

B. Consideration of shared authorship frameworks

Shared authorship frameworks have been proposed to reflect the collaborative nature of AI-generated content creation. These frameworks acknowledge the multifaceted contributions of AI systems, human developers, and other stakeholders involved in the creative process. By attributing authorship to all parties, shared authorship promotes transparency, accountability, and equitable distribution of rights. This approach not only recognizes the collective efforts behind AI-generated works but also fosters a collaborative ethos within the creative community.⁵²

C. Examination of licensing agreements, ethical guidelines, and regulatory frameworks

To govern the use, distribution, and ownership of AI-generated content, various mechanisms such as licensing agreements, ethical guidelines, and regulatory frameworks have been proposed:

a) Licensing agreements

Licensing agreements can delineate the terms of use for AI algorithms and specify the conditions under which AI-generated works can be reproduced, distributed, or modified. These agreements help clarify the rights and obligations of AI developers, content creators, and other

⁵² S Wachter-Boettcher 'Technically Wrong: Sexist Apps, Biased Algorithms, and Other Threats of Toxic Tech' (2017) WWNC.

stakeholders, ensuring that copyright ownership is respected and protected.⁵³

b) Ethical guidelines

Ethical guidelines aim to ensure responsible and ethical practices in AI content creation. These guidelines may include principles of transparency, fairness, and accountability in the use of AI technologies. By adhering to ethical guidelines, stakeholders can mitigate potential risks associated with AI-generated content, such as algorithmic bias or misinformation.

c) Regulatory frameworks

Regulatory frameworks play a crucial role in balancing the interests of AI developers, content creators, and the public. These frameworks may establish standards for AI transparency, promote interoperability and data portability, and enforce compliance with ethical guidelines and industry best practices. By fostering a regulatory environment that promotes innovation, creativity, and ethical stewardship, policymakers can address the complex challenges posed by AI-generated content while maximizing its societal benefits.

D. Implications for policy and future directions

The implications of AI authorship for copyright policy, innovation, and cultural production are profound and far-reaching. Policymakers, legal

⁵³ M Whittaker 'AI and Creative Practice: Exploring the Perspectives of Professionals' (2018) Proceedings of the 2018 Designing Interactive Systems Conference, 1165-1176.

scholars, and stakeholders must collaborate to develop adaptive regulatory frameworks that balance the interests of all parties involved. Recommendations for policymakers include fostering interdisciplinary dialogue, stakeholder engagement, and collaboration to address the multifaceted challenges posed by AI-generated works.

Furthermore, ethical guidelines and best practices should be developed on a priority basis to lay down a governance framework that facilitates the use of AI in content creation with the highest degrees of responsibility. By fostering an environment that promotes innovation, creativity, and ethical stewardship, policymakers can harness the transformative potential of AI while safeguarding the integrity of intellectual property rights and cultural production in the digital age.

The exploration of alternative models of attribution and ownership for AI-generated content is essential in navigating the complexities of AI authorship. By embracing collaborative frameworks, ethical guidelines, and adaptive regulatory measures, stakeholders can foster a more inclusive, equitable, and innovative creative ecosystem that benefits society as a whole.

III. IMPLICATIONS FOR POLICY AND FUTURE DIRECTIONS

The rise of AI as a creator of original content has profound implications for copyright policy, innovation, and cultural production. As policymakers, legal scholars, and stakeholders navigate the evolving landscape of AI authorship, it is imperative to consider the implications for intellectual property rights, ethical governance, and technological

innovation. This section discusses the implications of AI authorship and offers recommendations for shaping future policy directions.

A. Implications of AI authorship

a) Copyright policy

AI authorship challenges traditional copyright frameworks, which are built on the premise of human creativity and originality. As AI systems autonomously generate content, questions arise regarding the attribution of authorship and the allocation of copyright ownership. Policymakers must adapt copyright laws to acclimate with the unique characteristics of AI-created products, whilst also equally facilitating the mutual and individual interests of AI developers, content developers, and the public. Additionally, copyright policy must address issues such as algorithmic bias, transparency, and accountability in AI content creation to ensure fair and equitable protection of intellectual property rights.

b) Innovation

The emergence of AI authorship presents opportunities for innovation in creative industries, technology, and cultural production. AI systems can augment human creativity, streamline content creation processes, and unlock new possibilities for artistic expression. Policymakers should foster an environment that promotes innovation, entrepreneurship, and collaboration between AI developers and content creators. Supporting research and development in AI technologies, promoting access to AI tools and resources, and incentivizing creative experimentation can drive innovation and propel the evolution of AI-generated content.

c) Cultural production

AI authorship has the potential to impact cultural production by shaping the diversity, accessibility, and representation of artistic expression. AI-generated content may challenge traditional notions of cultural authenticity, artistic integrity, and authorship, prompting broader discussions about the role of technology in shaping cultural norms and values. Policymakers must safeguard cultural diversity, promote inclusivity, and support marginalized voices in AI-generated content. Furthermore, policies should encourage cross-cultural exchange, preserve cultural heritage, and foster dialogue between AI developers, content creators, and cultural stakeholders.

