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Analysis of Indian IPR Laws for AI Inclusivity

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ABSTRACT

Within the realm of Artificial Intelligence (AI) in India, this research scrutinizes the legal landscape of Intellectual Property Rights (IPR) developments. AI applications are not accorded as per IPR for their creative output the reasoning for this perspective arises from the fundamental characteristics of high-order AI, which include the ability to make decisions on its own and impose rules authoritatively. Whether or not to allow the arbitrary use of such powers creates questions of who is responsible for systemic faults or blunders. The human controller or the manufacturer can be liable for the mistakes or errors in such systems. Another class of AI systems generate advancements in the fields of scientific innovations, technological advancements, and artistic endeavours requiring protection under IPR laws. The public benefits from IPRs when it is recognised to safeguard original manifestations of human creativity, preventing economic exploitations by others or third parties. AI applications engender intellectual properties through their unique ability to emulate human thought processes and creative endeavours. A basic question emerges about the eligibility of AI systems, that lack the legal personality to request and be granted IPRs, as well as allocation of IPR revenues to entities lacking legal or living status.

Within The Indian Jurisdiction, this research paper adopts a doctrinal approach to scrutinize the legal advancements in AI. Addressing third-party liability, the research proposes solutions to fix AI liability within insured parameters. In support of individually registered AI systems, the approach facilitates the issuance of patents, copyrights, or trade secrets. Additionally, the idea of a human guardian appears to be a viable mechanism for the legal protection and administration of income from AI-generated intellectual property (IP). This appointed guardian affirms AI's legal entity, assuming the duty of advancing the field's continuous progress in AI technologies and applications.

Keywords*: Artificial Intelligence, Autonomous Decision Making, Human Guardian, Legal personality, Third Party Liability.*

I. INTRODUCTION

We humans are gradually giving up our ability to make decisions to technical artifacts because

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of computers' capacity to mimic intelligent human behavio. Artificial intelligence (AI) has grown pervasive in many spheres of society due to developments in data science and computing technology.

John McCarthy first used the term "artificial intelligence"[3] in a 1956 conference. The phrase referred to computers' capacity to employ algorithms and commands to make judgments independently of human intervention. Early thinkers believed that computers would eventually surpass human intelligence.

AI's function is growing rapidly, going beyond basic computations, and embracing ever more complex software integration. AI systems can now be concluded to be capable of very creative tasks, such as producing poetry and artworks, which means that their capabilities are much wider than it is possible to observe now. Due to subjecting works created by artificial intelligence (AI) to IP rules to determine certain effects, the particular status of works created by AI is uncertain, thereby serving as a reason to doubt the existing frameworks and to compare them to the protection provided to works created by people.[4]

Today, AI is implemented in activities that involve human cognition[5] and study is constantly adding new features of AI and it has the prospect of something revolutionary.[6] However, there are still some concerns and uncertainties, especially with regard to AI being the creation that is, at the same time, both constructive and destructive. Some problems crop up when AI makes decisions by itself, autonomously, thereby causing questions to be raised as to how it will be incorporated into inventions as well as human existence.

IP legislation in the context of AI addresses both technical inventions (for example with the help of evolutionary algorithms designing antennas) and artistic works (for example with the help of IBM Watson to create songs).[7] Technical solutions generated by AI are eligible for patents, while original artistic creations can be protected by copyright, reflecting the dual nature of AI's contributions. AI's presence in various industries is influencing innovation and creativity, prompting a reconsideration of traditional human-centric views in intellectual property law. The widespread use and sophistication of AI necessitate a re-evaluation of

[3] Alan Turing, *Computing Machinery and Intelligence* MIND 236,59 (1950)
[4] Prof. A.Lakshminath & Dr Mukund Sarda, *Digital Revolution and Artificial Intelligence- Challenges to Legal Education and Legal Research,* (CNLU LJ) (2) (2011-2012).
[5] Maheshwari Anmol, *Dawn of Artificial Intelligence Changing the Face of Patent Regime,* Amity International Journal of Juridical Sciences, 5, 126- 135 (2019).
[6] Shabbir Jahanzaib and Anwer Tarique, *Artificial Intelligence and its Role in Near Future*, Journal of Latex Class Files, 14(8), 2015.
[7] William Samore, '*Artificial intelligence and the patent system: can a new tool render a once patentable idea obvious?' in Woodrow Barfield and Ugo Pagallo* (eds), Research Handbook on the Law of Artificial Intelligence, 481 (2018)

existing frameworks to accommodate and regulate its impact on diverse sectors.

