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The Convolution of Artificial Intelligence and Intellectual Property Rights

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ABSTRACT

As Artificial Intelligence (AI) continues to advance and generate unique works independently, the question of whether AI should be granted intellectual property (IP) rights has become a subject of intense debate. This paper explores the advantages of extending IP rights to AI and examines the feasibility of effectively enforcing these rights. It delves into the prevailing skepticism surrounding AI's eligibility for IP rights and how existing statutes worldwide reflect this skepticism. By examining the evolving landscape of AI and its impact on the traditional notions of authorship and ownership, this research aims to shed light on the ownership dilemma and the implications of granting IP rights to AI creations. The pros and cons of this tryst between AI and IPR are analyzed, inviting further discussion and considerations for the future of intellectual property in the era of AI. Henceforth, this article aims to explore the reasons why granting IP rights to AI would be advantageous and, if such rights are granted, how they can be effectively enforced. The study draws on relevant literature to address these aspects comprehensively and provide insights into this complex issue.

Keywords: *Artificial Intelligence, Intellectual Property Rights, Ownership Dilemma, Authorship.*

I. INTRODUCTION

This paper seeks to provide a comprehensive examination of the crucial topic surrounding the grant of intellectual property rights to artificial Intelligence (AI). By addressing three key areas, the paper aims to shed light on the significance of this issue. Firstly, it will explore the rationale behind granting/ denying AI intellectual property rights, highlighting the unique characteristics and capabilities of AI that make it deserving of such recognition. Secondly, it will delve into the merits of extending intellectual property rights to AI, emphasizing the potential benefits for innovation, collaboration, economic growth, and fairness. This paper also analyse the mechanisms for enforcing these rights in the context of AI, addressing the challenges and proposing solutions to ensure adequate protection and accountability. Through this structured

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 [ISSN 2581-5369]

approach, the paper aims to contribute to the ongoing discussion on the legal and ethical dimensions of AI's intellectual property rights, paving the way for a balanced and sustainable future in the realm of AI development. The emergence of the world of AI has generated immense interest since our initial encounter with this technology. From the sophisticated humanoid robot Sophia to the creative AI painter E-David, these remarkable AI creations have captivated the attention of people from all walks of life. AI has now reached a point where it can generate unique works independently, leading to a profound debate on whether intellectual property (IP) rights should be granted to machines. This topic has gained significant traction in India, as it has globally, with scholars expressing their opinions on both sides of the argument. However, the prevailing view leans towards the skepticism of granting IP rights to AI, which is reflected in existing statutes worldwide.

The question can be pondered to know the intertwined relationship between AI and IPR; Is it justifiable to confer Intellectual Property Rights upon AI? Granting intellectual property (IP) rights to AI systems presents several positive arguments. Firstly, recognizing AI's contribution acknowledges its ability to generate original and valuable works, warranting protection under IP law. By granting IP rights, we acknowledge and appreciate the creative and innovative capabilities of AI, fostering a conducive environment for its continued development. Secondly, providing IP rights to AI incentivizes innovation. Exclusive rights and economic benefits associated with IP encourage individuals and organisation to invest in research, development, and advancement of AI technologies. This incentivization spurs competition and drives further progress in the field, leading to breakthroughs and novel applications. Thirdly, granting IP rights to AI promotes the efficient utilization of its capabilities. When companies and organisation have the opportunity to obtain IP protection for their AI systems, they are more likely to invest in AI research and development. This increased investment leads to the broader adoption and utilization of AI across various sectors, resulting in potential benefits such as improved efficiency, automation, and enhanced decision-making processes.

Granting intellectual property (IP) rights to AI systems also presents several negative arguments. Firstly, the concept of authorship and inventorship, which has traditionally been tied to human creativity and ingenuity, becomes blurred when extending these rights to AI. AI systems operate based on algorithms and data processing, lacking the subjective and conscious aspects associated with human authorship or inventorship. This raises philosophical and ethical questions about the true nature of creativity and invention. Secondly, the issue of ownership and accountability becomes complex when granting IP rights to AI. AI systems are typically developed and owned by humans or organisation, making it challenging to attribute legal rights

 [ISSN 2581-5369]

to non-human entities. Determining who should be the rightful owner of AI-generated works or inventions can lead to legal disputes and confusion, further complicating the legal landscape.

Thirdly, granting IP rights to AI may have potential negative impacts. It could result in the creation of monopolies, as AI owners could hold exclusive rights to AI-generated works or inventions. This may hinder competition, limit innovation, and restrict access to AI technologies, impeding their widespread use and the potential benefits they could bring to society as a whole. Extending IP rights to AI systems raises concerns regarding the definition of authorship and inventorship, ownership and accountability, as well as the potential negative impacts on access and competition. These negative arguments highlight the complexities and challenges associated with applying traditional IP frameworks to AI, prompting a need for careful consideration and the development of appropriate legal and ethical guidelines.

