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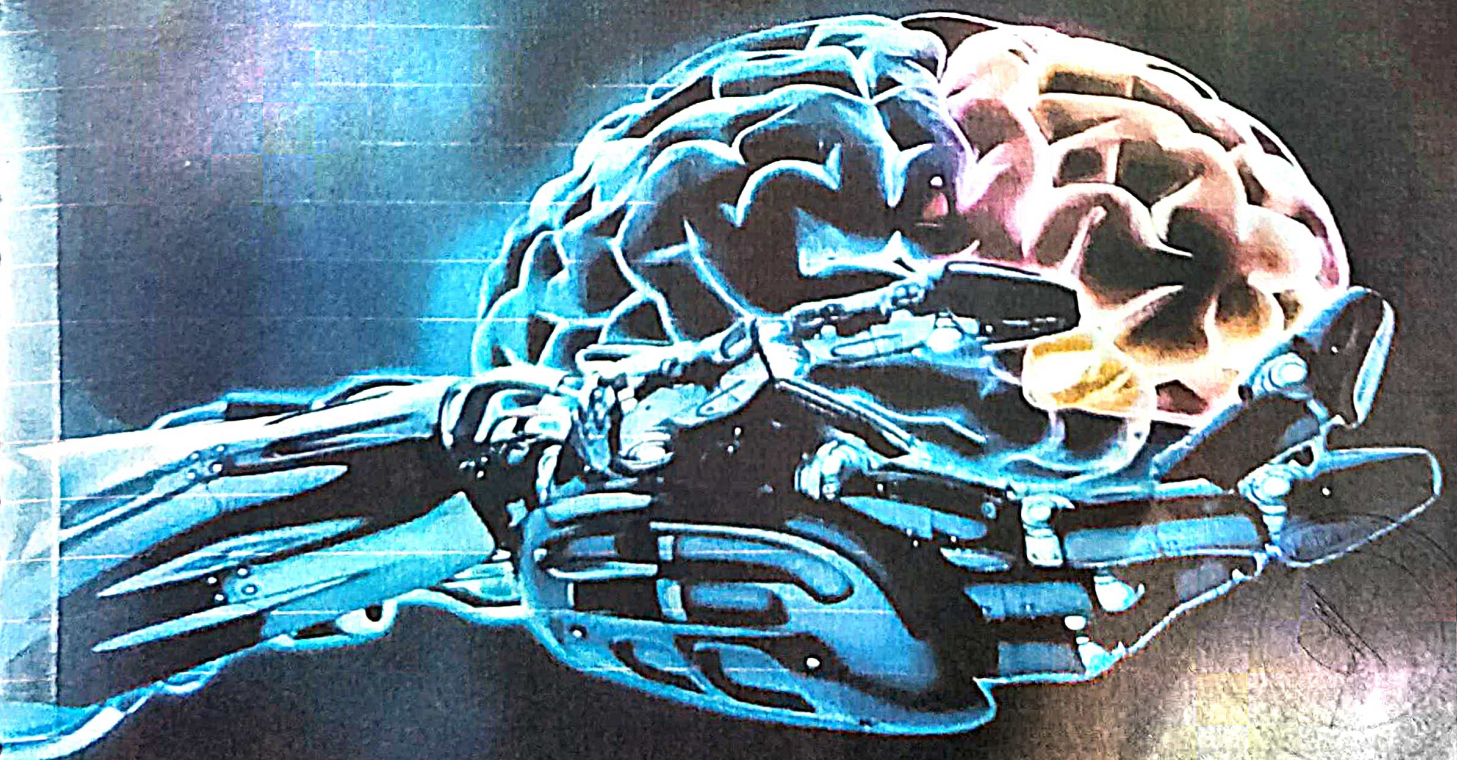Sponsored by: Shri Dharmasthala Manjunatheshwara Education Society, (R.) Ujire, D. K.