(A) Artificial Intelligence

Processes related to artificial intelligence (AI) include robotics, speech recognition, machine learning, expert systems, robotics, self-correction, and reasoning. An AI system's ability to synthesise information and make well-informed decisions is demonstrated by its decision-making mechanism, which involves determining the best courses of action based on previously learned content and stored knowledge.

let us take an example, when it comes to traffic signal recognition, a machine that has been trained in this field will recognise signals like pedestrian lights, red, and yellow with accuracy. This demonstrates how AI may be used practically in everyday situations. The next topic to be addressed is what happens when the machine encounters an object that it is not familiar with. The machine applies all of the knowledge it has collected about the other object in this scenario.

Next, using this knowledge, it attempts to infer what the newly observed object might be. For this, the phrase "State of the Art" is used. Using what it already knows, the computer tries to solve the problem and show the outcome.[8] The World Intellectual Property Organisation (WIPO) recognises three different categories of artificial intelligence (AI): natural language systems, expert systems, and perception systems.[9]

Al provides actionable insight from collective data sets and covers an underlying set of concepts to address problems of an unpredictable nature, as well as methods and processes for extracting such subtle but valuable patterns. The terms "machine learning" and "data analytics" are closely related to each other. The field of machine learning (ML) is primarily concerned with the creation and assessment of algorithms that identify patterns in data, while data mining mostly analyses structured data.[10] Nevertheless, data science also considers additional difficulties, like gathering, organising, and analysing unstructured data as well as managing and storing enormous volumes of unstructured data with the use of big data technology. It also takes legal and data ethics concerns into account.[11] Artificial intelligence Systems are evolving to the point where they can do creative tasks without assistance from humans. Many issues remain unanswered in the field of artificial intelligence, although a lot has been

[8] Raquel Acosta, *Artificial Intelligence and Authorship Rights*, HARVARD JOURNAL OF LAW AND TECHNOLOGY (Feb. 17, 2012),
[9] Alan Turing, *Computing Machinery and Intelligence*, 59 MIND 236, 433– 60 (1950).
[10] John D. Kelleher and Brendan Tierney, *Data Science*, The MIT Press Essential Knowledge series, Cambridge, MA, 2018.
[11] A. Johnson-Laird, *Neural Networks: The Next Intellectual Property Nightmare?* 7 THE COMPUTER LAWYER 14 (March 1990).

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accomplished in this area. However, there is hope that these will be answered soon, giving us a clear picture of how AI will fit into inventions and human lives.

(B) Intellectual Property Right:

IPR is the legal right that an individual or business has to utilize its plans, concepts, or other intangible assets without fear of rivalry, at least temporarily. Trade secrets, patents, copyrights, and trademarks are a few examples of these rights. A lawsuit may be used by a court to vindicate these rights. Intellectual property is essential to the promotion of innovation because it protects creators from unapproved use or appropriation of their ideas.

II. HOW INTELLECTUAL PROPERTY APPROACHES AI?

Since AI is a software-based system, it is recognised by the worldwide copyright community that it is subject to the same intellectual property rights as software development. Furthermore, it is indisputable that programmes today act in addition to just texting.[12]. The capabilities of computers are advancing, even though inventiveness and creative thought are still essentially human abilities.

The legal system is facing serious difficulty as a result of protecting artificial intelligence systems and, maybe more problematically, their creators.

Identifying the components of AI technology is a necessary first step in determining how they might be secured by intellectual property rights. Although there are several AI technologies, I concentrate on machine learning as the most popular kind of AI in this chapter. But there will also be references to examples from other types of AI, like genetic programming or evolutionary algorithms.[13] Artificial neural networks, in particular, are made up of four components for machine learning: An algorithm is developed by a training process using training data, which is encoded in software, and a programmer establishes a model architecture.

Model architecture components play a fundamental role in artificial intelligence (AI) systems, consisting of weighted connections between layers of neurons. Neurons mathematically convert input into output, with trainable parameters such as weights optimized during training. The original architecture serves as the basis for model creation through the training process.

Intellectual property rights for components, including mathematical techniques and algorithms, often lack protection. Software may be protected by copyright for its code or by patent law for

[12] R. DAVIS, *Intellectual Property and software: The assumptions are broken, in World Intellectual Property Organization*, WIPO Worldwide Symposium on the Intellectual Property Aspects of Artificial Intelligence, Stanford University, 1991

[13] Guidelines for Examination in the European Patent Office (March 2021), Part G, II-3.3.1.

the technical solution, but typical intellectual property rights may not cover all of its components.[14] Models, and algorithms, can be protected by a variety of legal frameworks, including trade secrets, competition law, tort law, contract law, and technology protection laws. However, the dynamic nature of AI presents difficulties for established legal systems.