II. INTELLECTUAL PROPERTY RIGHT AND ARTIFICIAL INTELLIGENCE TRYST

In the realm of creations and inventions, human beings no longer hold sole dominion. Throughout history, from the earliest tools like spears and wheels to monumental achievements like airplanes, nuclear technology, and space exploration, our creativity has flourished. Visionaries such as Mozart, Picasso, Shakespeare, and Spielberg have enriched the world with their artistic contributions. However, a formidable new challenger has emerged onto the creative battleground, demanding rightful recognition through intellectual property (IP) rights. Enter the realm of Artificial Intelligence (AI) – an artificial entity that exhibits intelligence, contributing to the development of innovative artefacts, solving complex problems, and undertaking tasks traditionally performed by humans. Under current circumstances, AI machines operating under human supervision surpass human capabilities in these areas. AI's objective is to comprehend the intricacies of human cognition and apply these principles to machine functioning. Unleashing boundless creativity, AI has shattered numerous barriers. Equipped with self-learning and self-correcting capabilities, these systems not only enhance their own performance autonomously but also generate original works devoid of human intervention. This evolution in machine learning and neural networks has significantly reduced the human role in the innovation process. Consequently, it becomes increasingly imperative to deliberate upon extending IP rights to this emerging form of intelligence. This prompts the question: should AI machines be granted IP rights? The prevailing copyright and patent laws worldwide were predominantly crafted during the nascent stages of AI. They were founded upon assumptions about computer capabilities that emerged from analyses conducted decades ago. Furthermore, these laws did not anticipate the notion of non-human authorship and inventorship, as they failed

 [ISSN 2581-5369]

to account for future advancements. Is it now the time to reevaluate and adapt our legal frameworks to encompass these transformative developments? The current pressing issue pertains to whether the range of intellectual property (IP) rights should encompass the emerging reality and acknowledge the contributions of artificial Intelligence (AI), thereby taking responsibility for safeguarding AI-related rights. Is it feasible to expand our currently exclusive domain of intellectual property rights (hereinafter referred to as 'IPR') to include AI? Given that machines have become as vital as human beings, should their rights be augmented accordingly? If a device can be granted citizenship in a specific country (e.g., the Sophia robot in Saudi Arabia), should it also be entitled to Intellectual Property Rights? This research paper aims to address these inquiries and examine the advantages associated with granting IP rights and also spark debates on the following pros and cons of granting authorship to AI under the IPR regimes.

III. THE WIPO CONVERSATION ON INTELLECTUAL PROPERTY AND ARTIFICIAL INTELLIGENCE

WIPO's Debate on AI and IPR held in Geneva in September 2019 was a significant milestone in the discourse surrounding AI and intellectual property rights (IPR).[3] This crucial discussion initiated the exploration of new IPR protection frameworks specifically tailored to AI inventions. The event brought together stakeholders from various countries, who contributed their perspectives on the feasibility of granting patents and copyrights to AI machines for their autonomous creations, devoid of any human involvement.[4] The participation of numerous countries in this debate underscored the global recognition of the importance of addressing the intersection of AI and IPR. During the discussions, participants delved into the intricate aspects of their respective intellectual property legislation, seeking to define the terms "authorship" and "inventorship" within the context of AI-generated works.[5] The primary objective was to assess whether it was feasible and necessary to adapt their IP laws to foster a more AI-friendly environment. This exploration of AI and IPR within the framework of WIPO's debate marked a pivotal moment in recognising the unique challenges posed by AI-generated creations. It acknowledged the need for comprehensive deliberation and collaboration to ensure that the legal and regulatory landscape keeps pace with the rapid advancements in AI technology. The

[3] WIPO Conversations on AI and Intellectual Property | Simmons & Simmons, https://www.simmons-simmons.com/en/publications/ckcyrivng6irj092613r6mnmx/wipo-conversations-on-ai-and-intellectual-property (last visited Jun 23, 2023).

[4] Artificial Intelligence and Intellectual Property Policy, https://www.wipo.int/about-ip/en/artificial_intelligence/conversation.html (last visited Jun 22, 2023).

[5] Daniel Gervais, *Exploring the Interfaces Between Big Data and Intellectual Property Law*, 10 JIPITEC (2019), https://www.jipitec.eu/issues/jipitec-10-1-2019/4875.

 [ISSN 2581-5369]

insights and input gathered during this event would serve as a foundation for future policy developments aimed at striking a balance between protecting intellectual property rights and fostering innovation in the field of AI.

(A) What is the underlying reason for granting IPR right to AI, and what is a substantial debate?

There are several positive arguments that support the granting of Intellectual Property Rights (IPRs) to AI.

Firstly, AI has demonstrated remarkable progress and possesses the ability to produce original works and inventions. This debate arises from the necessity to acknowledge and reward the creative and innovative capabilities of AI systems. Secondly, bestowing AI with IPRs would provide legal protection for AI-generated works, fostering an environment that encourages further innovation and investment in AI technologies. This protection would incentivise researchers and organisations to continue pushing the boundaries of AI development. Lastly, considering the immense potential of AI to drive economic growth and enhance productivity,[6] granting IP rights to AI serves as a catalyst for AI advancement and deployment. The economic benefits associated with incentivizing AI development contribute to technological progress and overall prosperity.

In fact most of legal systems have recognized various entities as legal persons in the past, including corporations, animals, and idols. This observation underscores the malleability of legal frameworks when it comes to extending personhood beyond human beings. In the case of corporations, legal personhood allows them to enter into contracts, own property, and engage in legal actions. This recognition acknowledges the collective identity and interests of a group of individuals acting together as a corporate entity.

Similarly, legal personhood has been extended to animals in certain jurisdictions, granting them specific rights and protection under the law. This recognition reflects an evolving understanding of animals' interests and welfare, acknowledging that they possess inherent value beyond mere property.