B. Recommendations for policymakers, legal scholars, and stakeholders

a) Adaptive regulatory frameworks

Policymakers should develop adaptive regulatory frameworks that address the complexities of AI authorship while upholding principles of intellectual property rights, ethical governance, and technological innovation. These frameworks should be flexible enough to accommodate rapid advancements in AI technologies, while also providing clarity and guidance for stakeholders navigating the legal and ethical implications of AI-generated content.

b) Ethical guidelines

Legal scholars and policymakers should collaborate to develop ethical guidelines and best practices for AI content creation. These guidelines should promote transparency, fairness, and accountability in the use of

AI technologies, mitigate algorithmic bias, and safeguard against potential harms arising from AI-generated content. Additionally, ethical guidelines should encourage responsible innovation and promote the ethical use of AI in creative endeavors.

c) Stakeholder engagement

Stakeholder engagement is crucial for addressing the complex challenges posed by AI-generated works. Policymakers, legal scholars, AI developers, content creators, and cultural stakeholders should participate in interdisciplinary dialogue and collaborative initiatives to develop holistic solutions that balance the interests of all parties involved. Stakeholder engagement can foster a shared understanding of the ethical, legal, and social implications of AI authorship and promote consensus-building around policy recommendations and regulatory frameworks.

C. Call for interdisciplinary dialogue

a) Collaborative Research and Knowledge Sharing

Interdisciplinary dialogue is essential for advancing understanding and addressing the multifaceted challenges posed by AI-generated works. Collaboration between legal scholars, AI researchers, ethicists, cultural theorists, and policymakers can facilitate knowledge sharing, foster innovative solutions, and promote cross-disciplinary approaches to AI authorship. By pooling expertise and resources, stakeholders can develop comprehensive strategies that uphold principles of intellectual property rights, ethical governance, and technological innovation.

b) Public Engagement and Education

Public engagement and education are vital for raising awareness about the implications of AI authorship and promoting informed decision-making among policymakers, content creators, and the general public. Educational initiatives, public forums, and outreach programs can provide opportunities for dialogue, debate, and reflection on the ethical, legal, and social dimensions of AI-generated content. By fostering a culture of ethical awareness and responsible innovation, stakeholders can cultivate a more inclusive and equitable creative ecosystem that benefits society as a whole.

The implications of AI authorship extend beyond legal and technical considerations to encompass broader issues of innovation, cultural production, and ethical governance. Policymakers, legal scholars, and stakeholders must collaborate to develop adaptive regulatory frameworks, ethical guidelines, and interdisciplinary approaches to address the complex challenges posed by AI-generated works. By promoting stakeholder engagement, fostering interdisciplinary dialogue, and upholding principles of intellectual property rights and ethical governance, stakeholders can navigate the evolving landscape of AI authorship while advancing innovation, creativity, and societal well-being.

VII CONCLUSION

AI is being used in various commercial fields such as music, journalism, gaming, and not to mention it is also being used by various governments such as System 206 used by Chinese courts to analyse the chain of

evidence. It has to be trained intensively with training datasets, it has to be finetuned and a second-phase prompt input must be entered into it to generate a customized output out of millions of other plausible results. The stance taken by various jurisdictions regarding the humane factor involved in "authorship" is outdated and years old.

The creative process that goes behind the creation of the AI warrants a commercial safeguard. However, that leaves us with another impending question, does the person who inputs the prompt into the AI model qualify as an author for having creatively customized his own output with the help of a computer tool, or will it be the creator of the AI, or will it be the AI itself?

Indian law has not taken a rigid stance on this aspect yet, and neither has the Model Law jurisdiction, nor any other global jurisdictions in the same regard.

However, the WIPO in its Conversation on IP and AI in 2019 suggested that the scope of interpretation of the term "author" must be broadened to include a natural or legal person who may extend his liability, controls, accountability and responsibility towards the AI process that generations the creative works as a viable option to tackle the problem of authorship in IP.