Protecting AI-generated content under intellectual property is a contentious issue. The main concern is whether or not anything produced fully or largely with AI aid can be protected by intellectual property rights. When AI is heavily involved in the innovation process and no human is regarded as an inventor, this gets especially complicated. The complexity is increased when different kinds of AI-generated inventions are considered. Artificial intelligence (AI) presents issues to the current intellectual property system because it can be used to generate inventions entirely or in assistance to others.

The impact of artificial intelligence (AI) on intellectual property continues to be a contentious issue, particularly about protecting AI-generated output, especially when it comes to inventions that AI supports. These forms of AI-generated inventions pose significant obstacles to the current intellectual property framework, necessitating ongoing legal and ethical considerations.

III. COPYRIGHT, PATENT, AND AI

One important area of intellectual property law is copyright, which also shields computer industry products against infringement and unauthorized use.[15] The idea of developing new computer programs brings up issues with copyright protection for works produced with AI. An effective result of technical advancement,[16]AI enables machines to execute various jobs and adapt their application conditions throughout time.[17] Computer software protection is seriously threatened by the growing markets for personal computers, video games, and small business systems.[18] Work in artificial intelligence centers on computer science, which carries out a variety of activities that typically come from human thought. As a result, AI plays a significant role in business and investment processes. Examples of its applications include predictive modeling, robot advising, and intelligent dashboards with AI capabilities.[19] Some nations offer

[14] Guidelines for Examination in the European Patent Office (March 2021), Part G, II-3.3.1.
[15] Timothy L. Butler, "*Can a Computer be an Author - Copyright Aspects of Artificial Intelligence*," no.4 volume 4 HASTINGS COMMUNICATIONS AND ENTERTAINMENT LAW JOURNAL, 4, (1982).
[16] 0 Jan Zibner, "*Artificial Intelligence: A Creative Player in the Game of Copyright",* EUROPEAN JOURNAL OF LAW AND TECHNOLOGY 10, no.1 769-791 (2016),
[17] Natalia Opolska and Anna Solomon, "*Intellectual Property Right to Objects Created by Artificial Intelligence,"* LAW REV. KYIV U.L no.3 10 (2021):210.
[18] Butler, "*Can a Computer be an author*", 745
[19] Report on The next frontier for investment management firms, https://www2. deloitte.com /content/dam/Deloitte/dk/Documents/financial-services/artificial-intelligenceinvestmentmgmt last visited jan. 24,2024).

protection for computer-generated work to the individuals who create copyrighted material, such as Hong Kong, India, Ireland, New Zealand, and South Africa.[20] According to an Indian court, a juristic or artificial person cannot possess a copyright.[21] According to UK definitions, computer-generated works are those that are "generated by computer in circumstances such that there is no human author of the work."[22] Artificial intelligence is the source of inventions seen in patents, such as computer-generated gastronomy, crime tracking, and luxury car design.

Artificial intelligence (AI) demonstrates a wide range of applications, illustrating its versatility and significance across multiple fields, beyond neural networks. Neural networks, a fundamental building block of artificial intelligence, are made to mimic human brain activity. This enables them to "learn" and interpret relevant input in a manner that is familiar to humans.[23] One prominent application of AI is computer vision, a crucial technology with applications such as image recognition, particularly significant for advancements like self-driving cars.

The significance of AI in patents is evident, with a notable focus on computer vision. AI-related patents frequently make references to image recognition, a key component for technologies like self-driving cars. Between 2013 and 2016,[24] there was a notable annual average expansion of 24% in AI-related patents that specifically mentioned image recognition. An illustrative example is Stephen Thaler's patent application, where he applied for a cross-bristle toothbrush design created by AI. This highlights AI's capacity to generate novel inventions that meet the criteria for patent approval, showcasing the adaptability and innovation AI brings to the patent landscape.[25]

Copyright, patent, trademark, and trade secret are examples of intellectual property that are established and recognized by intellectual property laws. Typically, it's classified as an intangible asset.[26] It has rights associated with it just like physical property does. Through incentives and other means, these rights enable the intangible property's creators or owners to profit from it. Human rights declarations recognize intellectual property rights, most notably

[20] Jane C. Ginsburg, "*People Not Machines: Authorship and What It Means in the Berne Convention"*, International Review of Intellectual Property and Competition Law 49, no.2 (2018)
[21] Tech Plus Media Private Ltd. Vs. Jyoti Janda, (2014) 60 PTC 121.
[22] The Patents Act, 1970, S.9(3), No. 39, Acts of Parliament, 1970 (India).
[23] Tech Plus Media Private Ltd. Vs. Jyoti Janda, (2014) 60 PTC 121.
[24] Caza, S. K. World Intellectual Property Organization (WIPO). Available at:.https://www.wipo.int/techtrends /en/artificial intelligence/story.
[25] *From Patent Challenges for Standard-Setting in the Global Economy: Lessons from Information and Communications Technology*, THE NATIONAL ACADEMIES PRESS, WASHINGTON, DC: NATIONAL RESEARCH COUNCIL: (2013).
[26] Justin Hughes, *The Philosophy of Intellectual Property*, 2 Georgetown University Law CENTER AND GEORGETOWN LAW JOURNAL, (1988).

