

INTERPLAY BETWEEN ARTIFICIAL INTELLIGENCE AND THE COPYRIGHT LAW IN INDIA: ISSUES AND CHALLENGES

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Abstract:

The globe over, people are fascinated by the subject of artificial intelligence. The main goals of AI are to enhance human potential, encourage creativity, and lessen the need for human labor. The intelligence of computers or software, as opposed to the intellect of people or animals, is known as artificial intelligence (AI). Additionally, computer science research in this area focuses on creating and studying intelligent devices. The term "AI" may also apply to the actual devices. Technology has long been used by artists to aid and enrich their creative process; since the 1970s, machines have been used as tools or catalysts. Up until now, only humans have controlled the creative realm. Even works produced with computers relied heavily on human input, therefore the human was still considered the creator and owner of the work, even with the assistance of a machine. With the advancement of technology, this method has persisted and even become more effective, enabling it to generate creative works on its own without the need for human intervention. And there arises the concerns that can create potential impact on the society.

The term "copyright" refers to the legal privilege granted to the rightful creator and owner of a creative work, allowing them to fully profit from it and preventing unfair usage by third parties. Regarding the possibility of copyrighting AI-generated content, current copyright regulations state that the creator is the first owner of copyright in a work. The 1957 Copyright Act of India does not expressly mention AI-generated works or acknowledge AI as an author. One of the major issues to be discussed is what will be the status of the AI generated content, who will own it and how will it be protected. Thus, this paper attempts to discuss and analyze the role of AI in the field of creativity posing challenges on the current copyright law in India.

Keywords: *Artificial Intelligence, Author, Copyright, Creativity, Human intervention, Intelligence.*

Introduction

The topic of artificial intelligence has captivated the interest of people worldwide. AI's primary objectives are to promote innovation, reduce the need for human work, and maximize human potential. The AI system can now complete the work more accurately and with greater skill. Once

the codes are entered, computers can learn to perform the tasks on their own, as demonstrated by the success of robotics and AI-generated labor. AI has drawn interest from innovators as well as investors, who find it to be highly alluring. Trends in AI technology investments are soaring. With more money flowing into AI start-ups, India is also making strides in this field.

It is believed that someone who studies science creative writing is not unfamiliar with the concept of artificial intelligence. It is necessary to examine the evolution of the concept of AI in order to comprehend AI and how it relates to our understanding of intelligence. When the phrase was first used, researchers were attempting to determine whether machines were really capable of thinking. The first attempts to quantify intelligence were conducted in the 1940s by McCulloch and Walter Pitts. At the “Massachusetts Institute of Technology's Dartmouth Conference, John McCarthy coined the term artificial intelligence.” Since then, a lot has evolved in the understanding of AI. It has developed a lot with the advancements in the technology. With all these developments and increasing investments in the AI technology it is needed that the policy makers work towards regulating AI, the very first step towards which is understanding what AI is.

“John McCarthy, one of the founding fathers of Artificial Intelligence and also someone who coined the term in 1956”, described AI as “the science and engineering of making intelligent machines”.ⁱ The formation of any intelligent software or hardware which has the ability to imitate and reproduce human behaviors, like learning and problem solving, etc is Artificial intelligence.ⁱⁱ Since the word "artificial" implies "machine" or "man-made," anything created by humans that possesses intelligence—such as the ability to make decisions or analyze data—falls under this category. The difficulty in defining artificial intelligence (AI) stems from the fact that the term is broad and encompasses a wide range of machines. These include machines that are able to think, read, understand, identify, and interpret text; machines that can detect and interpret images; machines that can sense their external environment and take autonomous actions; and machines that can perform other cognitive tasks similar to those performed by humans.

Due to the variance in the functions AI can perform, no single definition of AI has been agreed upon by the practitioners. AI might even change during different steps of the course of its task. “Based on the problem, space AI deals with logical reasoning, knowledge representation, planning and navigation, natural language processing (NLP) and perception”ⁱⁱⁱ and also “includes Machine learning (ML), Deep Learning (DL), artificial neural networks, expert systems and robotics”^{iv} from AI itself emerges very useful and efficient technologies we use in our day-to-day life, based upon this a study^v suggested the use of the term “cognitive technologies” to encourage the focus on the specific, useful technologies that emerge from the broad field of AI.

AI represents a significant advancement in computer technology. When an input not previously mapped out in the system is presented, the earlier generations of computers, which operate on preset directives regarding a certain input, would malfunction. But because AI systems are now able to learn from their environment, past experiences, and other sources, they can function even in scenarios such as the ones mentioned above. This computer model is sometimes referred to as "cognitive computing" since it is comparable to human learning. Large amounts of data are

analyzed to detect patterns in cognitive computing or artificial intelligence devices. These patterns can then be utilized to build whole new patterns, allowing the machines to test theories and find answers to problems for which they were not designed.

Although there is no single agreed upon definition of AI but there are certain essential features which every AI system has, which are:

- The capability to gather data and information.
- The capability to analyze data by running it through an analytical model.
- To make decisions and take actions based upon that analysis.^{vi}

In conclusion, artificial intelligence (AI) is any computer that can carry out tasks that humans can and that can adapt dynamically to changing environmental conditions through cognitive learning by gathering large amounts of data, processing it, and deriving conclusions from it. However, as the picture below illustrates, artificial intelligence (AI) spans a wide range of technologies, so this isn't as straightforward as it sounds.

