

Protection of Artificial Intelligence Autonomously Generated Works under the Copyright Act, 1957- An Analytical Study

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Artificial Intelligence (AI) is not new anymore; it has become a new normal. In the present 3A era (Advanced, automated and autonomous), the Next Rembrandt paintings, Shimon's lyrics and songs and Bot Dylan's Irish folk songs are the works generated by the AI without any considerable human contribution. In the US, the Copyright Act, 1976 does not protect the works generated independently by the AI without human intervention and thus dropping such works in the public domain immediately after their creation. However, in the UK, the Copyright, Patents and the Designs Act, 1988 under Section 9 (3) attributes copyright to "the person by whom the arrangements necessary for the creation of the work are undertaken" in case of AI generated works. India has taken a giant leap by considering AI as the joint author along with the human responsible for the creation of work. However, there is not much comprehensive literature available that focuses on the impact of AI being considered as a joint author. This paper aims to create a concrete foundation by emphasising such impact under the Copyright Act, 1957. Furthermore, the paper considers the stance of the US, UK and Australia in protecting AI generated works to suggest measures to the current copyright regime in India.

Keywords: Copyright, Artificial Intelligence, Autonomous Works, Human intervention, Joint authorship

The tremendous development of AI is posing multifarious challenges to the field of intellectual property laws especially copyright and patents. For the AI itself, patent rights can be claimed by the inventor and for the coding or the software in the AI, copyright or patent can be claimed depending upon the jurisdiction. Currently, the USA grants patent to the software whereas the UK and India grants copyright protection. The reason behind granting patent is to promote inventions. Patents can protect AI as an invention but cannot protect the works generated by the AI without human intervention. So, we have to turn to copyright laws to analyse if AI generated works without human intervention may be protected.

AI has the potential to create literary works, artistic works and musical works autonomously without human intervention. The extent of human intervention marks the difference between AI assisted works and AI generated works. AI assisted works involve significant human intervention whereas AI generated works are devoid of human intervention. AI can be merely a tool assisting the creation of work just like a pen used by a writer to write a novel or a palette used by an artist to create a painting or a camera used by a photographer to

click a photograph. Hence, it is justified that the copyright in AI assisted works should vest with the human responsible for such creation. However, the concern with respect to copyright in AI generated works calls for indispensable deliberation.

In the present 3A era (Advanced, automated and autonomous), the Next Rembrandt is an autonomous AI that can create work analogous to the much-celebrated artist Rembrandt. To recreate his painting, the researchers engineered the AI with over 350 of Rembrandt's works. After the analysis of these paintings, the AI created a unique yet similar painting of a Caucasian male between the ages of 30 and 40, with facial hair, wearing black clothes with a white collar and a hat, facing to the right as desired by the AI programmers.¹ For the AI itself, the programmers can claim protection under patents and the software can be granted protection under the patents in the US and usually copyright in the UK and India. However, the pertinent issue that requires immediate contemplation would be the protection of the works that are generated autonomously by the AI without human intervention.

The economic theory provides a compelling justification to protect AI generated works without human intervention. According to Richard Posner economic incentives should be provided to the

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intellectual property so that the creator of the work could exploit and monetize the work by charging a price more than the marginal cost. Like other intellectual property, works autonomously generated by the AI without human intervention should be protected to incentivise the investors in the AI field. However, there is a dilemma among the countries with regard to who should be considered as the author and owner of AI generated work. Since, there is no human intervention it is not ethical to consider the human behind the work as the author of the work. The works generated by the AI can also not be dropped in the public domain by citing no human intervention as a reason.

There seems to be a huge gap between the legal fraternity and the AI programmers. Legal researchers lack technical knowledge in the field of AI and AI programmers lack legal knowledge. Bridging the gap is of primary concern because without understanding the basic functioning of the AI, it would be foolhardy to suggest any measures to protect AI generated works. Without delving into the working of AI the discussion about AI and copyright will be as futile as rocking the baby without trying to know why it's crying in the first place.

Working of AI

AI refers to the system where machines behave and work as if they possess human intelligence.² The founding father of AI, Alan Turing defines it as “the science and engineering of making intelligent machines, especially intelligent computer programs.”³ AI is effectively regulated by neural networks. It refers to the “computer architecture in which a number of processors are interconnected in a manner suggestive of the connections between neurons in a human brain and which is able to learn by a process of trial and error.”⁴ Neural Networks employ deep learning to learn from the data input.⁵ There are AI systems that work within the set framework and AI systems that make autonomous decisions without any human intervention.⁶ AI programmers draw the fence and allow the AI to take its own independent decisions to create the work.