in "Article 27 of the Universal Declaration of Human Rights." This article upholds the owner of intellectual property's right to protection, highlighting that the owner's interest should be protected, especially in the fields of literature, science, and the arts. Within the larger context of human rights, this acknowledgment emphasises the importance of intellectual property as a fundamental right.

The "Paris Convention for the Protection of Industrial Property(1883)" 27 and "The Berne Convention for the Protection of Literary and Artistic Works(1886)" were the first agreements to recognise the concept of intellectual property."[28] The author or inventor is the owner of any intellectual property, including patents and copyrights. Depending on the type of intellectual property, protection is granted via the issuance of patents or copyrights.

An essential principle is that no one can make a profit from intellectual property without the owner's express permission, whether it be a patent or copyright. One of the main pillars supporting the rights and interests of intellectual property owners is the consent requirement. Austin defines ownership as a right that is limitless in terms of the point of use, unconstrained in terms of disposal, and infinite in terms of duration. When extending the ownership right to artificial intelligence, consideration must be given to these fundamental elements of the ownership right.[29] The "natural person" is the exclusive recipient of the ownership right, which recognizes and defends the rights of human inventors.[30] Innovation results in the awarding of this protection, which encourages additional study and advancement. Innovation results in the awarding of this protection, which encourages additional study and advancement. The ownership right is the defense against unauthorized use of the property.[31]

IV. INDIAN IP LAWS

AI systems in India will be impacted by laws such as the Patents Act of 1970 and the Copyright Act of 1957. This study sorts through some of the aforementioned acts and discusses how they affect artificial intelligence. A number of these legislation clauses frequently serve as barriers to the advancement of AI systems and deprive the works created by these devices of intellectual property protection. It's time for these laws to be updated to reflect more complex and modern technology.

[27] The Paris Convention for the Protection of Industrial Property, (1883)
[28] The Berne Convention for the Protection of Literary and Artistic Works, (1886)
[29] Wei Huang, & Amir Hayat, *Impact of Artificial Intelligence in Enterprises HR Performance in Pakistan: A Comparison Study with Australia.* Global Journal of Management and Business Research 19 no.A15 55 (2019).
[30] Amir Hayat, and Wei Huange, *Impact of Artificial Intelligence in Enterprises*, 54
[31] Davies, C. R. *An Evolutionary step in Intellectual Property Rights Artificial*, 611

(A) Copyright Act, 1957:

To be protected by copyright, anything must be original. Protection under copyright is subject to originality. The only works that qualify for protection are those that are original and uncopied. It's not even a requirement that the work have original idea expression. The only need for originality of expression is that it cannot be taken verbatim from another work. Therefore, the author should have created the work on their own. Regarding how to determine if a work is original, there are two schools of thought.

i) "Sweat of the Brow Doctrine."

ii) "Modicum of Creativity."

The Sweat of the Brow Doctrine emphasises money and time investment over significant originality, allowing copyright protection for works produced with due attention. The Modicum creativity sets higher standard, on the other hand, requires substantial judgement and intellectual innovation in the development of a work, setting a higher bar for copyright. These divergent methods draw attention to the many criteria used to determine copyright eligibility and emphasise the different levels of originality needed to qualify for protection under each doctrine.

Copyright protection necessitates a minimal degree of creativity, and this bar is not unduly high. Section 2(d) of the Copyright Act, 1957 is an issue with regard to the protection of copyright of works created using AI. This section defines the concept of an "author" determining the person who owns a work protected with a copyright as the "author." The problem is that AI is not universally recognized as a legal entity. For this reason, it poses challenges to the AI system to conform to the existing copyright protection system and stress the need for an effective framework to deal with AI-generated works under the copyright laws.

(B) Patent Act, 1970 and AI

The meaning of the term "patentee" has been defined in section 2(p) of the patent Act of 1970.[32] As for "Patentee" it refers to the person who is currently registered in the official records as the owner of the given patent or the proprietor that was granted the said patent. The term 'person interested' is provided in section 2(t). A "person interested" is someone who is involved in research or wants to do research in the same field in which the innovation was developed.[33]

[32] The Patents Act, 1970, S.2(1)(p), No. 39, Acts of Parliament, 1970 (India).
[33] The Patents Act, 1970, S.2(1)(t), No. 39, Acts of Parliament, 1970 (India).