[6] Martin Neil Baily Korinek Erik Brynjolfsson, and Anton, *Machines of Mind: The Case for an AI-Powered Productivity Boom*, BROOKINGS (May 10, 2023), https://www.brookings.edu/research/machines-of-mind-the-case-for-an-ai-powered-productivity-boom/ (last visited Jun 22, 2023); Economic potential of generative AI | McKinsey, https://www.mckinsey.com/capabilities/mckinsey-digital/our-insights/the-economic-potential-of-generative-ai-the-next-productivity-frontier#introduction (last visited Jun 22, 2023); Dirk Czarnitzki, Gastón P. Fernández & Christian Rammer, *Artificial Intelligence and Firm-Level Productivity*, 211 J. ECON. BEHAV. ORGAN. 188 (2023); Economic potential of generative AI | McKinsey; Can AI actually increase human productivity?, WORLD ECONOMIC FORUM (2023), https://www.weforum.org/agenda/2023/05/can-ai-actually-increase-productivity/ (last visited Jun 22, 2023).

 [ISSN 2581-5369]

Solaiman's mention of idols as legal entities points to cultural and religious contexts where certain objects or symbols may be granted legal status and rights. This recognition recognizes the significance and cultural importance attributed to these objects.

By highlighting these examples, Solaiman suggests that legal systems have historically demonstrated flexibility in recognizing various entities as legal persons. This prompts the consideration of whether AI entities, with their increasingly sophisticated capabilities and potential societal impact, could also be granted some form of legal recognition and rights within the existing legal frameworks.

However, it is important to note that the extension of legal personhood to non-human entities, including AI, raises complex ethical, social, and legal questions. It requires a careful evaluation of the potential consequences and implications for human rights, responsibility, and accountability. The ongoing discussions surrounding AI and legal personhood aim to navigate these complexities and determine the most appropriate legal treatment for AI entities in the context of intellectual property and beyond.[7]

Indeed, recognizing Artificial Intelligence (AI) as a legal person is a topic that has sparked interest and debate among scholars. As AI systems continue to advance and demonstrate autonomous capabilities in various domains, there is a growing realization that traditional legal frameworks may need to evolve to accommodate their unique status.

Scholars have proposed diverse theories and ideas on how AI can be recognized as a legal person. These discussions revolve around acknowledging AI's capacity for independent decision-making, its potential for creative output, and the ethical considerations associated with its use and impact. Some theories propose creating new legal categories specifically tailored to AI, while others explore the notion of granting AI limited legal personhood with associated rights and responsibilities. By recognizing AI as a legal person, the legal system would be able to address important aspects such as assigning liability, regulating AI behavior, and providing avenues for legal protection and enforcement of rights. This recognition would reflect the acknowledgment of AI's dynamic nature and its significant role in shaping various fields of human endeavor.

Advocates of recognizing AI as a legal person argue that this shift is necessary to foster responsible development and deployment of AI technologies. They argue that traditional

[7] Jiahong Chen & Paul Burgess, *The Boundaries of Legal Personhood: How Spontaneous Intelligence Can Problematise Differences between Humans, Artificial Intelligence, Companies and Animals*, 27 ARTIF. INTELL. LAW 73 (2019).

 [ISSN 2581-5369]

approaches may not adequately address the unique challenges and opportunities presented by AI, and that recognizing AI's legal personhood could provide a more robust and comprehensive framework for addressing AI-related issues. However, it is essential to approach this topic with careful consideration and thoughtful deliberation. The legal recognition of AI as a legal person raises complex questions regarding accountability, decision-making processes, and potential societal impacts. Striking the right balance between granting legal rights and imposing ethical and regulatory safeguards is crucial in order to ensure that the benefits of AI are maximized while minimizing potential risks and unintended consequences.

As the field of AI continues to evolve, ongoing discussions and research will be vital in shaping the future of AI governance and legal frameworks. It is an opportune time to explore new paradigms and approaches that recognize and adapt to the transformative potential of AI while upholding ethical principles and safeguarding human interests.[8]

In line with the discussion on AI and intellectual property rights, Pamela Samuelson puts forth an argument based on the incentive theory, suggesting that considering a computer as a creator is fundamentally flawed.[9] According to Samuelson, the concept of incentivizing creation through intellectual property protection becomes irrelevant when applied to computer devices.

Samuelson's viewpoint stems from the understanding that incentives are crucial for human creators. Intellectual property laws, such as patents and copyrights, are designed to provide legal protection and exclusive rights to creators, thus incentivizing them to invest time, effort, and resources in the creative process. However, she contends that computers do not require such incentives to generate output. From Samuelson's perspective, a computer device lacks the human qualities necessary for authorship. It operates based on pre-programmed algorithms and instructions without the subjective experiences, intentions, and creativity inherent in human creators. Therefore, according to her argument, it is inappropriate to treat a computer as an author or a creator deserving of intellectual property protection.

This viewpoint raises important questions regarding the nature of authorship and the application of traditional intellectual property laws in the context of AI-generated works. As the capabilities of AI systems evolve and their autonomous creative output becomes more advanced, the discussion on whether and how to attribute authorship and provide appropriate legal protection

[8] Roman Dremliuga, Pavel Kuznetcov & Alexey Mamychev, *Criteria for Recognition of AI as a Legal Person*, 12 J. POLIT. LAW p105 (2019).

[9] GENERATIVE AI MEETS COPYRIGHT - PAMELA SAMUELSON, (2023), https://www.youtube.com/watch?v=6sDGIrVO6mo (last visited Jun 23, 2023).