The Next Rembrandt as discussed earlier is an autonomous AI. The programmers made the AI learn the characteristic features of Rembrandt's painting through Deep Learning.⁷ AI through its neural network was able to autonomously decide that the subject of the painting should be around 30-40 years old, wearing black clothing, a hat, and facing right. AI programmers fed the

data input to the AI and AI independently decided the nature of Rembrandt's painting without any human contribution.⁸ Since, only the data was fed by the AI programmers, the painting generated can be considered as the work autonomously generated by the AI. Such works generated by the AI autonomously pose a plethora of challenges to the copyright law.

Copyright Issues in the AI Autonomously Generated Works in India

India has become the first country to recognise AI as a joint author.⁹ Raghav is a painting app that created ‘Suryast’, a painting autonomously by combining Vincent van Gogh's painting ‘Starry Night’ and a photograph taken by Mr. Ankit Sahni. The Copyright Office received two applications for registration of the work ‘Suryast’. The first application claimed Raghav, the AI painting app as the sole owner which the Copyright Office turned down. The second application claimed Raghav as the joint author along with Ankit Sahni, who is the owner of the painting.¹⁰ The second application was accepted by the Copyright Office and thus accrediting AI as the joint author.¹¹

The much-sophisticated AI has drawn Indian Parliament's attention recently. The Parliamentary Standing Committee on Commerce, for its 161st report made intellectual property rights their focal point of discussion. The report positively affirmed that the current Copyright Law is not equipped enough to protect the AI generated works and suggested that amendments should be made on a priority basis. The report also stated that AI autonomously generated works should be protected under the copyright laws so that it would incentivise the creator of the AI.¹² It is visionary that Parliament Standing Committee has deliberated on AI in its report.

There is no literature that studies the impact of considering AI as a joint author under the Copyright Act, 1957 (the Act). This paper analyses comprehensively such impact and lays foundation for further research. The limitation of this paper is that it does not discuss the legal personality status of the AI. Notwithstanding the legal personhood status of AI, the Act is not well equipped to protect the AI autonomously generated works without human intervention. However, the research on legal personhood of AI should not be overlooked. This paper analyses the challenges posed by AI with respect to originality, authorship and ownership, registration, term of protection and moral rights.

Originality

Originality is the sine qua non to obtain copyright protection. Originality has not been defined under the Copyright Act, 1957. There is no straight jacket formula to decide whether a work is original or not. To be more precise, there is no mathematical formula to determine originality in a work. Tracing and interpreting the judgements, it can be discerned that the work shall be considered original as long as it is not substantially copied from other works and the author has arrived at that work independently. To encapsulate, originality is an authentic individual's independent work.¹³

Few scholars claim that the Next Rembrandt is capable of creating the paintings because of the data that is fed by the AI programmers. Without such data input, the Next Rembrandt is impotent to create the work. Also, the Next Rembrandt can create paintings like the Master Rembrandt but cannot start painting like Leonardo Da Vinci or Michelangelo or it cannot start writing poetry.¹⁴ So, it is argued by the scholars that AI works in a set framework and is incapable of individual independent thinking and decision making.¹⁵ However, what is to be understood is that not every human has inherent talent. A human acquires talent by learning from the works of the past. The fact that a human has relied upon the past works will not incapacitate him from claiming copyright for his works.

As quoted by Robertson Davies *"they say everybody's creative. Well, everybody is. But any real creativity has to rest on a basis of an acquired technique and acquired knowledge, you can't be creative in a void, or you just get a mess."*¹⁶ Human beings widely rely on the past works for reference and inspiration and that will not stop them from claiming copyright for their work. The same should necessarily be the case with AI generated works. Furthermore, the copyright protects not the idea but the expression of the ideas. Originality concerns itself with the expression of ideas. The Next Rembrandt or any other AI relying on the work from the past does not necessarily mean that the work so generated is copied from other works. Copyright can be granted to the AI autonomously generated works as long as the work is original.

The creativity threshold under the copyright law is bare minimum. As long as the work exhibits a minimum level of creativity, the work shall be considered as original. In the case of AI Raghav, the painting 'Suryast' was considered original and a

copyright registration certificate was granted by the Indian Copyright Office. The painting 'Suryast' cannot be considered as a substantial copy of Vincent van Gogh's 'Starry Night' because it is a painting generated by the AI by combining the painting of 'Starry Night' and a photograph taken by Mr. Ankit Sahni.