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Section 6 specifies who is eligible to submit a patent application. (a) Anyone asserting that they are the genuine, original inventor of the invention.[34] The definition of "true and first inventor" is provided in Section 2(y) of the act. The first person to disclose an invention outside of India and the person who imports it into India are both excluded by Section 2(y)[35] of the patent law. Interestingly, Section 2(y) leaves up the possibility that AI-created works could be recognized as inventors since it does not specifically state that the "true and first inventor" must be a human.

According to the act's definitions, the legislative intent may have favored humans and legal entities. Phrases like "person interested" and "patentee" are designed to suggest legal people instead of non-human entities, indicating a preference for giving credit for invention to human or legal persons as opposed to artificial intelligence (AI) systems. This draws attention to a possible legal vacuum regarding the special circumstances surrounding AI-generated ideas and inventorship. As a result, these laws need to be changed to reflect how society and scientific systems are developing.

V. LEGALITY OF AI IN IP LAWS

In India, the determination of copyright ownership for AI-generated content hinges on the level of human involvement. The country's copyright laws protect works with substantial human interaction, making them eligible for copyright. Creators contributing significantly to AI-generated content, such as curating output or fine-tuning algorithms, may qualify for copyright ownership.

A contentious debate revolves around whether AI should be considered a mere tool or an inventor. Some argue that AI is a tool utilized by humans and lacks the capacity for entirely new ideas. This perspective attributes ownership to those designing and controlling the AI. A proposed solution advocates for shared ownership, recognizing both humans and AI as co-authors. It suggests distinct rights for each participant, considering the collaborative efforts between human interaction and AI algorithms.

Concerns arise regarding copyright infringement in AI models learning from datasets with copyrighted content. Unauthorized use of such material in AI-generated content may lead to legal challenges. To address the evolving dynamics between human creators and AI systems,[36]

[34] The Patents Act, 1970, S.6(1)(a), No. 39, Acts of Parliament, 1970 (India).
[35] The Patents Act, 1970, S.2(1)(y), No. 39, Acts of Parliament, 1970 (India).
[36] Arul George Scaria, *Could a photography dispute in the U.S. affect ChatGPT and its cousins*? The Hindu is available at: "https://www.thehindu.com/sci-tech/science/scotus-warhol-goldsmith-copyright-generative-ai/article66888246.ece."

there is a need for the adaptation and clarification of copyright laws in India.

Issues surrounding fair use in AI training, as highlighted in legal disputes related to image generation applications, pose challenges. Current intellectual property laws exclusively grant rights to human creators, rendering AI-generated content ineligible for copyright protection.[37][38] A counterargument emphasizes that the absence of rights for AI-generated content may discourage involvement in AI creation, ownership, and utilization.

A careful examination of existing intellectual property frameworks is crucial to adapt and clarify laws, ensuring innovation and equitable treatment.[39] The legal grey area surrounding the use of copyrighted materials for training AI models needs attention, as current copyright laws in India lack protection for creations wholly generated by AI.[40]

The global legal landscape, influenced by recent international court decisions, including the US Supreme Court ruling, may impact interpretations within Indian copyright law. A call for evolution in the legal framework emphasizes the need for clarity and guidance on the intersection of AI and copyright. Adapting to technological advancements is deemed essential for the relevance and equity of copyright law.[41]

1. Contemporary IP Laws in India

India faces intricate challenges within its patent regime concerning artificial intelligence (AI). AI-generated inventions, which include innovation of new chemicals and devices, may align patentability requirements that take into account factors including novelty, utility, and industrial applicability, as stated in "Section 2(1) of the Patents Act".[42] When AI-generated inventions meet these characteristics, they become potentially eligible for patent protection, acknowledging their contribution to technological breakthroughs and meeting necessary prerequisites for patentability. However, concerns arise regarding the lack of a clear inventive step, given the autonomous role of AI in conceiving inventions, casting doubt on their patentability.

In the ongoing discourse, developers advocate for the recognition of their contributions to training AI models, while opposing views emphasize the critical inventive aspect lies in the AI

[37] PRS Legislative Brief, available at: https://prsindia.org/files/policy/Sci_Tech_Brief-Artificial_Intelligence.pdf
[38] Abbott, R. *The Reasonable Robot: Artificial Intelligence and the Law. Cambridge:* Cambridge University Press. (2020).
[39] Public Views on Artificial Intelligence and Intellectual Property Policy, US Patent Office, October 2020, https://www.uspto.gov/sites/default/files/documents/USPTO_AI - Report_2020-10-07.pdf.
[40] "Generative Artificial Intelligence and Copyright Law", Congressional Research Service, as accessed on January 20, 2024,
[41] Supra note 40.
[42] The Patents Act, 1970, S.2(1), No. 39, Acts of Parliament, 1970 (India).

system's autonomous conception. The complexity in terminology within Section 6,[43] which refers to a human as the "true and first inventor," adds another layer of difficulty in accommodating AI inventors.[44]

Recognising how urgently modernization is needed, India must revise its patent laws to encourage and support AI innovation. India's modernization will bring it into line with international norms and guarantee a supportive legal environment that encourages innovation in artificial intelligence and advances technical progress.