Understanding the many forms of AI is crucial before discussing the legal position of AI, including what it is and should be, as not all AI can be granted the status of legal personality. Different writers and computer specialists have categorized artificial intelligence differently. There isn't just one classification of AI that is acknowledged by everyone. “The World Intellectual Property Organization (WIPO)” has categorized AI into the following three types:^{vii}

1. **Expert systems:** These are artificial intelligence enumeration systems that function similarly to a human expert in the related area i.e., it is capable of making decisions just like a human expert. These systems are employed in disciplines that call for in-depth expertise. For instance: identifying geological situations, making therapeutic recommendations, and diagnosing medical issues. These systems' main purpose is to use knowledge bases to reason through difficult problem solutions. These systems are occasionally used to produce creative and artistic works as well.
2. **Perception Systems:** Artificial intelligence (AI) perception enables developers to create computers with human-like reactions. In order to make human-like movements, perception is the process of interpreting, obtaining, choosing, and organizing sensory data from the physical environment. These systems provide a computer the ability to see and hear the outside environment. Word-context specialists, topologists, and others use these.
3. **Natural language:** These artificial intelligence systems possess the ability to comprehend and communicate with human language. These programs need a dictionary database in order to comprehend word meanings. One important feature of these systems is their ability to give a semantic analysis by accounting for various grammatical and textual contexts.

According to Garry Mathiason^{viii}, primarily AI can be of two types: Hard AI and Soft AI. Hard AI refers to machines with human-like cognitive processes whereas soft AI refers to machines that can do tasks that humans alone can accomplish; human thinking skills are concentrated on making

machines think like humans. This means that the aim of soft AI is not to create robots with human-like cognitive processes.

While there isn't a single, widely agreed-upon definition of artificial intelligence (AI), all researchers and tech experts agree that AI systems are attempts to create robots that have human-like capabilities. This fundamental quality is critical to the categorization of AI since the primary criterion for AI classification is how well it can mimic human abilities. This allows for the classification of every AI, real or hypothetical, into two groups. The ability of AI to "think" or "feel" like humans can be the basis for one classification, while an AI system's strength can be the basis for another.

The Legal Definition of Artificial Intelligence

Giving a thorough, precise, and unambiguous definition of what is to be included in the subject matter is the first stage in creating policies or regulations about it. This is required in order to specify the regulations' or policies' areas of application. The most crucial and fundamental question of all is addressed by the definition: does a regulation apply in a specific situation? The first and most important step in bringing anything under the purview of appropriate laws and regulations is to describe it. Occasionally, a term used in common parlance may mean something quite different when used in legal contexts. For example: Insanity, Medical Insanity and Legal Insanity are entirely different concepts. Medical insanity may or may not be the same as legal insanity, and vice versa. The difficulty of defining artificial intelligence is greatly increased by the fact that not even computer experts can come up with a single, widely-accepted definition of the term. Due to the complexity of liabilities and other related legal difficulties, the legal definitions of AI differ greatly from those of other fields. A legal system cannot be served by working definitions, which are what the majority of accepted definitions of AI are. Policy and legal system perspectives require a more specific and tangible description.

The words "artificial intelligence" and "intelligence" are combined. "Something not occurring in nature or something not in the form it originally occurred in nature" is a basic definition for the first one, which is artificial. The definition of intelligence is complicated. What qualifies as intellectual? "Human intelligence" is the highest form of intellect that has been identified by humans, or what they currently believe to be intelligent. According to the well-known Turing Test, a machine is considered intelligent if it can convince people 50% of the time or more that it is a human.

While answering that what intelligence is, John McCarthy, the founding father of the science of artificial intelligence answered "intelligence to be the computational part of the ability to achieve goals in the world."^{xix} He claimed that mankind, many animals, and certain machines all possess intellect to varied degrees. McCarthy also acknowledged the lack of a precise definition of intelligence that is independent of how intelligence is related to human intelligence. He claimed that the issue was that we were still unable to broadly define the types of computing processes that we would like to refer to as intelligent. Certain mechanisms of intelligence are well understood by us, whereas others elude us. The informal definition of intelligence, according to Marcus Hutter

(now at ANU) and Shane Legg (now at Google DeepMind), is the capacity of an agent to accomplish objectives in a variety of contexts. Intelligence is a difficult concept to define. There are several distinct definitions of intelligence, each focusing on a different aspect of artificial intelligence. As an illustration, consider the study of artificial intelligence (AI), its applications, the degree of autonomy displayed by a sophisticated system, and occasionally even human traits like consciousness, self-awareness, language use, learning, abstraction, adaptability, and reasoning. Eight distinct definitions of artificial intelligence (AI) are presented by Russell and Norvig, divided into four categories: reasoning, acting rationally, thinking human, and thinking human. The definition will not last very long if we use the attribute of autonomy as the deciding factor. This is because, given the speed at which AI dynamics are developing, the definition of an autonomous or unexpected decision made by a computer is likely to change over time. In essence, applications can be classified as artificial intelligence (AI) if they yield outcomes that we consider to be on par with human intelligence. That is to say, categorizing AI depends largely on how clever we deem the results to be, which raises comparable issues to those raised by characterizing AI in terms of "autonomy." In short, it means artificial intelligence is what we refer to as AI. This definition is not appropriate to serve as the foundation for rules and regulations because it is both subjective and circular.^x

This definitional issue arises in all regulatory situations, from making sure that the word "AI" is used truthfully in commercial advertisements to determining the legal treatment of next-generation automated weapons systems (AWSs) in relation to the rules of war. It's possible that in the future we'll require more than one definition—just as "goodwill" can imply different things depending on the situation. However, we must begin somewhere.

“The European Commission's Communication on Artificial Intelligence” (European Commission, 2018) describes artificial intelligence as follows:

- Systems that exhibit intelligent behavior by assessing their surroundings and acting, sometimes autonomously, to accomplish predetermined objectives are referred to as artificial intelligence (AI) systems.
- Artificial intelligence (AI) can be integrated into hardware devices, such as advanced robots, driverless vehicles, drones, or Internet of Things applications. Alternatively, AI can function in the virtual world by software alone, as in the case of voice assistants, search engines, picture analysis programs, speech recognition software, and facial identification software.
- “The High-Level Expert Group on Artificial Intelligence (AI HLEG), an expert advisory group to the European Commission” proposed a definition of AI, taking the definition put forth by the European Commission as a base point. Their definition presumes the three basic common components that every AI possesses:
 1. Perception;
 2. Reasoning or Decision Making; and

3. Actuation.

“The document of the European expert group mentioned above gives us some points to consider. In the group’s view, when qualifying a technology, the following factors should be taken into consideration:

- Its complexity;
- Its opacity;
- Its openness to interaction with other technologies;
- Its degree of autonomy;
- The predictability of its results;
- The degree to which it is data-driven;
- Its vulnerability to cyber-attacks and risks.”