Authorship and Ownership

The word 'author' has neither been disputed nor debated under the Act until recently. With the advent of transformative AI, the interpretation of the word author has captured attention. The word 'author' has been defined under Section 2(d) of the Act. The definition till now has regarded only a human as an author and no other judicially created persons. It is perspicuous that AI cannot be considered as an author under the existing definition. However, the Copyright Office has considered AI as the joint author (A-135120/2020) on 02 Nov 2020. A work of joint authorship has been defined under the section 2(z) of the Act. Section 17 (a) read with Section 2(z) makes the joint authors also the joint owners of the work. But clear reading and literal interpretation of the Act suggests that AI can neither be considered as an author or a joint author.

Even if AI is clothed with legal personhood, it cannot claim copyright under the Act because the author has to be essentially a natural person. Irrespective of the fact whether AI will be considered as a legal personality or not, works so generated autonomously by the AI needs to be protected because copyright law aims at incentivising the creators. However, the current copyright law in India is not well equipped to protect AI generated works. The Act requires amendments to recognise AI either as an author or a joint author.

In the US the works generated autonomously by the AI without human intervention are dropped into the public domain and it dissuades the investors from investing in the AI altogether.¹⁷ In the case of the UK, the copyright is granted to the human behind the arrangement and it is not prudent because the work is not AI assisted, rather it is AI autonomously generated.¹⁸ The distinguishable factor human intervention should not be neutralised while granting protection to the AI autonomously generated works. India has considered AI as a joint author along with the human, which on the face of it seems like a prudent solution but there are multitudinous repercussions that require attention.

Term of Protection

The Copyright Act, 1957 under Section 23 protects an artistic work for the lifetime of the author plus

sixty years calculated from the beginning of the calendar year next following the year in which the author dies. However, in case of joint authorship, the author who dies last shall be considered to calculate a sixty years period. By recognising AI as the joint author, the Indian Copyright Office has taken a breakthrough decision but yet seems like an impulsive decision. It would be of prime importance to discourse how the term of protection would be calculated when AI is considered as a joint author. The plain reading and literal interpretation of the Section 23 would suggest that the works would never be available in the public domain because unlike humans AI is immortal. If no change is brought in this provision, then AI could enjoy copyright perpetually.

Moral Rights

Moral rights of an author are provided under Section 57 of the Act. Moral rights emerge from personality theory and embody the right to paternity and right to integrity. Hegel, advocate of personality theory, believed that the property was extensions of a person's personality.¹⁹ Moral rights were envisaged to tighten the relationship between the artist and his art. The right to paternity allows the author of the work to claim authorship of his work irrespective of who the owner is. The right to integrity empowers the author to restrain and claim damages from others in the event of any distortion, mutilation, modification or any other untoward act done to his work provided that it is prejudicial to his honour and reputation.

Everybody has a face but few have an identity.²⁰ AI may have both but not personality to claim moral rights. Recognising Raghav, the AI as the joint author of the painting 'Suryast' has inflicted a crisis in the enforcement of moral rights. The pressing problem arises if Ankit Sahni, the co-owner of the painting, violates the moral rights of Raghav. What happens if Ankit Sahni uses Raghav's painting 'Suryast' without giving AI its due credit? Since AI has neither been clothed as an artificial legal person nor has a personality of its own to seek moral rights.

Registration

Copyright in the original work subsists with or without registration. The registration certificate acts only as prima facie evidence before the Court of Law and not as conclusive evidence. The Copyright Office has granted a copyright registration certificate to the painting 'Suryast' generated by the AI, Raghav. By considering this registration, it can be presumed that the consequent works generated by the AI are automatically protected

under the Act. However, the challenges aforementioned remain as it is with or without registration and it is not plausible to consider AI generated works under the current copyright law regime.

AI autonomously generated works cannot be dropped into the public domain because copyright stands on the grounded philosophy that "anything that is worth copying is worth protecting."²¹ The works so generated autonomously by the AI are original. However, considering the above challenges it is difficult to protect AI generated works without human invention under the Act.

The challenges that are pointed out in this paper are not the only ones that are to be addressed. The issue of apportioning liability in case of copyright infringement is an area that is not focused in this research paper. The perspective function i.e., decision making function of the AI calls for research on ethical considerations. Apportioning liability in case of infringement by the AI is a challenge in itself. Further research is required to determine the liability in the instances of infringement by AI.