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ARTIFICIAL INTELLIGENCE AND ITS IMPACTS ON IPR

(Peer Reviewed)

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AN ANALYSIS ON THE IMPACT OF ARTIFICIAL INTELLIGENCE ON COPYRIGHT LAW

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Abstract

Artificial Intelligence is a technology that touched almost all major sectors and intellectual property rights are also got its impact and implications from AI. In Artificial Intelligence, there is requirement to create machines with human intelligence and they will create or invent new works or things out of such intelligence. It is a part of machine learning that also stretched its hand towards intellectual property rights. Through Artificial Intelligence, machines and systems are developed to the extent to which they can think and act like human brain and further do creative works. Artificial Intelligence has its own impact on patent, copyright, trademarks etc., and their protection and creation. AI contributes to patent searching, infringement detection, new inventions by using creative brains etc. AI can assist human creativity through creating new texts, stories, music, designs etc. and these can also be generated by AI in present world of technology. There are debatable issues yet to be decided and streamlined under copyright law regarding artificial intelligence and its impact on copyright. Under system of intellectual property rights and their protection, the inventor, author, or creator who has created the work will get the IP rights over his work. The question of ownership obviously arises in case of AI because there will be one person programmed the system of AI, one more who has provided required data to the system of AI, and ultimately result will be drawn by the AI system itself. Originality of work created through AI, and responsibility for infringement of copyright of the work created by AI along with right to sue for the violation of such copyright creates ethical and legal predicament in the world of intellectual property. This paper tries to analyse the impact of AI on copyright law and to find some concrete solutions to the problems faced in this area of study.

Keywords: *Artificial Intelligence, Machine learning, Intellectual Property, Copyright Infringement.*

"The development of full artificial intelligence could spell the end of the human race... It would take off on its own and re-design itself at an ever-increasing rate. Humans who are limited by slow biological evolution, couldn't compete and would be superseded". – Stephen Hawking[1]

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[1] BBC News-Dec 2nd 2014, available at https://www.bbc.com/news/technology-30290540, accessed on 6th Feb 2024.

Introduction

Artificial Intelligence is a computer or system generated facet of intelligence that may create some tasks and works which may compete with human intelligence. The computer systems are more capable of doing certain tasks that were usually done by human beings by using their mental capabilities and reasoning capacity. During early times, there was machine learning and later it has been advanced into Artificial Intelligence. Reasoning and analysis were the main work of human brain and now transformed to the computer systems as well. With that, computer system creates new works and ideas just like human beings do. For example, Chat-GPT is one of the main artificial intelligence performs many intellectual works that only humans can do. So Chat-GPT, Netflix, Tesla etc are performing like human beings and creating new things and innovative ideas are articulated as human beings.[2]

According to Prof. Arend Hintze, professor of Michigan University, Artificial Intelligence can be classified into four categories. They are:- 1. Reactive machines that are giving reactions to given moment without any previous knowledge. Example IBM's artificial Intelligence Chess play can beat champions. 2. Limited Memory Machine that does not possess past memory. For example-self driving cars follow other cars on roads and drive.3. Theory of Mind Machines thatcan understand other entities existing in this world. 4. Self-aware Machine that understands present scenario of the world but such machines are not created in a full-fledged manner.[3]Other than these, artificial intelligence can also be classified as machine learning, natural language processing, deep learning, as well as robotics.[4]

Artificial Intelligence and Human Intelligence

Artificial Intelligence is created through computer system and human intelligence is direct application of mind to create something new. Human intelligence involves thinking capacity, comparison, creativity, memory, perception etc while creating new works.[5] But as far as artificial intelligence is concerned, whatever has been fed inside the system and data collected from different sources will be there to project a new thing or work.[6]The computer programmes nowhere remained as mere tools to create work with speed and accuracy, and they themselves started new creativity without intervention of human beings which led for the rise of issue of copyright to such works.[7]

[2]   Stuart Russel and Peter Norvig, Artificial Intelligence-A Modern Approach, (3rd ed., 2010), Pearson Education Inc., New Jersey, p.3.