These elements assist in determining the hazards associated with various technologies on an individual basis. This is very useful in the terms when it comes to define an AI technology. As suggested by Eric Lavallée^{xi}. Recognizing legislative objectives in terms of features that may be found in various technologies and measuring the risks associated with the commercialization of those technologies is preferable than adopting a strict set of rules that apply to all technologies. More specifically to consult with legal experts “to ensure that the technology in question isn’t completely incompatible with applicable laws or soon to be adopted ones in the various jurisdictions where it is to be rolled out.”^{xii}

The Algorithmic Accountability Bill of 2019 in US Parliament willfully excluded to define the term AI instead it defined the term Automated Decision System u/sec 2(1) as following:

Automated Decision System- The term “automated decision system” denotes a computational process that makes a decision or helps humans make a decision that affects consumers. This computational process can be derived from machine learning, statistics, or other data processing or artificial intelligence techniques.

A hope in defining AI was lit by Stuart Russell and Peter Norvig^{xiii} by their definition of AI. They defined AI to mean an intelligent agent. An "agent" is a software system that uses sensors to sense its surroundings and actuators to take action on them. "Intelligence" refers to the capacity to choose a course of action that will maximize a performance metric.

Upon analyzing each of these definitions, it is clear that attempting to define AI in a single way will not be particularly insightful. Rather, depending on the goal and parameters of each statute, artificial intelligence should be defined differently for each one. Additionally, Stuart & Or’s definition of AI as "intelligent agents" can be applied generally.

Legal Personality of AI as a matter of consideration

Meaning of Legal personality

In philosophical terms, personality refers to a person's intellectual foundation. It refers to a right- and duty-bearing unit in law. It is important to distinguish personality from humanity. Only naturally occurring humans are considered to be human, yet personality also refers to inanimate objects in a technical sense. Therefore, personality transcends humanity. Humanity and personality can coexist or diverge at different times. Similarly, there exist legal entities that are not human, like a business or an idol. Legal personality thus raises two issues in the legal domain. The first inquiry concerns who is recognized as a person by law and what theories or tenets support this recognition. What are these (legal) persons' rights and obligations? is the second question. Legal personality is the artificial personification of the law, or the attribution of personality by the law. Legal persons can take on any form the law desires, as they are artificial constructs of the law.

Theoretically, autonomous machines can be granted legal personhood without any legal obstacles. Numerous authors have previously concluded that there are no formal barriers to AI not being recognized as a legal person.^{xiv} According to some authors, a legal system has decided to treat an entity as though it were a person in reality when it grants that entity legal rights and obligations. Legal systems may choose to use this type of pretense, regardless of whether an entity is actually a person.^{xv} “We have experience of recognition of corporations, animals, environmental features and even idols as legal persons”.^{xvi}

The United States and the European Union appear to have already developed agreed approaches to the legal personality of certain types of artificial intelligence. Both nations vehemently oppose the legal personhood of intellectual warfare devices. Military leaders retain responsibility for any harm caused by misbehavior on the part of the AI. There are two choices when it comes to using AI in civil applications. AI has the ability to act as a legal person or as an agent in legal business dealings. Even for the AI & IPR topic, figuring out the legal personality of AI is quite important. The rationale is straightforward: as AI becomes more and more integrated into every aspect of life, it raises a number of questions about who owns intellectual property and how liability for infringement will be allocated. It is crucial to first address the question of whether artificial intelligence (AI) may be regarded as a legal person with rights and obligations in order to decide all of these other questions.

Robust AI will bring a new level of complexity to our society. The world of technology is evolving quickly, which calls for the current legal system to undergo adaptive changes. so that the legal challenges brought forth by the advancements in technology in our society can be resolved by our legal system. There is enough legal evidence to support the idea that artificial intelligence has legal personality. In this scenario, legal personhood for companies, labor unions, and other organizations would not conceptually differ from that of artificial intelligence.

It would be our moral responsibility to grant them rights once the powerful AI matures into a sentient being. The best case for extending legal personhood to artificial intelligence is that doing so will let our legal system adapt to this technological shift without requiring significant changes. Additionally, this would guarantee that our civilization and technical advancement remain

intertwined. Strong AI would be independent and might be liable for things under the law as a result of what it does.

Liability passes to its developers or owners if it is not made to answer for its own deeds. In such a situation, they might decide against creating technology that has the potential to completely transform our civilization. No innocent person would have to suffer the repercussions of an act if AI was held responsible for its own deeds. Artificial intelligence is already a significant and powerful force in our world, and it will only become more so in the future. Although AI is still in its early stages, it has already begun to pose problems for the legal system. As a result, it is imperative that we begin making preparations for this upcoming technological development, which was not intended by him and will also prevent AI from being abused by people for their own selfish or illegal motives.

AI has provided the world with numerous shinning opportunities however, various cases in which the AI systems have given poor results have also been observed. “The first fatal accident involving an autonomous vehicle was witnessed when a Tesla car in self-driving mode killed a pedestrian in 2016.^{xvii} In 2017, Microsoft’s chatting bot Tay had to be shut down after 16 hours because it became racist, sexist, and denied the Holocaust.”^{xviii}

Concerns concerning AI systems' responsibility, justice, bias, autonomy, and due process have been stoked by these and other instances. There is growing need to improve the transparency and explain ability of AI applications due to the technology's growing significance in society. There have been numerous conversations about creating rules and regulations to manage artificial intelligence and put it under the legal purview.