2. Loopholes in Indian IP Laws:

The Indian Copyright Act of 1957, specifically Section 2(d)(vi),[45] defines an author to encompass the person responsible for the creation of computer-generated literary, dramatic, musical, or artistic works. In contrast, the Patents Act of 1970 excludes AI systems, thereby limiting individual rights. Sections 2(1)(p)[46] and 2(1)(t)[47] in patent law refer to the patentee as a person, and Section 6(1)(a)[48] allows 'any person' to file a patent application. Moreover, Section 2(1)(ja)[49] defines 'inventive step,' which is a precondition for patentability that says the invention cannot be 'obvious to a person knowledgeable in the art.'

Requirement of Amendment:

An alternative approach explores copyright licensing for AI algorithms, granting producers control while acknowledging AI's contribution. A middle-ground solution advocates joint ownership, recognizing both humans and AI as co-authors. Policymakers may consider adjusting copyright duration to align with technological advancements, striking a balance between protection and innovation. Forward-thinking and inclusive copyright laws are crucial to navigating AI-generated content intricacies, and a proactive approach enables harmonious coexistence between AI technology and copyright regulations.

3. Analysis of cases and IP provisions

Stephen L Thaler v. Comptroller General of Patents, Design and Trade Mark[50]: "Stephen Thaler" faced global rejection of AI inventorship across jurisdictions like Australia, the UK, the US, New Zealand, and the European Patent Office when seeking patent applications for his

[43] The Patents Act, 1970, S.6, No. 39, Acts of Parliament, 1970 (India).
[44] Yanisky-Ravid, S.& Liu, X. *When artificial intelligence systems produce inventions: An alternative model for patent law* 3A era. Mich. St. L. Rev,839, 2018.
[45] The Copyright Act, 1957, S.2(d)(vi), No. 14, Acts of Parliament, 1957 (India).
[46] The Patents Act, 1970, S.2(1)(p), No. 39, Acts of Parliament, 1970 (India).
[47] The Patents Act, 1970, S.2(1)(t), No. 39, Acts of Parliament, 1970 (India).
[48] The Patents Act, 1970, S.6(1)(a), No. 39, Acts of Parliament, 1970 (India).
[49] The Patents Act, 1970, S.2(1)(ja), No. 39, Acts of Parliament, 1970 (India).
[50] Stephen L Thaler v. Comptroller General of Patents, Design and Trade Mark, [2020] EWHC 2412 (Pat)

AI system, DABUS. The rejections were grounded in patent laws that typically mandate a natural person as the named inventor. However, a landmark case unfolded in South Africa, where the Companies and Intellectual Property Commission (CIPC) departed from the global trend. On June 24, 2021, the CIPC accepted Stephen's Patent Cooperation Treaty, and subsequently, in July 2021, DABUS became the first AI system worldwide to be acknowledged as an inventor, receiving a granted patent for its inventions.

RAGHAV AI[51]: (Ankit Sahni case)

The copyright office in India erroneously recognized the AI system RAGHAV as a co-author of an artistic work, registering the copyright application. Initially filed by Ankit Sahni, the creator of RAGHAV, the application listing the AI system as the sole author was rejected by the copyright office. Subsequently, a notice to withdraw the registration was issued, acknowledging the mistake and prompting Mr Sahni to consider the legal status of the AI system RAGHAV. Despite this, the application status still appears as 'registered' on the copyright office website. The court is yet to decide on the issue, holding significant implications for AI systems and copyright protection in India. The court's decision is expected to set a potential precedent for future cases involving AI technology and copyright in India.