[3]   Four types of AI: Getting to Know Artificial Intelligence, (29th November, 2023)https://www.coursera.org/articles/types-of-ai, (last visited on 2nd Feb 2024).

[4]   Alexis Keller, Artificial Intelligence: Concepts, Techniques and Applications, States Academic Press (1 March 2022), p.2.

[5]   Ila Kumar, Artificial Intelligence, (2008) I K International Publishing House Pvt. Ltd, New Delhi, p.18.

[6]   Mick Benson, Artificial Intelligence: Concepts and Application,(16 May 2018), Willford Press, p.3.

[7]   Andres Guadamuz, Artificial Intelligence and Copyright, WIPO-MAGAZINE, Catherine Jewell(18, Oct.2017), p.17.
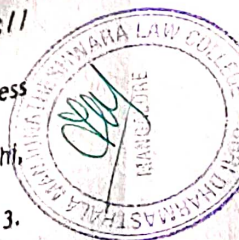
Just like human beings, even through artificial intelligence explanations, generation of texts etc are made possible and they can also resemble human creations. Implementation of AI may help us by providing necessary information at our finger tips but it has created lot of challenges and complications too.[8] The Parliamentary Standing Committee of India in its 161st report recommended that, there is need of creating separate category for AI generated works and related matters which may come under the purview of Intellectual Property Rights.

The Works Generated through Artificial Intelligence and Copyright Issues

The copyright is one of the important element of Intellectual Property Rights and there are different kinds of original works eligible to get copyright under section 14 of Copyright Act 1957.[9]To acquire a copyright, one should be the original author, composer or creator of the work and the work created through AI has not mentioned in the copyright law in India. The Indian Copyright Act, 1957 has not addressed any matter connected to AI generated works and neither considered AI as an owner or an author. Berne Convention plays prominent role in protecting copyrightable works and it also extended protection to unpublished original works.[10]Originality of the work is the prime concern of granting copyright along with creator being a natural person. The work may be of literary, artistic, dramatic, sound recordings, musical, or computer software. To create any work through AI, it should have taken the matter from different sources and the question of originality definitely arises. The Copyright Act 1957 has been amended in 1994, by including computer generated works along with human creations. Sec. 2(d)(vi) inserted and authorship of the work defined as "the person causes the work to be created".[11]

There are certain cases wherein individual involvement of persons in creation of work along with AI was demanded to grant copyright.

Case law:- Rupendra Kashyap v. Jiwan Publishing House Pvt. Ltd,[12] the matter has come before the bench of High Court of Delhi, Justice R. C. Lahoti, decided that authorship will be granted only to the natural persons and not to an AI for computer generated work. The claim was presented by the Central Board of Secondary Education on question paper set through an artificial intelligence technology.

Case law:- Tech Plus Media Pvt. Ltd juristic v. Jyoti Janda[13], the matter has come before Justice Rajiv Sahai, in the High Court of Delhi, and the court held that artificial persons cannot claim as authors or owner of copyright. In this case, plaintiff was an

8   U Dinesh Kumar, Kumar Rahul, Machine Learning using R, (Wiley, November 1, 2021) p.2.
9   Prof. Meenu Paul, Intellectual Property Law, (4th ed 2012), Allahabad Law Agency, p.43.
10 Dr. Elizabeth Verkey, Intellectual Property, (1st ed, 2015) Eastern Book Company, p.18.
11 Rajiv Sharma and Ninad Mittal, Artificial Intelligence Lacks Personhood to Become the Author of an Intellectual Property,(22nd Sept 2023), https://www.livelaw.in/law-firms/law-firm-articles-artificial-intelligence-intellectual-property-indian-copyright-act-singhania-co-llp-238401 (last visited on 5th Feb, 2024).
12 Rupendra Kashyap v. Jiwan Publishing House Pvt, Ltd, 1996(38)DRJ 81.
13 Tech Plus Media Pvt. Ltd v. Jyoti Janda, 2014(60) PTC 121(Del).

industry publication house of information technology having both print and online news portals.