Many governments are dealing with public concerns as our society starts to embrace artificial intelligence, in addition to the continuous drive to use these technologies for the benefit of the public. Numerous nations are actively engaged in introspection, albeit with differing outcomes. Since AI legislation is still in its early stages, this article includes discusses ethics codes, guidelines, government agencies' and governments' statements and actions regarding AI.

Artificial Intelligence and Copyright Law: Introduction

The machines are here to stay, but they are creators rather than conquerors. For a very long time, robotic artists have been engaged in a variety of artistic endeavors. Computers have been creating crass art since the 1970s, and this trend is still going strong today. The majority of these computer-generated artworks were primarily dependent on the programmer's artistic contribution; the machine was merely an instrument or a tool, much like a brush or canvas. However, the technological transformation we are currently experiencing may force us to reconsider how computers and the creative process interact. The fast advancement of machine learning software, a kind of artificial intelligence that creates self-governing systems with the ability to learn without explicit human programming, is the foundation of this revolution.

A machine learning program that incorporates an algorithm allows the software to learn from input data, develop, and make future decisions that may be directed or independent. Programmers offer the input that machine learning algorithms use to learn when they are applied to literary, musical, and artistic creations. They use the knowledge they get from these facts to create new art, coming to their own independent conclusions about the form of the new work as they go. Programmers can set parameters, but the computer program—also called a neural network—actually creates the work in a way that is similar to how humans think. This is an important aspect of this sort of artificial intelligence. As a result, the machines handle the majority of the labor here. When artificial intelligence is used to generate art, as in these circumstances, copyright law may be significantly impacted. If a creative work is original—most definitions of originality call for a human author—it is protected by copyright. The majority of jurisdictions stipulate that copyright protection is only applicable to works created by humans. However, with the most recent developments in artificial intelligence, a computer program is no longer just a tool—rather, it now actively participates in the creative process by making numerous judgments without the need for human input. All of this raises current concerns about the fundamental principles of copyright, such as uniqueness, inventiveness, authorship, and ownership and also to the basic aim of copyright law, which was to award the labor and creativity of human mind.

There may be significant commercial ramifications to how the law handles novel forms of machine-driven innovation and how AI usage affects copyright. For instance: Games, journalism, and music are among the industries already using artificial intelligence to create original content. Since these works are not written by human authors, they may theoretically be considered free of copyright. They were therefore open for everyone to use and reuse. That would be terrible news for the businesses that are selling the pieces. Wouldn't it be demotivating if a corporation spent millions on a system that creates music for video games only to discover that the music is unprotected by law and may be utilized for free by anybody anywhere in the world? Even while it's hard to predict exactly how this might affect the creative sector, investment in automated systems might be discouraged. Why would developers invest in such systems if they are unsure if works produced via machine learning are protected by copyright? However, considering the savings in labor expenses, using artificial intelligence to manage labor-intensive tasks might still be worthwhile; however, it is currently too early to know.

Interplay between AI and Copyright Law

A legal privilege known as copyright shields creative works produced by the human mind and intellect in general. In India, copyright protection safeguards creations, not just ideas. Consequently, if a work is an expression of the creator rather than just an idea, it may be protected.

Although the Copyright Act, 1957's section 13 on the subject matter of copyright doesn't include the word "human" for copyright extension, it does state that copyright will be granted for original works of literature, drama, music, and art as well as cinematographic films and sound recordings. However, when this section is compared to the Act's div. 2(d), which defines author, the sub-clauses (i),(ii),(iii), (v) do not use the word like “person” but sub-clauses (iv) and (vi) do . If these

clauses are read to simply attain the fundamental aim of copyright law that was to reward human labor, we might say that the copyright law should not apply to AI generated work. However, a closer examination of this goal will reveal that copyright was also intended to promote society's artistic and creative advancement. Additionally, ambiguity will be eliminated if AI is given the legal status of a juristic person, and current law will continue to encourage AI's creative development since AI has been effective in producing a large number of artistic and creative works. However, computer-generated works are discussed under Sec. 2(d) (vi). The examples of AI that can create works suitable for copyright are listed below:

Next Rembrandt:

Using scanned images from well-known works by the Dutch painter Rembrandt, a facial recognition artificial intelligence program created “The Next Rembrandt, a computer-generated 3D printed picture”. An artificial intelligence (AI) portrait with 148 million pixels is built on 168,263 Rembrandt work fragments that are kept in a database. A new Rembrandt painting was produced through 3D printing by analyzing the statistical characteristics of high-quality photos and depth images of the artist's works. The picture shares characteristics with earlier Rembrandt works, yet it can also be considered a new work because it is not an exact replica or alteration of an already-existing one. However, it holds the personal touch^{xix} i.e., style or personality of the artist Rembrandt.

Poem machine:

Word repetition can be used to analyze text by calculating the corpus's input data, which establishes the text's style. New content can then be coproduced using corresponding statistics. Rhyming and other limitations can be created using the techniques. This was carried out in the "Poem machine" AI experiment. Brain signals from mice were used to somewhat randomize the content selection process in the project. But the mouser had no cognitive influence over the result.

Flow Machine:

The flow machine is capable of creating new compositions in the style of a selected genre or artist using patterns it extracts from a music database. To achieve a satisfying outcome, the musicians must make major adjustments. This covers writing, generating lyrics, mixing, and adding tracks.

Text generating programmers:

There are numerous coders who generate text. One of these is a neural network trained by Stanford PhD student Andrej Karpathy to scan text and construct phrases in a certain manner, such as dialogue lines that seem like they come from Shakespeare's plays and Wikipedia articles.