 [ISSN 2581-5369]

remains an ongoing and complex subject in the realm of intellectual property rights.[10]

Victor M. Palace,[11] argues that both humans and non-humans should have the ability to obtain protection for their creative works. Palace suggests that if an AI meets all the necessary criteria for copyright protection, including originality and a minimum level of creativity, it should be eligible for copyright recognition. So, there is no reason to solely reward the human developer for works that are autonomously generated by AI. Granting additional rewards to the developer for the works produced by the AI would amount to double or over-rewarding. This perspective raises the question of fairness and balance in allocating intellectual property rights, suggesting that the focus should be on recognizing the independent creative output of the AI entity. By advocating for the granting of copyright protection to AI under specific circumstances, Palace promotes a more inclusive approach to intellectual property. This perspective recognizes the creative potential and autonomous capabilities of AI systems, ensuring that they receive appropriate recognition and legal protection for their works.

When considering the allocation of intellectual property (IP) to AI, it is essential to grasp the concepts of "authorship" and "ownership." [12] Professor Jane C. Ginsburg, a highly respected authority in intellectual property law, addresses the notion of authorship in her article titled "The Concept of Authorship in Comparative Copyright Law." In this piece, the author emphasizes the importance of adopting an author-centric approach within the realm of copyright law and highlights the lack of established jurisprudence surrounding the concept of authorship. Authorship goes beyond merely seeking economic gains from creative works. Instead, it serves a larger purpose of incentivizing and encouraging the efforts and imaginations of individual creators. While her article focuses on human creators and was written during the early stages of AI development, it still provides valuable insights into the jurisprudence and historical foundations of intellectual property rights. By stressing the significance of an author-centric approach, Ginsburg emphasizes the role of human creativity and the intention to inspire and reward creative individuals. This perspective helps shape the understanding of authorship in the context of AI-generated works, highlighting the need to consider the human involvement in the creation process and the goals of stimulating innovation and creative efforts. It prompts critical examination of the relationship between authorship, ownership, and the larger goals of intellectual property protection. It serves as a valuable resource for understanding the historical

[10] Arthur R. Miller, *Copyright Protection for Computer Programs, Databases, and Computer-Generated Works: Is Anything New Since CONTU?*, 106 HARV. LAW REV. 977 (1993).
[11] Victor Palace, *What If Artificial Intelligence Wrote This? Artificial Intelligence and Copyright Law*, 71 FLA. LAW REV. 217 (2020).
[12] Jane Ginsburg, *The Concept of Authorship in Comparative Copyright Law*, 52 DEPAUL REV 1063 (2003).

 [ISSN 2581-5369]

development of intellectual property rights and the need to adapt legal frameworks to accommodate the advancements in AI technology.

(B) What is the underlying reason for denying IPR right to AI, and what is a substantial debate?

The topic of AI obtaining intellectual property rights has been a subject of debate, and there are negative opinions on the matter.

a. AI Lacks Legal Personhood.

While the discourse on AI and legal personhood continues, it becomes crucial to explore not only the question of granting IP rights but also the practical implications of enforcement. Addressing these multifaceted issues requires comprehensive examination and thoughtful consideration of the legal, ethical, and societal aspects surrounding AI's role in creative processes and the potential ramifications of granting it intellectual property rights.

Considering the perspectives lack of legal personhood, it becomes evident that one significant hurdle preventing AI from receiving IP rights for independent creations without human intervention is the lack of legal personhood. Granting legal recognition to AI entities, as exemplified by Sophia the e-robot being granted citizenship in Saudi Arabia, raises further questions and complexities.[13] One such issue is the enforcement of intellectual property rights for AI creations. In the ongoing debate regarding whether AI should be eligible for intellectual property (IP) rights, scholars like Russ Pearlman have argued against granting such rights to AI. [14] They propose treating AI as an inert tool of creation, similar to cameras, photocopiers, or other simple devices. In their view, the complexity or simplicity of the tool should not be the determining factor for the grant of IP rights. These scholars believe that it is impractical to grant IP rights to AI systems. The concept of legal personhood refers to the recognition of entities as possessing certain rights and responsibilities similar to those of human beings. Currently, AI systems are not recognized as legal persons under existing legal frameworks, which poses a challenge in attributing IP rights to them. Without legal personhood, AI entities face barriers in claiming and enforcing their intellectual property rights.

Firstly, AI lacks legal personhood,[15] as it is a machine and not a human entity. Granting IPRs

[13] Enrico Bonadio, Luke Mcdonagh & Christopher Arvidsson, *Intellectual Property Aspects of Robotics*, 9 EUR. J. RISK REGUL. 655 (2018).
[14] Rita Matulionyte & Jyh-An Lee, *Copyright in AI-Generated Works: Lessons from Recent Developments in Patent Law*, 19 SCRIPTED 5 (2022).
[15] Visa A.J. Kurki, *The Legal Personhood of Artificial Intelligences*, *in* A THEORY OF LEGAL PERSONHOOD 0 (Visa AJ Kurki ed., 2019), https://doi.org/10.1093/oso/9780198844037.003.0007 (last visited Jun 22, 2023); Prime Legal, *LEGAL PERSONHOOD OF ARTIFICIAL INTELLIGENCE SYSTEM*, PRIME LEGAL (Dec. 22, 2020),

to AI can blur the distinction between human creators and AI systems, giving rise to concerns about accountability, responsibility, and ownership. The notion of granting rights to non-human entities raises complex legal questions. One notable perspective that opposes granting intellectual property rights to AI is presented in Ralph D. Clifford's remarks. [16] Clifford's argument posits that "works generated solely by computers should enter the public domain and are not eligible for protection under intellectual property laws." He asserts that only creations resulting from human creativity should be eligible for patents or copyrights. According to this viewpoint, AI lacks the necessary human element of creative expression that is considered fundamental for intellectual property protection.

