COPYRIGHT FOR AI ART

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INTRODUCTION

In recent times tools like ChatGPT, Midjourney AI, Stable Diffusers, etc. have gathered a lot of attention and controversy across the globe for their creative abilities like producing art, music, literature content, etc. with little to no human intervention in the process. This technology does more than assist human beings in their pursuit of perfection by bridging the gap between human shortcomings and mechanical outcomes lacking the human touch. In this article, we focus on AI Art and discuss the rationale behind banning the use of such technology in several regions despite their benefits such as[1]:

- It promotes creativity: Anyone who wishes to be an artist can be an artist with the help of AI irrespective of physical restrictions of mobility, dexterity, etc. It is much more disabled-friendly than traditional art forms as we understand them. It levels the playing field by a huge margin. Dependence on professional artists which is both expensive and time-consuming for a specific product is eliminated with the help of AI and anyone can create art for recreational and amusement purposes or projects.
- AI art generators are cost-effective: Generating designs using AI saves a lot of money. AI tools used for Art are either free or low cost so artists save money both on the cost of the product as well as the payment they would have to make to an artist if they couldn't do it themselves.
- New Art Styles are made more accessible: Adding an AI algorithm with human creativity paves the way for unique and new styles since it allows for custom colors, pieces, etc. It makes exploring the creation of art a lot less challenging of a process in comparison with conventional art methods. Production of art at a large scale is more convenient, cheap, and less time-consuming.
- Automates tedious monotonous tasks: AI tools can be used to automate things like photo-realistic rendering, shading, 3D tasks, mapping, coloring, etc.

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[1] 'Benefits of AI and Art Creation - Your 7 Essential AI Art Tips!' (*NEW YORK ART LIFE*) <https://nyartlife.com/benefits-of-ai-and-art-creation-your-7-essential-ai-art-tips/> accessed 11 April 2023.

- It can be used to enhance a piece of art: both 2D and 3D inputs can be used in AI Art hence helping with more realistic-looking artworks e.g., a landscape, a model of a building in 3D,
- etc. It is easier to share and thus great for collaborative projects, giving artists more flexibility and room for enhancing their product.

Artificial Intelligence was first coined by an MIT computer scientist named John McCarthy in 1955.[2] Simply put, complex learning and thinking done by machines is Artificial Intelligence (henceforth referred to as AI).[3] The learning process done by the machine is where the human touch comes into play since the machine requires a data bank and information to produce results. For example, let us assume 'A' has a small business where he runs a donut shop at his factory outlet and one day decides to give his regular customers a 10% discount. Based on this learning the machine searches the customer database i.e., scans the data bank, and gives options for let us say, who the regular customers are and A makes a selection from the options provided, training the machine in the process. The machine remembers and learns A's preferences and styles for future work to produce results.

Any form of artwork, be it visual, audio, or something else, which is created by a machine from some information it received or learned is Artificial Intelligence art (henceforth referred to as AI art). The machine goes through a learning process because it uses the code input and produces an AI-generated image. The AI completely depends upon the algorithm provided by the human operator for the results. Therefore, AI art is the product of both humans (for giving the code: a list of rules for solving the problem for the machine to learn and train)[4] and the machine as well for producing results using the following procedures:

1. General Adversarial Network)GAN(:

This model has two components: the Generator, which tries to produce images, and the Discriminator, which is a classifier. The discriminator classifies if the product of the

[22]Ryuuichi Nakahara, 'The history of artificial intelligence' (2020) 132(3) Okayama IgakkaiZasshi(Journal of Okayama Medical Association) 144 <http://dx.doi.org/10.4044/joma.132.144> accessed 11 April 2023.
[3]Ed Burns, Nicole Laskowski and Linda Tucci, 'What is artificial intelligence (AI)? - AI definition and how it works' (*Enterprise AI*, 31 March 2023) <www.techtarget.com/searchenterpriseai/definition/AI-Artificial-Intelligence> accessed 11 April 2023
[4]'What is an Algorithm?' (*Programiz: Learn to Code for Free*) <www.programiz.com/dsa/algorithm> accessed 11 April 2023.

generator is original or fake and prevents the generator from outsmarting it.[5] The relationship between the generator and the discriminator is like enemies as we understand it and thus the name.

2. Convolutional Neural Networks:

A network architecture for deep learning. It learns from images and is made up of several layers that process input to produce output. It can be trained to do image analysis tasks like object detection, scene classification, etc.[6]

3. Neural Style Transfer:

It is an optimization technique. It takes a content image and another image required for style referencing. This technique blends both images so that the original content image looks like a painted version in the style of the image used for style referencing.[7]E.g., A's photo is the content image and the style referencing image used is that of the famous Monalisa painting.