Aviva:

Aviva is able to write music for movies, video games, ads, and other kinds of entertainment. The greatest composers, including Mozart, Beethoven, and Bach, wrote a vast collection of music partitions. These composers educated Aiva's AI to construct a mathematical model representation. Aiva uses this mathematical model as a guide when writing and creating modern music. The

“Société des auteurs, compositeurs et éditeurs de” music in France is the author's rights society where Aiva is the first virtual artist to get their work registered.

Emerging Issues Relating to AI & Copyright Law

It has been noted that computer-generated art has gained significant attention since the 1970s. The programmer that provides the input for development of the piece is mostly responsible for the majority of these computer-generated artworks. However, as technology has advanced, artificial intelligence has grown to the point where it can now comprehend and produce outputs without human intervention.

One of the main concerns in this regard is the protection of artificial intelligence's creative output. The major issue is of protection of this work which can be further sub-divided into the following:

1. The issue of eligibility of copyright protection. This issue again has two facets:
 - The personhood of AI
 - The interpretation of the concept of originality and creativity.
2. The issue of the authorship to such work.
3. The issue of ownership of such work.
4. The issue of infringement.

These problems are inseparable from one another and have significant overlaps. For instance, authorship and ownership issues are the only ones that apply if and only if the work is to be copyright protected, and copyright protection can only be granted if AI's authorship is acknowledged. Furthermore, it is impossible to examine ownership and authorship separately. As a result, several topics are examined together for ease.

In order to determine whether an AI-generated work is eligible for copyright protection, it must be taken under consideration that, at this time, AI does not have any personhood attached to it. The legal personhood that an AI must have in order to be subject to any rights or own any property is the most crucial requirement. The current copyright legislation in India does not fully grant AI the ability to create works. India has repeatedly emphasized the need for human intervention in order to maintain copyright protection, but it seems unlikely that this will allow AI to be recognized as a distinct entity.

Nonetheless, the current situation necessitates giving AI legal personality in order to resolve concerns about copyright infringement by AIs as well as to establish authorship and ownership. The Copyright Act of 1957 specifically states in Section 51 what happens when copyright is violated. A "person" is the only entity that can violate copyright in a work, according to an analysis of the law. Any infringement brought about by AI will be taken seriously because it is currently not recognized as a legal entity. It will be far more challenging to assign blame for any infringement brought about by AI.

Even so, there's a good chance that the violation will occur frequently, as AI is trained on data, some of which may be copyright protected (such as databases). Because copyright is beyond the purview of the doctrine of fair use, it can very easily be violated in situations where AI utilizes data without the proper authorization to produce an output of economic significance. Since artificial intelligence lacks a legal position of its own, the argument for granting AI authoring rights and holding it accountable for copyright violations may lose steam unless a suitable channel and chain are put in place to establish liabilities for the actions of AI.

It is important to acknowledge AI as a legal person as a result. The subject of originality and creativity is another concern related to the eligibility of a work generated by AI. When we discuss the creation of work by artificial intelligence (AI), we must keep in mind that this creation will depend on the parameters, contents, and depth of knowledge that the software program permits it to study. For AI to provide a result, programming is necessary. Since the AI has the potential to examine and analyze already-existing data, any work it does will be based on data that is either freely accessible to the public or protected by someone else's copyright. In essence, AI can only adapt or modify pre-existing material that is in the public domain; it is incapable of producing fresh content. Therefore, copyright breaches by other copyright holders may result from the acknowledgment of AI as a distinct entity and the separate protection of work.

The work that is made, whether it be a literary, theatrical, musical, or artistic production, must be original and pass the aforementioned originality requirements in order for an AI to claim ownership or authorship over a copyright. It's still up for debate, though, whether AI is capable of original creation. Since artificial intelligence depends on previously published knowledge and programming exposure, literary works may be considered compilations under the Copyright Act of 1957, and so be protected by copyright. On the other hand, counterarguments contend that the work in question is merely a collection of ideas lacking in judgment and expertise.

It is vital to consider the following judgments at this point:

- ***Feist Publications v Rural Telephone Service Company*^{xx}:**
According to the Copyright Office in the US, "an original work of authorship will be registered, provided that the work was created by a human being." The aforementioned legal ruling, which said that copyright law exclusively protects "the fruits of intellectual labor" that "are founded in the creative powers of the mind," is the source of this attitude.
- ***Eastern Book Company & Ors vs D.B. Modak & Anr*^{xxi}**
The Hon'ble Supreme Court of India observed that "To claim copyright in a compilation, the author must produce the material with exercise of his skill and judgment which may not be creativity in the sense that it is novel or non-obvious, but at the same time it is not a product of merely labor and capital. The derivative work produced by the author must have some distinguishable features and flavor." and therefore it is a requirement for any compilation or derivative work to show skill and judgment.
- ***Burrow Giles Lithographic Co. v Sarony*^{xxii}**

The main issue in this instance was whether or not a photograph may be given copyright protection. This case was significant because it dealt with the conflict between creative and mechanical labor. In this instance, the court considered whether to award copyright protection to the machine's production, concluding that mechanical output is not inherently creative. Therefore, it would be challenging to award copyright protection to the work produced by AI systems if such a stringent approach were to be applied to them.

- ***Bleistein v Donaldson Lithographing Co.*^{xxiii}**

In this instance, the court made a clear distinction between human labor and robotic labor. In this case, Justice Holmes elucidated the distinctiveness of the human personality, as required by the majority, and insisted that this be the determining factor for copyright eligibility. By using the phrase "something irreducible," the court in this case made it apparent that nothing that was not the result of human ingenuity could be accorded copyright.

- ***Alfred Bell & Co. v Catalda Fine Arts*^{xxiv}**

The court observed a more lenient stance in granting the copyrights in this instance. The Court ruled that an artistic work cannot be completely replicated or plagiarized in order to qualify as original. The court even ruled that an author may claim ownership of every unintentional change. Since the output produced by the AI system is not replicated, this ruling grants the right to assert copyright. This removes the ambiguity around the current position on the protection of AI system works. But the absence of a clear position also impacts holders' rights.