IP Provisions:

Meeting the originality requirement stated in Section 13[52] of the Copyright Act is a major challenge when it comes to AI copyright in India. It is difficult to apply copyright laws to content created by artificial intelligence because courts have always equated originality with human intellectual work, but developers argue that extensive human involvement in training neural networks imparts originality to AI-generated content, such as music.[53]

Debates centre on the distinction between mere data processing and the creative process, with some contending that the former may not meet the originality standard. Advanced AI models, like Generative Adversarial Networks, raise questions about the level of human input. If AI works receive copyright protection, the challenge shifts to identifying the rightful owner—whether it's the programmer, user, or the AI system itself.[54]

The lack of clarity on the applicability of copyright to AI works in India necessitates further examination. Proposed amendments suggesting AI developers as owners aim to encourage

[51] Ankit Sahni case, Dairy no. 13646/2020-CO/A; RoC no. A-135120/2020
[52] The Copyright Act, 1957, S.13, No. 14, Acts of Parliament, 1957 (India).
[53] Ramakrishna B & Anil Kumar H.S., *Fundamentals of Intellectual Property Rights: For Students*, Industrialist and Patent Lawyers (2017).
[54] Guadamuz, A .*Do androids dream of electric copyright? Comparative analysis of originality in artificial intelligence generated works.* Intellectual Property Quarterly, (2), 169-186 (2021).

socially beneficial AI tools, but concerns about potential data monopolies have been raised. A balanced approach may involve nuanced provisions, such as compulsory licensing for protected AI works.

Strengthening copyright claims could be achieved by infusing human intent into generative processes. India's jurisprudence on AI copyright is expected to evolve on a case-by-case basis, emphasizing the need for thoughtful and adaptable legal frameworks to address emerging challenges in the evolving landscape of AI copyright.

VI. AI AS PERSONHOOD AND THIRD PARTY LIABILITY

Recent debates focus on interpreting the term 'author' under the Copyright Act, particularly in Section 2(d),[55] which traditionally considers only humans and not other judicially created persons. Despite this, the Copyright Office acknowledged AI as a joint author on November 2, 2020, according to A-135120/2020, where joint authorship is defined under Section 2(z),[56] and Section 17(a)[57] establishes joint owners. However, challenges arise in viewing AI as an author under the Act. Legal personhood for AI doesn't grant it copyright claims, as the Act specifies the author must be a natural person.

However, the focus However, the focus remains on protecting AI-generated works without authorship, even with AI's legal personality. The current copyright law in India does not provide legal rights for AI generated works and thus recommendations have been made to update the law to specifically protect AI to qualify as an author or a joint author. This is evident if compared to the US and UK practices: the former releases autonomously generated AI works in the public domain without further human interposition; the latter grants the copyright to the human who practiced the arrangement autonomously with no interference, thus negating AI's autonomous agency. The necessity of human intervention in AI protection is emphasised, with the argument that protecting autonomously generated AI works should not eliminate the need for human intervention. India acknowledges AI as joint authors, but this recognition has consequences that should be carefully considered.

Third Party Liability:

Determining who is responsible for these violations is the main issue in the complexity of copyright infringement liability pertaining to AI. The creator of the AI system, downstream parties like suppliers and operators, or the final or end user are among the entities that could be

[55] The Copyright Act, 1957, S.2(d), No. 14, Acts of Parliament, 1957 (India).
[56] The Copyright Act, 1957, S.2(z), No. 14, Acts of Parliament, 1957 (India).
[57] The Copyright Act, 1957, S.17(a), No. 14, Acts of Parliament, 1957 (India).

held accountable. At this point, decisions are made on a case-by-case basis and evaluated under general civil law, which includes copyright law. Legislative initiatives have not yet resulted in the exact legislation for AI liability, especially in India. Similarities to hazardous product liability, wherein entities may be held accountable for outcomes regardless of culpability, are suggested by one proposed framework. If an AI algorithm continuously violates copyrights, the creator of the algorithm may be held liable; however, unintentional copyright violations occur when user actions cause violations of copyrights without the user's knowledge or consent.

The AI system itself, being a computer program, may be subject to copyright protection, and unauthorized use could infringe upon the copyrights of its author. The complexity of AI-related copyright infringement underscores the need for a nuanced and evolving legal framework that considers diverse scenarios in which liability may arise.[58]

VII. CHALLENGES IN THE INCLUSION OF AI UNDER IP LAWS

Sec 3(k) of the Patents Act presents a constitutional challenge by limiting the patenting of AI-related software. For AI applications to be eligible for patents, they must adhere to the guidelines for the Indian Patent Office's examination of CRIs. Limitations on patentability for AI involve Section 6 of the Indian Patents Act, which requires patent applications to be submitted by the true and first inventor.[59] The assumption that Sec 2(y) includes natural persons impacts the patentability of AI. AI is recognized as the future of innovations with potential global impacts. Challenges arise in identifying AI inventors, especially when technology is solely invented by AI with minimal human contribution.