This particular technique and product of the technique raise a few questions like the products looking similar since the style referencing image remains the same, **who owns the finished product, etc.?** Not just this technique, but the whole process of machine-producing art raises the question of who the owner of the work is so that the work of the creator can be protected legally.

HISTORICAL BACKGROUND:

The first proto-computer and the idea of programmable machines came in the 19th century but the origin of the concept of AI can be traced back to classical philosophers who describe human thinking as a symbolic system. Ada Lovelace in the 1840s discovered that machines could go beyond mathematical calculations while collaborating with Charles Babbage, the

[5]'The Discriminator | Machine Learning | Google Developers' (*Google Developers*) <https://developers.google.com/machine-learning/gan/discriminator> accessed 11 April 2023.
[6]'Introduction to Deep Learning: What Are Convolutional Neural Networks? Video' (*MathWorks- Makers of MATLAB and Simulink - MATLAB & Simulink*) <https://in.mathworks.com/videos/introduction-to-deep-learning-what-are-convolutional-neural-networks1489512765771.html?ef_id=CjwKCAjwitShBhA6EiwAq3RqAzeAVdPcwwuS9_I2BK2khGrsNLcDwnjgyOw321QVoyZdWf2vq5AJxoCk1MQAvD_BwE:G:s&s_kwcid=AL!8664!3!604258428167!e!!g!!convolutional%20neural%20networks&s_eid=psn_45581054546&q=convolutional%20neural%20networks&gclid=CjwKCAjwitShBhA6EiwAq3RqAzeAVdPcwwuS9_I2BK2khGrsNLcDwnjg-yOw321QVoyZdWf2vq5AJxoCk1MQAvD_BwE> accessed 11 April 2023.
[7]'Neural style transfer | TensorFlow Core' (*TensorFlow*) <www.tensorflow.org/tutorials/generative/style_transfer> accessed 11 April 2023.

creator of an Analytical Engine, also known as the first computer to merge her creative and Analytical ambitions.

In the 1950s, an English mathematician and computer scientist Alan Turner developed the Turning Test or the 'Imitation Games' showcasing a computer's indistinguishable intelligence from that of a human being which proved to be a major stepping stone for Artificial Intelligence. Later, the use of computer graphics was trending among visual artists to create artifacts derived from the subjectivity of the artistic process.[8] The process of visualization and computer-generated images was met with more criticism than an appraisal back in the day.[9]

CURRENT SCENARIO OF AI ART AND AUTHORSHIP:

The only ethical downside of AI Art is the blatant violation and difficulty of laws regarding the copyright of these artworks. Despite such brilliance, this technology is very much debated upon not just because of the lack of understanding that most of mankind possess when it comes to technology and meta-verse, etc., but because of the issues related to the copyright of this machine-generated art. For any creation or the idea thereof, the creator claims and gets the ownership to himself/herself to preserve and establish its rights to the uses and profits such endeavor might incur for a certain period in the future. It gives them recognition for their work and some revenue and benefits in cash or kind. These rights are dealt with in the broad spectrum of Intellectual Property Rights and for art it's Copyright. There are several challenges faced by concerned parties when it comes to classifying and legalizing AI Art authorship/copyright since the copyright creates a moral right by giving Authorship to the creator and an economic right by giving ownership to the creator. The use of AI for Art establishes that the result that is produced by the AI is a result of a combined effort of humans and machines. A human makes the codes/ inputs/ algorithms, etc. required to train the machine in the learning process for the machine to successfully come up with the result. Several units are involved in the process for example the investor behind the unit who designs the algorithms, the creators of the products that a specific AI requires for training purposes e.g., the data used by the generator to produce the original images later classified by the discriminator in the General Adversarial Network process or the Style Reference picture

[8] 'AI Art and How Machines Have Expanded Human Creativity' (*Artland Magazine*) <https://magazine.artland.com/ai-art/> accessed 15 April 2023.
[9] (*Media Arts and Technology, UC Santa Barbara*) <www.mat.ucsb.edu/~g.legrady/academic/courses/20f594/txt/elkins.pdf> accessed 15 April 2023

used in the Neural Style transfer, the designer of the AI tool used for the AI art and the AI itself which makes the product happen. Copyright creates two rights to reward creativity: a moral right to Authorship and an economic right yielding monetary benefits.

The Copyright Act, of 1957 India explains that authorship of AI art should be awarded to the person who causes the work to happen under section 2(d)(vi) which defines what an Author means and who can be considered as an author. It assumes human intervention is vital even when the machine requires negligible to no help while creating the product. The Copyright Act of the United States, under section 17 states an exception to the general rule of the author being the first owner of the copyright and considers the person paying a consideration for the work as the first owner of the work.[10]Although the act isn't specific about AI-generated art, it does make it clear that if copyright is the be granted, three conditions need to be met: a. an original work of authorship; b. fixed on a tangible medium; c. holds a minimum amount of creativity and original works of authorship imply a human hand in the process and according to current US law, AI-generated art has no owner.