- ***Naruto et al v. Slater*^{xxv}:**

A well-known public debate concerning non-human authorship resulting from the "Monkey Selfies" contributed to the 2014 revision of the Human Authorship Requirement. In the well-known Selfie Monkey dispute between David Slater and PETA, the court decided in Slater's favor when he used the argument that copyrights are protected by human ingenuity.

- ***Shenzhen Tencent v. Shanghai Yingxun*^{xxvi}:**

A copyright ruling was made by the People's Court of Nanshan District Shenzhen, China, regarding an article produced by the AI program Dreamwriter. A disclaimer stating that the article "was automatically written by Tencent Robot Dreamwriter" was attached to it. The article's articulation and expression, the court determined, had "certain originality" and satisfied the conditions for copyright protection. Shanghai Yingxun Technology Co Ltd. was ordered by the court to compensate Tencent for unlawful use of this article by paying 1,500 yuan (US\$216.02).

- ***Nova Productions v Mazooma Games*** ^{xxvii}:
In this English case the Court of Appeal had to decide on the authorship of a computer game, and declared that a player's input "is not artistic in nature and he has contributed no skill or labour of an artistic kind".
- ***Acohs Pty Ltd v Ucorp Pty Ltd*** ^{xxviii}:
In this Australian case, the court ruled that since a computer-generated work was not created by a human, it could not be covered by copyright.
- ***C-5/08 Infopaq International A/S v Danske Dagbaldes Forening***:
In this decision, the Court of Justice of the European Union (CJEU) ruled that original works are the only ones covered by copyright, and originality has to do with reflecting the "author's own intellectual creation." This is commonly interpreted to suggest that an original work must convey the author's personality, which makes it obvious that the existence of a human author is required for a copyrighted work.
The US Copyright Office has already announced that it "will not register works produced by a machine or mere mechanical process that operates randomly or automatically without any creative input or intervention from a human author." ^{xxix}

There is a lot of ambiguity because of the differing perspectives that were expressed in these rulings. It should be highlighted, though, that if collections with a certain level of uniqueness are protected, then so should an AI's creation. Furthermore, it should not be assumed in general that an AI's work lacks originality or creativity; rather, this should be determined case-by-case, just like in regular copyright survival situations.

The sole authority granted to the author of a creative work to duplicate it is known as copyright. The "author" of a work co-determines authorship in the framework of copyright. When a human uses an AI system only as a tool to create a work, that human is regarded the author. For example, a person utilizing speech-to-text software on their computer is considered the author of any documents the system produces.

The three major international treaties relevant to Indian copyright law are the Berne convention, the WIPO Copyright Treaty and the TRIPS agreement. There is no explicit definition of authors in Berne Convention or in the WIPO Copyright Treaty and TRIPS agreement, but it has been mentioned multiple times. The Indian Copyright Act, 1955 defines author under/sec 2(d) of the Act, The sub-clauses (i),(ii),(iii), (v) do not use the word indicating any human entity. Sub-clauses (iv) and (vi) use the word "person". The Act does not define the word "person" so if reference is made to the General Clauses Act we know that this word "person" can be interpreted to include a legal person. And if AI is accepted to have a legal personhood, then all the complications can be made away.

Note that only humans were able to create these rules at the time they were created. Not even the tiniest suggestion that machines could also produce was present. It is now convenient to bring

these automated systems under the purview of the term "person" whenever possible. Thus, even though the law expressly protects computer-generated work (by human interaction), we can conclude that there is no functional limitation or barrier in Indian copyright law that prevents the protection of AI-generated work under copyright.

If the claim that providing copyright protection to works created by AI goes against the core goal of copyright law, which was to compensate human labor, then it could be made that a closer examination of this goal would reveal that copyright was also intended to foster the artistic and creative advancement of society. Additionally, ambiguity will be eliminated if AI is given the legal status of a juristic person, and current law will continue to encourage AI's creative development since AI has been effective in producing a large number of artistic and creative works. Additionally, a strong financial incentive for these advancements must be provided.

AI would be more of a liability than a benefit in the copyright and AI domains because of the ongoing disputes over ownership and infringement. AI has the capacity to produce art, but it is unable to determine who owns it since a machine cannot get copyright for a literary work; instead, the creator must be a person. If an AI artist's creations are significantly similar to those of another AI artist who sells and exhibits them, then the AI artist cannot depend on the fair use concept. In the *Graham v. Prince* case, this was clarified. Donald Graham, the plaintiff, filed a copyright infringement lawsuit in federal district court against defendants Richard Prince, Gagosian Gallery, Inc., and Lawrence Gagosian. The lawsuit stemmed from Prince's alleged failure to obtain Graham's consent before using one of Graham's photos to produce the "appropriation art" for which Prince was well-known. Prince created an artwork known as *Untitled (Portrait)* ("Untitled") using Graham's photo, *Rastafarian Smoking a Joint*. The complaint stated that Gallery served as Prince's principal gallery and representative. Both the alternative move for summary judgment and the move to dismiss were rejected by the court. The court pointed out that 17 U.S.C.S. did not establish fair use.

Because *Untitled* did not significantly adjust the aesthetics in order to replicate a photographic portrait. Using the full frame of Graham's photo, it was displayed and sold at a commercial art gallery. If the present legislation had been to be applied, providing no protection for the work, and the work produced in this case with the assistance of AI had been replaced with work produced exclusively by AI, the plaintiff may have suffered significant losses. Another crucial lesson from this case is that, in order to minimize any possible infringement claims, AI artists should not only record the creative process when choosing and entering the underlying art, but also think about assessing whether the final AI work is sufficiently transformative before making it public.