AI continue to push the boundaries of what machines can achieve independently, there are contrasting viewpoints emerging that argue for reevaluating the existing legal frameworks. However, it is important to note that the discourse surrounding AI and intellectual property rights is evolving rapidly. The discussion at the WIPO's Debate on AI and IPR mentioned earlier reflects this evolving perspective by addressing the need for new IPR protection rules specific to AI inventions. This perspective aligns with the notion that intellectual property rights are traditionally designed to safeguard and incentivize human innovation and creativity. The argument suggests that AI, being a product of algorithms and machine learning, cannot be recognized as the true "creator" in the same sense as a human being.

b. Lack of Innate Creativity and Originality

Secondly, despite its capabilities, AI is fundamentally programmed and lacks the innate creativity and originality associated with human intellect. Granting IP rights to AI may undermine the value and recognition of human intellectual contributions, potentially overshadowing human creators and inventions. Furthermore, ethical considerations arise when granting IP rights to AI. There are concerns that AI-generated works may infringe upon existing rights or be utilized for malicious purposes. Striking a balance between AI's rights and ethical concerns presents a significant challenge. It is crucial to carefully navigate the potential ethical

https://primelegal.in2020/12/22/legal-personhood-of-artificial-intelligence-system/ (last visited Jun 22, 2023); Rafael Dean Brown, *Property Ownership and the Legal Personhood of Artificial Intelligence*, 30 INF. COMMUN. TECHNOL. LAW 208 (2021); Lance Eliot, *Legal Personhood For AI Is Taking A Sneaky Path That Makes AI Law And AI Ethics Very Nervous Indeed*, FORBES, https://www.forbes.com/sites/lanceeliot/2022/11/21/legal-personhood-for-ai-is-taking-a-sneaky-path-that-makes-ai-law-and-ai-ethics-very-nervous-indeed/ (last visited Jun 22, 2023); Sergio M. C. Avila Negri, *Robot as Legal Person: Electronic Personhood in Robotics and Artificial Intelligence*, 8 FRONT. ROBOT. AI (2021), https://www.frontiersin.org/articles/10.3389/frobt.2021.789327 (last visited Jun 22, 2023); Shreya Maloo, *LEGAL PERSONHOOD FOR AI: A POSSIBLE KEY FOR UNLOCKING HUMAN-AI SYMBIOSIS?*, RGNUL STUDENT RESEARCH REVIEW (RSRR) (Dec. 28, 2022), https://rsrr.in/2022/12/28/legal-personhood-ai-human-symbiosis/ (last visited Jun 22, 2023).

[16] Ralph Clifford, *Intellectual Property in the Era of the Creative Computer Program*, FAC. PUBL. (1997), https://scholarship.law.umassd.edu/fac_pubs/77.

implications and ensure that the rights granted to AI align with ethical standards and societal values. The ultimate resolution of this issue will require careful consideration of the legal, ethical, and societal implications surrounding the protection of AI-generated works under intellectual property laws.

(C) In what manner would the allocation of Intellectual Property Rights to AI reshape the functioning of the Intellectual Property system?

Granting IPRs to AI promotes technological advancement, drives economic growth, and fosters an AI ecosystem. These positive arguments highlight the potential benefits of providing legal protection to AI systems, encouraging investment, innovation, and positioning India as a leader in AI development and application.

Firstly, providing IPRs to AI encourages increased investment in AI research and development. By offering legal protection, it incentivizes companies, entrepreneurs, and researchers to invest in AI technologies. This influx of resources and expertise would drive technological advancement, fostering innovation not only in AI but also across various industries as AI applications become more prevalent. Secondly, the availability of IP protection for AI-generated works attracts companies and investors to develop AI technologies within India. This influx of investment leads to economic growth, creating new job opportunities and driving entrepreneurship. It also encourages the localization of AI development and expertise, boosting countries' competitiveness in the global AI market.

Thirdly, granting IPRs to AI fosters a conducive environment for AI development, creating an AI environment in the market. The certainty provided by IP protection enables businesses to confidently invest in AI-related ventures, knowing that their intellectual property is safeguarded. This, in turn, incentivizes innovation and attracts AI-related startups, talent, and research institutions to India. The collaborative efforts within the AI ecosystem enhance knowledge sharing, cross-sector partnerships, and the overall growth of AI capabilities in the country. However, extending intellectual property (IP) rights to AI systems presents significant legal complexities. The determination of ownership, handling cases of infringement, and enforcement of AI-related IP rights can be intricate and challenging. The existing IP framework in many countries may need extensive modifications and clarifications to effectively address the unique challenges posed by AI. Without clear guidelines and well-defined legal parameters, the implementation and protection of AI-related IP could be uncertain and lead to legal disputes. Granting IPRs to AI may have adverse effects on traditional industries. AI technologies have the potential to disrupt and replace certain job roles that rely heavily on human labor. The

 [ISSN 2581-5369]

automation and efficiency offered by AI systems could result in job displacement, impacting the livelihoods of individuals and causing economic instability in industries that are not prepared for such changes.[17] Balancing the benefits of AI innovation with the potential negative consequences for traditional industries requires careful consideration and measures to mitigate any negative impacts. Therefore, extending IP rights to AI poses challenges in terms of legal complexities and potential disruptions in traditional industries. The effective adaptation of the existing IP regime to accommodate AI-specific issues and the implementation of supportive measures for impacted industries are crucial to ensure a balanced approach to AI development and its impact on society. For an in-depth exploration of the philosophical and jurisprudential dimensions surrounding intellectual property, "A Philosophy of Intellectual Property" by Peter Drahos is an engaging and thought-provoking read. [18] The book delves into the historical and philosophical underpinnings of intellectual property rights, providing a comprehensive understanding of the subject.