Case law:- Navigators Logistics Ltd v. Kashif Qureshi and Ors[14], in this case, computer generated list was claimed with copyright protection and as there is no human intervention the Delhi High Court rejected the request.

If any AI works are done through involvement of humans, then authorship can be claimed by him and he can ask for protection of copyright and not any computer system of a company. Individual or organisation can hold the copyright or patent of software or invention created by AI and not by AI itself. But, there should be contribution on the part of individual in such creation or work.

Problems and Challenges involved in considering Authorship or Ownership to Artificial Intelligence

There are many challenges and issues that are involved in the matter of considering authorship or ownership to creations or work done by an Artificial Intelligence. If the work is created without any human agency or without any human intervention, it would be very difficult to decide the ownership as well as authorship for such works. It also involves other complications like originality of work, problem connected to plagiarism, infringement of rights etc. The present legal framework mainly focuses on creation done by human beings and originality of such works.

Any work created by AI is not mentioned and it is a grey area in copyright law of the country. Through AI, if any copyright violation takes place, then the responsibility for the same cannot be located in a proper manner. If there is one particular individual specifically created some work or provided inputs for the generation of artificial intelligence, then, such AI will be owned by such individual and there is possibility of that creator getting the ownership of AI generated work. At the same time, one should not deny his responsibility if such AI found guilty of any violation or infringement of copyright. At the same time, if there is any need for protecting the AI generated works and creations, there must be legal framework for the same. The duration of protection to copyright work also forms a new challenge because, for human beings, protection to their work for fifty years and the life time of the author can be given. If any work generated and created by an artificial intelligence or robotic machinery, then the life time of such AI or robot leads to conflicting issue.[15]

In the copyright law of any country, there is a provision to transfer the ownership of copyright. But the question arises when the matter of transfer of ownership takes place in an AI created work as AI cannot execute transfers as human beings. There are moral and ethical aspects connected with the author or owner of the creation of

14 Navigators Logistics Ltd. v. Kashif Qureshi & Ors, (2018) 254 DLT 307.
15 Dr. Sik Cheng Peng, Artificial Intelligence and Copyright: The Authors' Conundrum, (2020) WIPO-WTOCOLLOQUIUM,(https://www.researchgate.net/publication/347945203_Artificial_Intelligence_and_Copyright_The_Authors%27_Conundrum, (last visited on 30th Jan 2024)p.173.
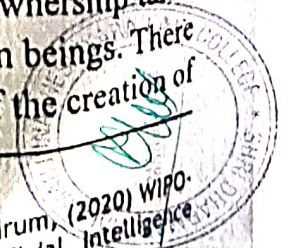
copyrighted work. In case of Amar Nath Sehgal v. Union of India,[16] a renowned artist and sculptor, Mr. Amar Nath Sehgal filed a suit in the High Court of Delhi for damaging mural created by him under section 57[17] of Copyright Act 1957.[18] The Court presided by Justice Nandrajog, granted him justice and upheld the moral right of the owner for the first time by awarding damages to him.[19] If the AI generated works violates public policy, decency or defames other persons, fixing the accountability and remedies would be a challenge to face.