Another instance involves AI-based systems imitating the artwork of Picasso and other masters. One such piece sold for 432,500 USD in 2018. Naturally, there are ownership claims when the stakes are so high. The bigger problem is with the underlying algorithms' ownership, even though assertions that AI systems are the authors of such works of art are now hazy. Furthermore, there is a significant likelihood of authorship and copyright conflicts because AI art, and more broadly,

generative art, is algorithmic in nature (very repeating) and frequently open-source (extremely shareable).

Even because narrow AI, the only kind that is now in use, lacks legal personhood, it cannot be said to be the owner of the copyright to the works it creates. But in addition to AI itself, a variety of subjects are involved in AI projects and enable them to occur, such as the developer, user, and owner of the AI dataset. Despite the fact that each of these topics is a component of AI, none of them are recognized as autonomous authors of works made by AI, either alone or in collaboration. The persons concerned do not fully control or foresee the outcome of AI's functioning because of its autonomy and lack of transparency. Thus, the AI is the sole real creator. Therefore, until artificial intelligence is granted legal identity, the work that AI generates lacks a creator.

First off, protection does not always follow from a lack of authorship or human creator. Although society is interested in the production and sharing of AI-generated works, the regulations now in place ought to be changed to safeguard these kinds of works. Creating incentives for AI-generated work is the primary justification for its "copyrightability." The work produced by AI is the outcome of the inputs, labor, and resources given by the entity that commissioned the entire project as well as the developer, operator, and owner of the data. Investment in creating innovative AI is discouraged if society can simply "free ride" on its inventions and obtain AI-generated content without paying for it. AI-generated works should be protected in order to prevent this. The elaboration of criteria for "own intellectual creation" for copyrightable works produced by computers or robots is demanded, as the European Parliament has already acknowledged that the current copyright system should be modified for works generated by artificial intelligence.

The strong link that now exists between authorship and ownership is said to need to be reevaluated in order to prepare copyright law for the data-driven and artificial intelligence (AI) era. Rather than attempting to assign authorship to AI-generated works, governments ought to concentrate on establishing a system that provides financial rewards to participants who enable AI to produce creative outcomes. In the case of AI's application, the subject who made it possible for AI to operate in a certain way is the one who made it possible for the work to be produced. That topic, above all, committed time and resources with the goal of having AI produce works that are protected by copyright. As a result, granting this topic copyright ownership would optimize societal benefit and cultural transmission.

It should be highlighted that artificial intelligence (AI) systems rely heavily on data; for instance, millions of texts, image, video, sound, and raw data files are needed to feed and train deep learning and machine learning systems. Copyright may apply to safeguard the data content. Generally speaking, the developers should get authorization before accessing and using the data for that reason. The copyright and moral rights implications of using this data for AI processing may need to be considered. For instance, would the data's copyright and moral rights holders have an interest in the AI-generated work's final product?

Owing to the difficulties involved, there are some arguments against AI being recognized as an Author of Copyright. We must first determine whether Indian copyright law can accept AI as an

author of the work in order to properly analyze the difficulties involved in acknowledging AI as the author of the work. Let's examine a few scenarios to examine AI and current copyright regulations:

1. The creator of the work is acknowledged as the original owner of the work “under section 17 of the Copyright Act of 1957”. Nonetheless, in some circumstances, an agreement transfers ownership rights to the employer or the individual who ordered the work. As a result, in the case of AI, ownership transfer will be challenging to show because the AI cannot execute or provide permission to its creator or any other individual to acquire ownership of the work.
2. Pursuant to Section 57, It's also possible to contest the author's unique rights. The right to paternity, or the right to be identified and acknowledged with the work, and the right to integrity, or the right to refrain from acting in a way that would be detrimental to the author's honor or reputation, are two of the unique rights of authors, also referred to as moral rights. Consequently, these rights might be superfluous if an AI is acknowledged as the work's author because it might not be able to determine if a certain action has harmed the original work's honor or reputation. Since moral rights are more closely associated with human emotions and feelings than with intellectual property, an AI may not be able to enforce them.
3. The work’s author is entitled to a royalty under the current copyright laws in India, and this right cannot be relinquished. Therefore, the questions of who will determine the royalty, how it will be paid to AI, and whether the amount of royalty must be determined based on reasonability arise in situations where artificial intelligence (AI) is the creator of the work.
4. Enforcing AI's accountability for any creations it makes will be challenging. For example, if any AI-generated content is defamatory, offensive, or detrimental to public morality, there is no recourse available other than to remove it from the public domain or, in extreme cases, shut it down.. But such harmful AI work can do more harm than good, and it will be challenging to acknowledge AI's authorship without any oversight to control its output.

But all these arguments losses essence if the legal personality of AI is developed, i.e. granting AI a hybrid legal personality which should be equivalent to that of a minor with the creator or developer or whosoever caused AI to be developed be the guardian of AI and directly responsible to pay either from the assets of minor or of himself as the case may be when a civil liability arose. The main idea is that artificial intelligence (AI) should be granted legal personality; nevertheless, each situation should have specific legislation outlining AI's rights, obligations, and the extent of culpability that will fall on AI and those connected to it. Examples of these statutes include contracts and intellectual property rights. Recognizing AI's legal personality is the first step towards creating a detailed law.

Therefore, to put forth conclusively it can be said that AI should be given legal personhood to protect the work generated by AI under the copyright law otherwise there will be great repercussions ranging from legal to economical.