Countries are banning this technology because copyright laws are almost useless when it comes to AI Art as this genre of art and technology is fairly new and in its infancy stage so lawmakers are unaware of all the aspects. Unless the AI generator's nature, structure, boundaries, what actions constitute a crime, and who will be charged for it, copyright is not helpful enough against AI Art.[11]The Engine developers often give no credit or compensation to the original artists whose styles are referred to for training the machines thus taking away their right of authorship and ownership guaranteed by copyright and loss of revenue that the professional artists face when AI resorts to artworks.[12] Owing to these restrictions, almost all countries, including the countries where the use of AI Art is not banned, fail to recognize AI as authors or owners of the said artwork and focus on the human intervention part of the final product through an AI Art. But what about the software requiring little to no human touch for producing the artwork?

AI artwork generators like Stable Diffusion, DALL.E can create offers its users the unique feature of getting an artwork with merely a prompt in whichever version like oil pastel, watercolor, etc in a style of the individual's choice e.g., a painting of a statue of a robot

[10](*U.S. Copyright Office | U.S. Copyright Office*) <www.copyright.gov/comp3/chap300/ch300-copyrightable-authorship.pdf> accessed 15 April 2023.
[11]<www.makeuseof.com/ai-art-generation-ethical-pros-cons/> accessed 16 April 2023
[12]<www.makeuseof.com/ai-art-generation-ethical-pros-cons/> accessed 15 April 2023.

surfing in a museum in Michaelangelo's style. All these kind of software needs a prompt hence the human contribution to the painting is the broad imagination of the artwork and the prompt. Robots are being built by artists to collaborate with the AI Art generating machines i.e., for feeding algorithms, data, etc required by the machine to generate art. One such example is Google Arts and Culture Lab which works with computerized programs that imitate the human mind and create original artworks with infinite unique ideas. Softwares like Midjourney AI, Stable Diffusers, etc. are capable of producing detailed, photorealistic, intricate, abstract artworks just by processing a few words types by an outside source and are figuratively looking, i.e., it can be mistaken by the audience to have been made by a human. The data for training these machines are categorized as artworks and are mostly protected by Intellectual Property Rights.

In such a scenario, who is the maker of the artwork? Is it the AI or the copyright holder whose style the artwork is based? Who can claim co-authorship? Who gets to commercialize these images and when does it lead to infringement of rights on being used by any outsider?

The Indian jurisdictions fail to address the issue of authorship in cases of AI Art generated without human intervention like the e-David created by the University of Konstanz, Germany, in 2009 which creates original, unpredictable, and creative works using complex visual feedback and creative loop much like a painting by a human-inspired from several paintings. Another such example is the AARON by Harold Cohen in the AI lab of Stanford University which can generate images without input from humans as it works on a set of rules instilled in it showcasing the ability of decision-making by the ability to filter and follow the rules as applicable. The only way these works are different from that of art by humans is when the intention behind the work is investigated and the inability of AIs of establishing personalized signatures in their works through the work generated by machines indicates originality. The Indian courts referred to Section 13 of the Copyright Act, 1957 which states that originality of work is essential for copyright in the case of *Eastern Book Company and Others. V. D.B. Modak and Another*[13] observed that for copyright in compilation work, the exercise of skill and judgment is a must. In the case of *Rupendra Kashyap v. Jiwan Publishing House Pvt. Ltd.*[14]where a machine complied the examination papers, authorship

[13]*Eastern Book Company &Ors vs D.B. Modak&Anr*, Supreme Court of India, 12 December 2007, Appeal (civil) 6472 of 2004 (India).
[14]*Rupendra Kashyap vs Jiwan Publishing House*, Delhi High Court, 1 July 1996, DRJ, 81 (India).

was denied to the artificial person. The courts through various judgments have laid down three tests for determining the originality of work for granting the authorship:

1. The doctrine of Merger: states that the expression of an idea must be intrinsic and inherent in the idea itself.
2. The skill and Judgement test also known as the sweat of the brow test: the work must possess the author's skill, labor, and judgment.
3. The modicum of creativity: there must be a minimum degree of creativity present in the work.

In the case of *Feist Publications v. Rural telephone service Company Inc.*, the US Copyright Office declared that the right of authorship can only be protected by copyright when the author is a human since IPR protects the fruits of intellectual labor requiring creativity possessed by human minds and the general assumption is that AI is incapable of possessing intellect or imitate human mind in its entirety. The famous case *Naruto v. David Slater* confirmed US's position that unless a human creates a work, a copyright cannot be granted for that particular work. In the case of *Infopaq International A/S v. Danske DagbaldesForening,* the European Union courts held that copyright can only be granted when the work is original and reflective of the author's personality or intellect. A similar view has been taken by the Australian courts in the case of *Acohs Pty Ltd. v. UCorp Pty Ltd* that states work generated with computer-intervention cannot be copyrighted because it was not produced by a human. This approach not only discourages creativity by not giving any credit or remuneration to the efforts of the human and computer but also poses a great but also investment in the technology market. The only advantage of this approach is discouraging lawsuits for copyright infringement against software developers for using such work to train their programs.