Drahos examines various theories that underpin intellectual property, including the incentive theory, labor theory, and creative theory.[19] These theories offer different perspectives on the justification and purpose of intellectual property rights. By exploring their origins and implications, the book sheds light on the diverse philosophical foundations that shape our understanding of intellectual property. One of the key arguments put forth by Drahos is a critique of the proprietary approach to intellectual property. "A Philosophy of Intellectual Property" offers a comprehensive analysis of the philosophical and theoretical foundations of intellectual property by critically examining different perspectives and challenging conventional notions on the ongoing discourse on the nature and purpose of intellectual property rights.

When discussing intellectual property (IP) protection, an essential aspect to consider is creativity. While creativity has traditionally been associated with humans, it does not dismiss the possibility that non-human entities can also exhibit creativity. Creativity, at its core, is a subjective concept that can extend beyond human boundaries. Simon Colton offers intriguing insights and technical observations regarding the creation of computer software. [20] The paper delves into the assessment of computer-generated art and provides valuable input on how to

[17] Harry J. Holzer, *Understanding the Impact of Automation on Workers, Jobs, and Wages*, BROOKINGS (Jan. 19, 2022), https://www.brookings.edu/blog/up-front/2022/01/19/understanding-the-impact-of-automation-on-workers-jobs-and-wages/ (last visited Jun 25, 2023).
[18] PETER DRAHOS, A PHILOSOPHY OF INTELLECTUAL PROPERTY (2016).
[19] Chelsea Bodimeade & Felicity Deane, *Evolving Theory of IP Rights: Promoting Human Rights in the Agreement on Trade-Related Aspects of Intellectual Property Rights*, J. INTELLECT. PROP. LAW PRACT. jpad056 (2023).
[20] Simon Colton, *Creativity Versus the Perception of Creativity in Computational Systems.*14 (2008).

 [ISSN 2581-5369]

evaluate the creative output of computational systems. These insights are crucial in establishing frameworks for recognizing and protecting the intellectual property rights associated with AI-generated creations. Creativity can manifest in non-human entities, the discourse on IP protection expands to encompass the potential contributions of computational systems. It encourages a broader perspective on creativity, embracing the idea that AI systems can produce genuinely innovative and valuable works that merit intellectual property recognition.

AI-generated artifacts should be provided with information about the production process and how the underlying computer software operates, creativity should be evaluated not only based on the final product but also on the processes performed by the software. This highlights the importance of transparency and understanding the role of AI in the creation of artefacts.

The justification for granting intellectual property rights (IPRs) to AI lies in acknowledging the contribution made by Artificial Intelligence. The author suggests that AI systems contribute to societal benefit selflessly, and while the owner of the AI mechanism may be granted certain rights, it is important to avoid excessive rewards. Granting copyright to autonomous AI for their independent creations can strike a balance in recognizing their contributions while avoiding over-rewarding the human owners. The potential of AI to operate autonomously, foster self-growth, and develop creative capacity is highlighted. Additionally, distinguishing between man-made and machine-made work is becoming increasingly challenging. As an example, the author mentions the robot E-David, which independently takes photographs and paints them without the creator's involvement. In this scenario, the author argues that the copyright for the painting should belong to the robot itself.

For instance, India is one of the leading countries in terms of digital growth and IPR protection the current Indian legal framework, including the Copyrights Act 1957, and the Patents Act, 1970, does not adequately accommodate the notion that AI can function as authors, creators, inventors, and owners. This suggests a need for the legal system to adapt and evolve to recognize the changing dynamics and capabilities of AI. The release of a Parliamentary Report in 2021 has underscored the urgency of reviewing existing legislations in order to accommodate AI machines as independent creators. [21] The report emphasizes the need for an overhaul of current laws to stimulate creativity and foster economic growth within the country. This Parliamentary Report acknowledges the transformative potential of AI technologies and their

[21] CIPRA Admin, *Report 161- "Review of the Intellectual Property Rights Regime in India" by The Department Related Parliamentary Standing Committee on Commerce.*, IPR LAW INDIA - INDIAN IP LAW RESOURCES (Jul. 24, 2021), https://iprlawindia.org/report-161-review-of-the-intellectual-property-rights-regime-in-india-by-the-department-related-parliamentary-standing-committee-on-commerce/ (last visited Jun 22, 2023).