Legal Issues involved in Artificial Intelligence and Copyright Protection

As per Indian Copyright Act 1957, section 2(d)(vi) provides for a definition of author and it states that any literary, dramatic, musical, artistic work etc that are generated by computers, a person who causes the work of creation is the author.[20] Under the UK Copyright, Designs and Patents Act 1988, section 9(3) provides that, in case of literary, dramatic, musical, or artistic works that are generated by the computer systems, authorship will be granted to the person who has made necessary arrangement for such creation or the person who has undertaken such work.[21] Even under Irish Copyright and Related Rights Act, 2000, similar explanation for an author of copyright is given. No computer system is given with authorship or ownership under the legal framework. So, computer generated works are not given with authorship or ownership to any artificial intelligence.[22]

If we lookback to international scenario, we can come across many such instances where question of authorship arises and was not granted to AI generated works. An art work created by Generative AI called "The Next Rembrandt" had created crucial question of IP laws in the whole world. The art was a 3-D printed painting created by AI system by analysing the work of Dutch artist Rembrandt Harmenszoon Van Rijn.[23]

16   Amar Nath Sehgal v. Union of India, 2005 (30) PTC 253 (Del)
17   Section 57 of the Copyright Act, 1957 provides for what are termed as "Author's Special Rights," better known as "Moral Rights." Founded on Article 6bis of the Berne Convention, moral rights have two key prongs (1) Right to claim authorship of the work (sometimes referred to as Rights of Attribution/Paternity Rights) and (2) Right against distortion, modification or mutilation of one's work if such distortion or mutilation would be prejudicial to the author's honour or reputation.
18   Mira T. Sundara Rajan, Moral Rights-Principles, practice, and New Technology, (2011) Oxford University Press, p.175.
19   Binny Kalra, Copyright in the Courts: How Moral Rights Won the Battle of the Mural, (Feb.2007) WIPO MAGAZINE, https://www.wipo.int/wipo_magazine/en/2007/02/article_0001.html, (last visited on 10th Feb.2024).
20   Sukanya Sarkar, Exclusive: Indian Copyright Office issues withdrawal notice to AI co-author, (13th Dec.2021), https://www.managingip.com/article/2a5d0jj2zjo7fajsjwwlc/exclusive-indian-copyright-office-issues-withdrawal-notice-to-ai-co-author(last visited on 5th Feb, 2024).
21   Andres Guadamuz, Artificial Intelligence and Copyright, WIPO-MAGAZINE, Catherine Jewell (18, Oct.2017), p.18.
22   Dr Paul Lambert, Computer Generated Works and Copyright: Selfies, Traps, Robots, AI and Machine Learning, EUROPEAN INTELLECTUAL PROPERTY REVIEW, (Issue-1, July 2017) https://www.researchgate.net/publication/326126398_Computer_Generated_Works_and_Copyright_Selfies_Traps_Robots_AI_and_Machine_Learning(last visited on 10th Feb.2024).
23   Andres Guadamuz, Artificial Intelligence and Copyright, WIPO-MAGAZINE, Catherine Jewell (18, Oct.2017),p.15.
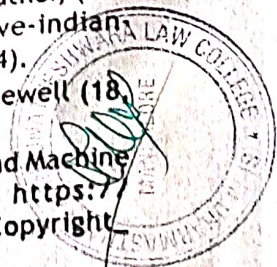
Even, Australian Court in 2012, declared that any work that is generated or created by a computer system is not protected under copyright law.[24]

In the matter of an artificial intelligence system Device for the Autonomous Bootstrapping of Unified Sentience (DABUS), created by Stephen Thaler who filed a patent application in many countries like Australia, the UK, the USA, and even in European Patent Office not considered for granting patent because the device is not directly created by the natural person rather formulated by AI system. Patent law considered only the natural person as inventor or creator.[25]

With the help of Generative Creativity Machine, a piece of artwork called, A Recent Entrance to a Paradise, was created by a person Thaler and applied for copyright registration for the same in 2023. But United States District Court for the District of Columbia, rejected the application and declared that only for human creations, the copyright can be granted along with authorship and not for machine made creations.[26]

A historical change and development occurred in the field of AI Patent was that, DABUS was granted with first AI system patent by the South African Companies and IP Commission by accepting Stephen's patent application on 24th June 2021.[27]