Comparative Analysis - US, UK, Australia and India

Discussion to grant copyright protection to non-human beings is not a new phenomenon. The US in Monkey Selfie case considered if a monkey could be granted copyright protection. The final judgement pronounced that non-humans are incapable of claiming copyright.²² With the emergence of AI, there is a necessity to reconsider the decision. There is no international consensus amongst the countries with respect to protecting AI generated works because each of the countries has its own tailor made approach. Since the countries have different protection regime, no country can influence other countries to follow one common protection regime. The European Union is considering accrediting AI the electronic person status²³, Sophia, a robot has been granted citizenship by Saudi Arabia²⁴, DABUS is considered as an inventor in both Australia and South Africa²⁵, India and Canada have considered AI as a joint author under copyright law.²⁶ In this backdrop we should consider 'Why cannot our own creations also create?'.²⁷

Berne Convention and Trade Related Aspects of Intellectual Property Rights (TRIPS) do not contemplate on non-human authorship. The World Intellectual Property Organisation (WIPO) organised the first session of the WIPO Conversation on IP and AI in September, 2019²⁸ and the second session in July, 2020.²⁹ The discussion on Copyright and AI

mainly embodied the questions related to the protection of AI generated works. The first session *inter alia*, discussed issues included if AI generated works are to be protected in the very first place, whether AI should be clothed with legal personality to accord copyright protection, who should be considered as an owner to grant copyright protection, should there be a separate *sui generis* protection for the AI created work. The second session concentrated on the authorship and ownership, infringement and exceptions and deep fakes. However, countries are still struggling to have a uniform approach in granting copyright protection to the AI autonomously generated works.

Australian Approach

Australia does not consider AI as a person and so the copyright in AI generated works is not granted to AI. Section 32 of the Copyright Act, 1968 states that the copyright shall subsist in an original literary, dramatic, musical or artistic work where the work is unpublished and the author should be an Australian citizen or resident. From the definition itself it is very obvious that AI cannot be considered as the author of the works. However, Australia recently considered the AI System as an inventor. The Australian Federal Court has recently ruled in the case of *Thaler v The Commissioner of Patents*³⁰ that the AI systems could be considered as an inventor for the purpose of granting patents. As there is no express definition of the ‘inventor’, it has been liberally interpreted that the inventor need not inherently be a human. It is a nick of time that Australia adopts the same principle and grants copyright to AI for the works generated by AI independently. However, currently the works generated by the AI autonomously without human intervention are not protected in Australia.

The UK approach

The UK is one among the very few countries to protect the work generated by the AI without human intervention. The Copyright, Patents and the Designs Act, 1988 under Section 9 (3) attributes copyright to “the person by whom the arrangements necessary for the creation of the work are undertaken”.³¹ In the case of AI generated works, it is difficult to point at the person by whom arrangements were made. AI investors, AI programmers, AI coders, AI end users are all responsible for the AI to generate works autonomously.³² It would be a case of collective ownership and it is difficult to point at a particular person responsible for the creation of the AI.³³

By granting the copyright to the human behind the AI, the literary, dramatic, musical and artistic works are protected for 50 years from the date on which the work was autonomously generated by the AI. However, the term of protection is limited to 50 years unlike 70 years of protection to the works created either by humans alone or with the assistance of the AI. There exists discrimination in the term of protection between the works generated by the AI autonomously and the works created by a human with the assistance of AI. Last year in October, the UK Intellectual Property Office (UKIPO) called in for consultation on AI and Intellectual Property.³⁴ Consultation was sought on how best AI generated works can be protected. The following question was posed;

Where AI has been used to generate creative works, respondents are being asked to rank the following options in order of preference:

- (i) Option 0: Make no legal change;
- (ii) Option 1: Remove protection for computer-generated works; or
- (iii) Option 2: Replace the current protection with a new right of reduced scope/duration.