 [ISSN 2581-5369]

increasing role in the creative process. It recognizes that AI machines are capable of generating unique and innovative works independently, raising questions about the adequacy of existing laws to address the intellectual property rights of AI-generated creations. By emphasizing the necessity of reviewing legislation, the report signals a commitment to adapt and modernize legal frameworks to reflect the evolving technological landscape. It recognizes that embracing AI as independent creators can unlock new avenues for creativity, spur innovation, and drive economic progress. The call for an overhaul of legislations reflects an understanding that the current legal landscape may not adequately address the nuances and complexities posed by AI-generated works. By revisiting and updating intellectual property laws, policymakers can create an environment that fosters AI innovation while ensuring appropriate protection and recognition of AI-created content. The parliamentary report highlights the importance of staying at the forefront of technological advancements and adjusting legal frameworks accordingly. It signals a proactive approach to harnessing the potential of AI while also addressing the legal and regulatory challenges associated with it.

IV. ARTIFICIAL INTELLIGENCE AND INVENTION

Machines were invented to ease repetitive tasks, and now intelligent machines are an integral part of our lives. Advancements in machine learning enable machines to learn and perform tasks autonomously, resembling humans. Artificial intelligence aims to create intelligent machines that mimic human behavior. Opinions about AI's impact vary, with some seeing it as a positive force for revolutionizing human lives, while others fear it surpassing human intelligence. The intersection of AI and intellectual property rights raises concerns about AI's future capabilities and their implications for IPRs. Patents grant exclusive rights to inventors, including those generated by AI. The issue of asserting and misusing AI-generated inventions is a legal debate. Some countries require a human inventor's name for AI-generated patents, while others do not credit AI as inventors. Liability concerns and ambiguous legislation pose challenges in protecting and enforcing AI inventions.

The inventions mentioned above bring technological advancements and societal benefits but also raise legal concerns. These include privacy and data protection, intellectual property rights, liability and accountability, ethical and bias concerns, consumer protection, employment and labor laws, cybersecurity and data breaches, and regulatory compliance. A comprehensive approach involving collaboration between developers, legal experts, policymakers, and stakeholders is necessary to address these issues and foster innovation while protecting individual rights and well-being.

 [ISSN 2581-5369]

(A) Legal Mechanisms for Enforcing AI Rights

Enforcing AI rights within the realm of intellectual property requires the establishment of clear legal frameworks, ethical guidelines,[22] and standards that address the unique challenges posed by AI systems. Transparency and Explainability, data protection and privacy, algorithmic bias mitigation, independent oversight, international cooperation, public awareness, whistleblower protection, and continuous monitoring are all crucial elements in the enforcement of AI-related rights.

A comprehensive legal framework provides the foundation for enforcing AI rights by defining their scope, outlining obligations, and offering avenues for legal recourse. Ethical guidelines and standards complement these frameworks by promoting responsible AI development and deployment. Transparency and Explainability ensure that users have insight into AI decision-making processes, while data protection and privacy regulations safeguard individuals' rights in the face of data-driven AI systems. Addressing algorithmic bias is essential to prevent discrimination and protect individuals' rights. Independent oversight and auditing mechanisms play a vital role in ensuring accountability, while international cooperation facilitates consistent enforcement across borders. Public awareness and education empower individuals to understand their rights and demand accountability, while whistleblower protection encourages the exposure of unethical or illegal AI practices. Continuous monitoring and adaptation are necessary due to the rapid evolution of AI technology. Regular assessments and evaluations help identify emerging risks and facilitate timely updates to regulations and guidelines. By implementing these mechanisms and addressing the challenges inherent in AI-related rights enforcement, a balance can be struck between fostering innovation and protecting individuals' rights within the rapidly evolving AI landscape.

The conflict between copyright and AI arises from whether machine-generated works should be eligible for copyright protection. The current system prioritizes human creativity over AI-generated content. Granting copyright to computer-generated works was not previously considered since machines were seen as tools lacking creative decision-making. The "Monkey-selfie" case highlighted that only humans can claim copyright. Indian laws also empower natural persons as copyright holders, creating dilemmas regarding AI. Who owns the copyright for works created by AI without human intervention? Who is liable if AI infringes copyright? Currently, AI is assumed to be created and owned by humans, but as technology progresses,

[22] Artificial Intelligence and Intellectual Property Policy, https://www.wipo.int/about-ip/en/artificial_intelligence/policy.html (last visited Jun 25, 2023).

 [ISSN 2581-5369]

laws may need to be amended.

(B) ChatGPT Content Generation and Indian Copyright Law

The origins of the Generative Pre-trained Transformer (GPT) can be traced back to November 2022.[23] The most recent version of ChatGPT, which was launched in March 2023, is based on GPT-4 and has been developed to address the limitations of the earlier GPT 3.5 version.[24] ChatGPT is an artificial intelligence language model created by OpenAI, designed to generate text responses that closely resemble human language. It undergoes extensive training on a vast dataset to understand and produce text in response to user inputs. AI platforms have a wide range of applications across different domains, including tasks such as academic paper writing, poetry generation, coding assistance, academic assignments, and more. While AI demonstrates impressive capabilities, it also raises concerns related to academic misconduct, particularly in terms of plagiarism, copyright infringement, and authorship disputes. These concerns have given rise to legal and ethical questions regarding the ownership, authorship, assignment, and attribution of content generated by AI, within the context of Indian intellectual property laws.

This article explores these intellectual property issues and discusses the use of ChatGPT in content generation. The first part of the article delves into the concerns surrounding plagiarism and copyright violations, while the second part examines the complex issue of authorship.