There is a matter of copyright issue connected to AI system generated creation named Robust Artificially Intelligent Graphic and Art Visualizer (RAGHAV) recognised as an author of an artistic work and copyright protection was sought. It was Ankit Sahni, who is the creator of such AI system called RAGHAV filed an application for authorship for AI was rejected in the beginning. The matter has come before the US Copyright Office and the Board rejected to grant co-authorship to AI RAGHAV for the creation. The AI system was able to grasp style input and able to do style transfer. The work 'Suryast' had two image style combination formulated by AI RAGHAV as co-author with Mr. Sahni. Mr. Sahni's base image and Vincent Van Gogh's The Starry Night, a style image grasped by the AI and created a new art.
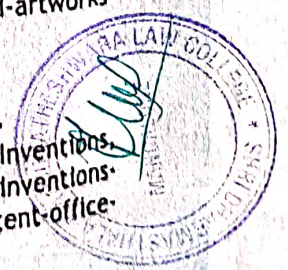
The work titled 'Zarya of the Dawn' created by artificial intelligence technology called Midjourney was applied for copyright protection by Ms. Kashtanova in the United States Copyright Office IN 2022. She made an application without mentioning the work created with the help of AI and authors name was given as Ms. Kristina Kashtanova. The deposit materials provided by Ms. Kashtanova, was "comic book" consisting of eighteen pages, including a cover page with image of a young woman, the Work's title, and the words 'Kashtanova'and "Midjourney', and the other pages

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24 Jai Vignesh K, AI Generated Artworks and Copyright, (July 2023) SURANA AND SURANA INTERNATIONAL ATTORNEYS, https://suranaandsurana.com/2023/07/04/ai-generated-artworks-copyright/(last visited on 20th Feb.2024).

25 Thaler v Commissioner of Patents [2021] FCA 879).

26 Thaler v. Perlmutter, No. CV 22-1564 (BAH), 2023 WL 5333236 (D.D.C. Aug. 18, 2023).

27 Renu Bala Rampal and Swaraj Singh Raghuwanshi, Demystifying Rights of AI Generated Inventions, (15th April 2023), https://www.livelaw.in/law-firms/law-firm-articles-/ai-generated-inventions-chatgpt-indian-patent-act-dabus-united-states-patent-trademark-office-european-patent-office-226394,(last visited on 3rd Feb 2024).

with mixed text and visual materials. After registering it for copyright, the office got to know about the AI used to create the work and sent a notice to Ms. Kashtanova of cancelling the registration. Only the text of the work can be registered under copyright and not the other portion as it is not generated by human efforts.[28]

But copyright office in India said to be accepted Sahni's application for co-authorship of the art to AI and granted copyright to the same. Yet, later issued a notice of withdrawal of copyright granted to AI by saying that only Mr. Sahni can be the author for creation of his work and AI cannot be considered as author or co-author even if new style implemented and produced an art. In the copyright registry, still it is shown as with the status Registered but under dispute.[29] Mr. Sahni became successful in getting copyright registration for suryast in Canadian copyright law. His creativity in creation of AI RAGHAV and the skill that AI developed are argued as inseparable from the creator.[30]

The internet court of Beijing in China held that AI generated works can also be granted with copyright provided they have originality in their work/creation. But in Germany and Spain, computer generated works are not considered for copyright without human intervention and natural persons are only eligible to get authorship. In 2016, in Japan, there was a short novel written by a computer program created in Japanese company and the novel got selected for second round of a national literary prize award.[31] Yet, issuing authorship to such computer programme is not recognised. Deep Mind is an artificial intelligence company owned by Google, has generated software that can compose music provided recordings of music is provided to it.[32]

There is one more dispute about copyright status of selfie taken by Celebes Crested Macaques by utilising the camara of wildlife photographer from England who was a traveller to Indonesia. It was Mr. David J. Staler, the owner of the camara through which selfie has been taken by Macaques and that has been published by Wikimedia Commons and the blog Techdirt. Macaques being an animal not eligible to acquire copyright protection for the creation and one should be a natural human being for the same. The publishers argued that, if one is not able to get copyright protection, the creation may go to public domain and they are publishing such rare selfie in their blog. In 2014, the photographer contested that, his efforts as photographer to make

[28] Van Lindberg, Taylor English Duma, Zarya of the Dawn (Registration # VAu001480196), United States Copyright Office, (February 21, 2023), https://www.copyright.gov/docs/zarya-of-the-dawn.pdf (last visited on 19th Feb, 2024).