At the moment, it can be gathered from various sources that UKIPO is analysing the responses filed by various stakeholders.³⁵

The US Approach

The U.S. Copyright Act, 1976 protects works created by either a human or human with AI as a tool or medium in the process of creation. In such AI assisted works, the copyright is attributed to the human owner who is responsible for the creation of such works. The U.S under the Copyright Act, 1976 does not protect the works created independently by the AI without human intervention, thus letting such works enter the public domain immediately after creation without any protection. The latest version of the Compendium of best practices published by the U.S. Copyright Office states that the creative works generated autonomously by the AI machines are not copyrightable if they do not satisfy the human author requirement of the Copyright Office.³⁶ ‘Human authorship’ is a prerequisite to claim copyright protection in the US. AI generated works are devoid of human authorship. The Courts of US currently follow a test of proving the nexus to determine if there is significant human contribution in case of AI assisted works.³⁷ There should be an appreciable nexus between the human mind and creative expression to obtain

copyright protection for the AI assisted works. In case of AI generated works without human intervention, the absence of the 'human authorship' element and the reasonable nexus between the human mind and creative expression renders the works unprotected. Scholars are applying 'Work Created for Hire Doctrine' to protect AI generated works. According to the liberal interpretation of this doctrine AI may be considered as the employee and AI creator as the employer and thus the employer will be considered as the owner of the copyright for the works generated by the AI.³⁸ However, for the doctrine to have effect there must be informed consent from the employee. The employee in this case being AI cannot give its informed consent as the AI is at the mercy of the creator.

It would be repetitive and redundant to again consider Indian copyright perspective on the AI generated works. Moving ahead, the researcher believes that India has taken a whopping step in considering the AI as a joint author. The US and Australia drop the AI generated works in the public domain. If the liberal approach of the US and Australia is followed, it can be a catastrophe to the AI investors and the AI programmers as the works generated by the AI shall have no economic incentive. The UK grants copyright protection to the human who is responsible for the AI. However, it is quite a complicated process to identify who actually can be considered as the real owner of the AI. Considering the stances of the US, UK and Australia, it can be claimed that India has taken a fair and bold step of considering AI as a joint author. This step can be applauded provided the above-mentioned problems and challenges are resolved.

Conclusion

AI autonomously generated works should be protected by all the countries. As of yet, there is no internationally agreed level and extent of protection to be accorded to the AI generated works. Each of the countries is protecting AI autonomously generated works according to their national laws. WIPO has been conducting various sessions to deliberate upon the challenges that are faced by various countries in protecting AI generated works. India's decision to consider AI as a joint author is a laudatory step provided India addresses the challenges that are posed to the Copyright Act, 1957. Firstly, the extent and the threshold of originality that is to be considered to grant copyright protection to the AI autonomously generated works. Secondly, the issue of authorship and ownership requires contemplation provided that the definition of

the word 'author' under Section 2(d) includes only a human author and not AI. Thirdly, AI being immortal the term of protection under the Section 23 of the Act needs to be revisited. Fourthly, AI being a system is not capable of having a personality of its own and hence granting moral rights to the AI goes against the philosophy of personal rights theory. Lastly, copyright in India subsists in any original work with or without registration. By setting a precedent of considering AI as a joint author, it can be presumed that AI will be considered as a joint author in the consequent works generated by the AI autonomously without human intervention.

To overcome these challenges the following suggestions may be taken into consideration to grant adequate protection to the AI generated works under the Copyright Act, 1957;

- (i) Section 2(d) should be amended in such a way that AI is also included in the definition of 'author'.
- (ii) In case of AI being a joint author, the term of protection should be determined after the date of creation of the work, i.e., 60 years or 40 years from the date of creation of the work. Thus, it will neutralise the fact that AI is immortal unlike a human.
- (iii) Moral rights should be restricted in case of works autonomously generated by the AI for two reasons;
 - a. Moral rights are based on personality theory Moral rights are granted because the works are considered to be the extension of one's own self. It is difficult to identify what constitutes self in the case of AI.
 - b. Moral rights are considered to be violated if any harm is done to the honour and reputation of the author. It is difficult to determine the honour and reputation of the AI, let alone the harm.
- (iv) Registration should be made mandatory in case of the works that are generated by the AI. The copyright protection should be granted after registration to both human and the AI as joint authors so that the Copyright Office can determine the extent of human intervention in the works generated by the AI.

AI is currently considered as a joint author in India. AI is still not clothed with legal personality because of which AI will not be able to enforce its economic rights.³⁹ Irrespective of AI being granted artificial person status or not, the challenges discoursed in this

paper will subsist under the Copyright Act, 1957. Even if AI is recognised as an artificial legal person in the near future, the challenges with respect to originality, authorship and ownership, term of protection and moral rights continues to exist. India has taken a step in the right direction and by addressing the challenges under the Copyright Act, 1957 it can become a model for the other countries.

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