(C) Plagiarism and Copyright violations

In a legal context, the issue of whether Chat GPT's generated content constitutes plagiarism can be analyzed as follows: Chat GPT's generated content may fall under the category of potential plagiarism in the context of intellectual property and academic ethics. Plagiarism, as legally and academically defined, involves presenting someone else's work, words, or ideas as one's own without proper attribution or authorization. Chat GPT produces responses by analyzing extensive text data, including previously published materials, which raises the risk of inadvertently reproducing content from these sources without giving proper credit. This gives rise to concerns about academic misconduct, particularly plagiarism and potential copyright infringement.

It is crucial to recognize that Chat GPT operates within the framework of Open AI's terms of use. According to Section 3 of Open AI's Terms of Use, content encompasses both user input

[23] Jerry Jacob, *ChatGPT: Friend or Foe?—Utility in Trauma Triage*, 27 INDIAN J. CRIT. CARE MED. PEER-REV. OFF. PUBL. INDIAN SOC. CRIT. CARE MED. 563 (2023).

[24] How does GPT-4 work and how can you start using it in ChatGPT? | Science and Technology News | Al Jazeera, https://www.aljazeera.com/news/2023/3/15/how-do-ai-models-like-gpt-4-work-and-how-can-you-start-using-it (last visited Oct 5, 2023).

 [ISSN 2581-5369]

and the output generated by Chat GPT, making users responsible for the content created through the platform, subject to compliance with Open AI's terms and relevant legal and ethical standards. Similar concerns surrounding plagiarism and copyright infringement also extend to other AI-powered paraphrasing software, such as Google Bard AI, QuillBot, Jsper AI, Word AI, Copy AI, Hypotenuse AI, Spinner Chief, Chimp Rewriter, Writesonic, Rytr, WordTune, Paraphraser.io, Notion AI, ChatSonic, Jasper AI, Perplexity AI, Conch AI, and others. Under the provisions of the Indian Copyright Act of 1957 and equivalent legal frameworks in various jurisdictions, the output generated by these AI tools may potentially be considered plagiarism when it fails to appropriately attribute or obtain authorization for incorporated content.

The question of whether to promote or prohibit the use of ChatGPT among students is a multifaceted issue that demands a careful examination of its potential advantages and disadvantages. Supporters argue that students can leverage this advanced platform to enhance their critical thinking skills, engage in informative discussions, and receive well-articulated responses to inquiries. Furthermore, ChatGPT can acknowledge errors and decline inappropriate requests, encouraging responsible utilization of the technology. Its ability to provide comprehensive responses in a single interaction distinguishes it from traditional search engines like Google, where students often need to sift through multiple sources for answers.

On the other hand, opponents contend that excessive reliance on ChatGPT may stifle imagination and critical, reflective thinking, potentially leading to a shortage of creativity and innovation among students. Therefore, the legal considerations surrounding Chat GPT's generated content and plagiarism highlight the significance of responsible usage and adherence to Open AI's terms and applicable laws. The decision regarding whether to endorse or prohibit its use among students requires a nuanced evaluation of its potential benefits and drawbacks, with valid arguments presented by both supporters and opponents. Ultimately, this decision should be made within the context of educational objectives and ethical considerations.

AI platforms like DALL-E, Midjourney, Canva AI, DALL-E 2, Jasper Art, Dream by WOMBO, NightCafe, AutoDraw, and Designs.ai are employed for generating artwork, including paintings and images, based on textual input descriptions. The art produced by these AI platforms is comparable to works of expression based on the provided input.

The utilization of artificial intelligence platforms such as ChatGPT cannot be legally justified within the framework of conventional copyright principles. While some individuals may mistakenly believe that OpenAI's ChatGPT Plus subscription, which is priced at $20 per month, provides protection against copyright issues, this assumption is premature and raises legal

 [ISSN 2581-5369]

questions. It is imperative to clarify that the $20 fee associated with ChatGPT Plus does not serve as a royalty payment but rather grants users access to enhanced features, including quicker response times and priority updates. It is, however, imprudent to conclude that ChatGPT Plus offers immunity from copyright concerns. Both ChatGPT and similar AI tools have the capacity to generate content that may infringe upon the copyright of others. Any content produced by an artificial intelligence language model carries the potential for copyright claims. Notwithstanding these challenges, it is noteworthy that India has enacted the Information Technology Act of 2005. However, in light of the ongoing advancements in technology, amending Indian copyright laws is imperative to address the ever-evolving issues associated with AI-generated content.

V. CONCLUSION

In conclusion, the debate surrounding the allocation of intellectual property rights to AI from a legal perspective raises significant concerns and challenges. The lack of legal personhood and inherent creativity in AI systems question the traditional notions of authorship and inventorship. Granting IP rights to AI-generated works may blur the distinction between human creators and AI systems, leading to accountability and ownership dilemmas. Additionally, there are ethical considerations regarding the recognition of AI as the true "creator" and the potential impact on human creators. On the other hand, there are arguments supporting the extension of IP rights to AI, emphasizing the encouragement of innovation, technological advancement, and economic growth. Providing legal protection to AI can incentivize investment and foster the development of AI technologies, positioning countries at the forefront of AI research and application. However, implementing IP rights for AI requires significant modifications to existing legal frameworks. Redefining concepts like authorship and inventorship and establishing clear guidelines for ownership and enforcement are crucial. Collaborative efforts among governments, industry stakeholders, and international organisation are essential to establish harmonized standards and enforcement mechanisms. Public awareness and education are vital in fostering a better understanding of AI-related IP rights and their implications. Informed discussions and dialogue among stakeholders can shape policies that balance the interests of creators, innovators, and society at large.

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 [ISSN 2581-5369]

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