[29] Nicholas P. Zalany& Joseph Grasser, AI Art Registration Denied - The Copyright Review Board Tells Applicant To Gogh Home, (January 22, 2024), NATIONAL LAW REVIEW, Squire Patton Boggs (US),https://www.natlawreview.com/article/ai-art-registration-denied-copyright-review-board-tells-applicant-gogh-home (last visited on 20th Feb 2024).

[30] Ishan Chaturvedi and Shailja Arya, Humanist Dimensions of Machines, INDIAN LAW INSTITUTE-LAW REVIEW, (special Issue-2023), p.85.

[31] Andres Guadamuz, Artificial Intelligence and Copyright, WIPO-MAGAZINE, Catherine Jewell (18, Oct.2017), p.17.

[32] Saakshi Agarwal and Chintan Bhardwaj, The Dilemma of Copyright Law and Artificial Intelligence in India (April 2, 2021)https://ssrn.com/abstract=3818280, (last visited on 17th Feb.2024.).

Macaques to click a selfie could not yield any reward and being a wildlife photographer, he lost ten to twelve British pounds of income. The US copyright office opined that, the work is created by a non-human being and human efforts are not found in the creation of such art.[33]

Recently, the matter of "Heart on My Sleeve" the tune had been created using artificial intelligence by TikTok user Ghostwriter977, created lot of issue about copyright violation by artificial intelligence. He had trained Artificial Intelligence in such a manner that, Drake and the Weeknd's works been mimicked and generated new songs with the artists' voices, lyrics, and musical styles.[34]

Conclusion

Artificial Intelligence is a very fertile area like copyright and other intellectual property rights. Based on technology and advanced computer systems, artificial intelligence can be created and such AI itself started creating new ideas, texts, and creations in the present era. But, granting copyright or patent rights to such AI's is not generally accepted and no such legal frameworks are formulated till now. Even though, there are certain Patent or copyright Offices in some parts of the world accepted to grant copyright and patent rights to such AI generated works, they have not clearly defined the concept of creator, authorship, originator, person etc in their legislation. If there is concrete solution to the possible problems and challenges that may arise by granting authorship to AI's, then they may be recognised as authors or inventors.

There arises a question as to who will take up the responsibility for the infringement likely to take place or violation of rules of law of IP if arises because of creation and invention by AI's. No law specifically mentioned about it so far, so unless the liability is fixed for any violation, it would be creating problems in the discipline of intellectual property rights. As per law, for life time of author, protection of copyright can be granted and how one can decide the lifetime of AI being a lifeless object is another possible question arises in law. If any law passed by giving a clarity that, the creator of the AI himself/herself will be responsible for all the creations, pros and cons of such creation done by the AI, then he/she will be made liable for the consequences.

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[33] Kapil Chandna, Monkey Selfie Case- Significance to Copyright Act, 1957, (21st March 2018) https://www.lawyersclubindia.com/articles/monkey-selfie-case-significance-to-copyright-act-1957-8883.asp (last visited on 6th Feb,2024).

[34] Rachel Reed, AI created a song mimicking the work of Drake and the Weeknd. What does that mean for copyright law? (May 2nd, 2023), HARVARD LAW TODAY, https://hls.harvard.edu/today/ai-created-a-song-mimicking-the-work-of-drake-and-the-weeknd-what-does-that-mean-for-copyright-law/ (last visited on 12th Feb,2024).