Case laws related to AI & Copyright Law from Various Jurisdictions

- *“Shenzhen Tencent Computer System Co., Ltd. v. Shanghai Yingmou Technology Co., Ltd. 2019”*: A court in Shenzhen, China, ruled that copyright protection was beneficial for an article produced by an artificial intelligence program.
- *“Beijing Intellectual Property Court (2017) Jing 73 Min Zhong No. 797 Civil Judgment. April 2, 2020”*: In this instance, videos of the earth's surface were automatically captured by a sports camera that was mounted to an air balloon. Regarding the copyright concerns, the Court found that even though the camera was automatically recording overhead, human intervention was still evident in the pre-selection of the video recording mode, video display format, sensitivity, and other camera parameters. Since these specifications were thought to have been predetermined, screenshots that were chosen from automatically recorded videos qualify as photographic works, and anyone using these images without permission is violating the copyright of the Plaintiff's photography.
- *“Re Editors' Assn of Canada / Assoc canadienne des réviseurs Certification Order,”^{xxx} “Century 21 Canada Limited Partnership v Rogers Communications Inc,”^{xxxi} : Because of Zoocasa's indexing and "webcrawling" of Century 21's real estate listing, Century 21 and two specific real estate brokers filed a request for damages and an injunction against Zoocasa and its parent company, Rogers.*
- *“Amel Chamandy / Galerie NuEdge Fine Arts v. Adam Basanta,”^{xxxii}*: A project that uses artificial intelligence to automatically create art images and a database of human-created works to filter for AI output that is similar to human-created works is the subject of a copyright and trademark infringement lawsuit. The matter is not yet resolved.

Conclusion & Suggestions

It is possible to draw the conclusion from the foregoing debates that Indian legislation is not equipped to address the formation and rights of AI. The inclusion of rights for AI cannot be questioned unless the AI is granted a legal standing that confirms the Copyright Act of 1957's categorization of the author as a person. Additionally, changing the Copyright Act of 1957 to recognize AI as an author or to include AI-related works in a different category are two other approaches. But neither the legalization of AI nor the revision of existing laws appears likely to happen very soon. A ruling from the courts may be your only chance in this situation. Regarding originality and creativity in AI work, it should be highlighted that if compilations with a certain amount of uniqueness are protected, then so should an AI's work. Furthermore, it should be determined case-by-case if an AI exhibits creativity in its work rather than assuming that it does not.

With respect to the question that *should work generated by AI without intervention of human agency be copyright protected?* It is suggested that they ought to be covered by copyright protection since, in the actual world, artificial intelligence is now widely employed in the creation of artistic works, and it is in the nation's best interests, both legally and economically, for these works to be protected by copyright.

With respect to the question that *whether Work generated by an AI without human intervention is copyright protected in India.* It turns out to be true because even though there isn't any specific rule to protect AI generated work there are also no rules or provisions to stop the same.

In September 2019, WIPO arranged a conference to address the influence of AI on IP policy across different nations and pertinent questions, with the aim of ascertaining the worldwide stance on AI & IPR and laying the groundwork for member states to make better-informed policy decisions. In response to the meeting, WIPO invited member states and other interested parties to submit comments and suggestions on a Draft Discussion Paper on IP and AI, which was published in December 2019 (WIPO Discussion Paper). Thirteen issues are related to the topic of AI and IP policy, according to the WIPO Discussion Paper.

Yet, no nation has established legislation addressing the nascent topic of artificial intelligence. International organizations have also begun to have talks about artificial intelligence (AI), including its various facets, the domains it interacts with, and how to create a global policy for it, similar to the UNICTRAL approach.

The following is a list of potential remedies that could be investigated to address each of the previously mentioned problems with AI-generated works:

1. 1. AI can be granted hybrid legal personality, which should be equivalent to that of a minor. The person who developed AI, or whoever caused it to be developed, should act as AI's guardian and be directly liable for any payments made when a civil liability arises, either from the minor's assets or from his own. The main idea is that artificial intelligence (AI) should be given legal personality; however, each case should have a specific set of laws that specify AI's rights, obligations, and how liability will fall on AI and those connected to it. Examples of these laws include contracts and intellectual property rights. The first step in creating these laws is to recognize AI as having legal personality.
2. Works pertaining to AI can be classified as a distinct class of work.
3. The following acknowledgements may be taken into consideration in situations where AI is used to create work with human intervention.:
 - Owner of the work – The person who created the work and contributed their creativity.
 - Author of the work – Artificial Intelligence
4. The following acknowledgements may be taken into consideration in situations where AI creates work without human involvement.:
 - Owner of the work – Person who owns the AI

- Author of the work – Artificial Intelligence

By considering the above options, the issues raised can be addressed as under:

1. It is possible to award authorship to AI. But in order to define AI-generated work as a distinct type of work or as a separate entity, the Copyright Act will need to be followed.
2. The owner of the AI will be accountable for any work produced by the AI as well as liable for any infringements brought about by the AI-generated work.
3. Since the work produced by AI is prepared using the parameters and codes that it operates on without human intervention, and the work produced by AI without human intervention may be categorized as a work of skill and judgment because the AI uses these parameters and codes without human intervention, allowing for the authorship and creation to be attributed to AI. Given the effectiveness of AI and the progress of technology, it makes sense to give AI recognition. The creation is gradually shifting toward AI-related works over time, so it's critical to structure and define the rights and limitations of AI-generated work in order to preserve the balance with other copyrights and AI-generated work.
4. It should be noted that it will be challenging to discern between works created by machines and those created by humans. Perhaps more research on this issue and a discussion of joint authorship would be beneficial.
5. The question of whether to recognize AI-generated works as original or classify them as unoriginal copyright works, similar to the protections provided to movies, sound recordings, television shows, and typographical arrangements, needs to be discussed in more detail when discussing AI-generated works.
6. Copyright and moral rights issues need to be taken into consideration when using data in AI processing.
7. It is important to consider whether private agreements can take precedence over or lose ground on any official decisions on copyright ownership of works created by artificial intelligence.

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^v David Schatsky, Craig Muraskin, & Ragu Gurumurthy, Demystifying Artificial Intelligence (21 SEPT,2023, 9:00PM)

^{vi} Artificial Intelligence in the Trademark World By Kevin R. Casey, Esq. <https://www.stradley.com/-/media/files/publications/2020/10/ip-appeal-fall-2020.pdf> and de Souza, S. P. (2017, November 16)

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