Merely financing, owning, or operating AI does not qualify a person as an inventor, and the denial of AI patents may lead to non-disclosure, contradicting the primary goal of disseminating technological advances. Most legal systems are ill-equipped to address patent-related questions involving AI inventions. The Delhi High Court, in the Ferid Allani vs UOI case,[60] highlights the need to interpret Sec 3(k) to prevent the refusal of real creations based on computer programs. Exclusions in Sec 3(k) are clarified by court decisions like "*Telefonktiebolaget LM Ericsson (PUBL) vs. Lava International Ltd* [61] stating that Sec 3(k) doesn't apply when algorithms produce a practical effect in modern technology.

[58] *Paweł Szpot: Liability for copyright infringement caused by AI*, Available at: "https://www.roedl.pl/en/good-to-know/good-to-know/ai/liability-for-copyright-infringement-caused-by-ai".
[59] Chrysa K. Kazakou, *The impact of artificial intelligence on intellectual property rights,* Property Rights alliance, 20, 2020
[60] Ferid Allani v. Union of India, 2019 SCC OnLine Del 11867
[61] Telefonktiebolaget LM Ericsson v. Lava International Ltd., 2016 SCC OnLine Del 1354

Cases like *Darius Rutton Kavasmaneck v Gharda Chemicals Ltd*[62] and others address the issue of whether patents filed by employees belong to them if not engaged or instructed for inventions during employment. The USPTO ruled that AI systems, like DABUS, can't be recognized as creators in patent applications. In India, current regimes hinder AI system patent rights due to the lack of legal personalities. Anticipated changes inspired by DABUS judgments may be integrated into the Indian legal system regarding AI patent rights.

VIII. SUGGESTIONS TOWARDS AI INCLUSIVITY

1. Proposed Amendments for AI Protection under Copyright Act, 1957: One recommendation is to amend Section 2(d) to explicitly include AI in the definition of 'author.'
2. Determining Term of Protection for AI-Generated Works: If AI serves as a joint author, it is suggested to set the protection term from the date of creation (60 or 40 years) to accommodate AI's perpetual existence.
3. Restrictions on Moral Rights for AI-Generated Works: Due to challenges in identifying the AI's personality and potential harm to its honour and reputation, there is a proposal to restrict moral rights for autonomously generated AI works.
4. Mandatory Registration for AI-Generated Works: A suggestion is to make registration mandatory for AI-generated works, granting copyright protection after registration for both human and AI as joint authors. This would enable the Copyright Office to assess human intervention in AI-generated works.
5. Current Status of AI as Joint Author in India: Currently, AI is considered a joint author in India; however, the lack of legal personality for AI limits its ability to enforce economic rights.

IX. FINDINGS FOR CONCLUSION

There are two types of creative work, one assisted by AI and another in which whole creative work is generated wholly with AI, so the suggestions in this research paper are oriented towards safeguarding the AI-assisted work as human intervention is mostly involved in it and the same human can be held liable and AI can be given personhood jointly given authorship with human. The suggestions and findings are towards the amendment of section 2(d) of the Copyright Act for inclusion of AI within the 'author' definition. In this new technological era, to include AI's perpetual existence, suggestions are towards setting up protection terms for AI joint authorship from the moment of creation date, and considering periods of 60 or 40 years. Further

[62] Darius Rutton Kavasmaneck v Gharda Chemicals Ltd & ors (2014) SCC Online Bom 1851.

suggestions are oriented towards include limiting the moral rights of AI works produced on their own and requiring AI works to be registered in order to aid the Copyright Office in evaluating human intervention Through recent case, we have seen AI is now unintentionally acknowledged by mistake as a co-author in India, its lack of legal personhood places limitations on its ability to protect intellectual property rights. Even if it is a legal person, there are still ongoing challenges related to originality, authorship, ownership, terms of protection, and moral rights. However, efforts are being made to establish India as a possible paradigm for AI protection under copyright law.

Regarding personhood, discussions over how to interpret the Copyright Act's definition of "author" emphasise that, contrary to the conventional human-centric definition, AI is acknowledged as a joint-author or co-author. From a worldwide standpoint, different policies are evident: in the US, AI works produced autonomously are considered public domain, but in the UK, the person engaged is granted copyright. Even though AI is acknowledged as a coauthor in India, human participation in AI protection is crucial and needs to be carefully considered.

In terms of third-party liability, the intricacies of copyright infringement liability associated with artificial intelligence encompass ascertaining accountability among developers, downstream entities, and end-users. Despite efforts, there are still no clear laws pertaining to AI liability, particularly in India, as well as foreign nations such as Europe. Similarities to hazardous product liability are suggested by proposed frameworks, which hold organisations responsible for their actions. There are several situations for liability, including challenges for unknowingly copyright infringement from user acts and possible attribution to creators in cases of consistent AI algorithm copyright infringement. The necessity for a complex legal structure is highlighted by the possibility that the AI system, being a computer programme, could qualify for copyright protection.

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