Ignoring copyright for AI works entirely was not considered ideal by many jurisdictions alike India because of the loss of revenue in the market and loss of recognition to the programmer. New Zealand, Hong Kong (SAR), Ireland, and the UK are some such countries that grant the copyright of the AI work to the programmer of the AI. This suit is adhered to majorly because of section 9(3) of the Copyright, Designs, and Patents Act of the UK which states the author of the computer-generated works shall be the person who undertakes the arrangements necessary for creating the work. Section 178 of the same act specifies that computer-generated work is work under circumstances where there is no human author of the work. In

Tencent v. Shanghai Yingxun, the People's Court in China gave compensation to the plaintiff for copyright infringement by the defendant because Tencent is the programmer of Dreamwiter, the software used for the automatically generated article because it had the creative inputs of the programmer. It recognizes the human efforts that go into creating the program, though the creative spark is of the program not the programmer's mind. Though this approach solves the 'AI has no owner' dilemma, it raises many ambiguities since there is still no distinction between 'AI GENERATED work' and 'AI ASSISTED work'. Besides, which human gets the copyright? The user of the program who has already paid for the credits while using the program or the programmer of the software itself? To put it in context, who is the author of digital art made by the use of Adobe Fresco? The Adobe who created the app or the painter who used it to create the work? The answer seems simple since the skill, and judgment of the painter is considered but would be critical when the AI is advanced enough to do all the effort a human puts in and all the user has to do is press a button.[15] These questions are decided by case based on the circumstances of each case individually. In the case of *Nova Productions v. Mazooma Games*, the English courts decided that the player's input is not artistic enough to give him the copyright to the game. In the case of videogames, the programmer is the person who gets the copyright as was held in *Stern Elec v. Kaufman* and the rationale was explained in the *Sega Enterprise v. Accolade Inc.* judgment that reiterated the Kaufman judgment and held what the AI does is copy memories stored in the image sequence program and memories are not inciter of expressions and thus AI cannot have the copyright of videogames.

The most used principle while dealing with software copyright is Article 9(2) of the TRIPS Multi-lateral agreement that was originally laid down in the *Baker v. Selden* judgment that ideas, processes, and general concepts are not protectable but only the expression of an idea. Based on this, European courts have held in the case of *Navatire v. Easy Jet* that the author holds no claim in the functionality and user interfaces developed by software. Section 17 of the US Copyright defines derivative work as work that is based upon existing works like editorial revisions, representing original authorship, compilation, etc. and the courts interpret this definition in a narrow sense focusing on substance without considering form. For a derivative work to have an authorial claim, there must be reasonable blocks of expression of

[15] 'Artificial intelligence and copyright' (*WIPO - World Intellectual Property Organization*) <www.wipo.int/wipo_magazine/en/2017/05/article_0003.html> accessed 17 April 2023.

original work[16] and explains how the output of software es does not encompass the codes that generate it and narrative flows contribute as torture themselves in cases as the process of selection and sequencing by the software showcases exercise of emotions evokes and thus should be copyrightable as they are not mere ideas but the detailed ideas of the programmer are visible in the expression of output as was held in the case of *Ibcos Computers v. BerclaysMerchantile.*In *Lotus v. Paperback*, the courts decided that elements of expression used in the useful article can be protected by Copyright if it is capable of identification and recognition independent of the functionality it possesses.[17]

CONCLUSION

There is a huge difficulty in protecting AI Art through Copyright since this is a fairly new area and very much evolving. The greatest difficulty is deciding upon who the author of the AI Art is under certain scenarios like when the software is capable of doing more than assist in the production of art or generates it, exercising skill, judgment, originality, etc., i.e., by imitating human minds to a great extent. Although it seems that not giving AI the status of author/ co-author is undermining the capabilities of the AI itself as well as discrediting the human minds who are creating software capable of functioning just like a human mind when it comes to various fields including art, giving AI the status of Author would be giving credit to the creation and completely undermining the efforts of the Creator who fundamentally a human being.

The most balanced approach when it comes to giving protection to an AI Art is to give copyright to the person whose contribution is in the most primal proximity with the outcome of the product. It can be the user also when the outcome is majorly based upon the feeding of input done by the user and not the programmer and the programmer gets authorial credit when it uses the AI to train it to produce artwork by feeding it with several inputs, i.e., to the person by whom the necessary arrangements for the artwork are undertaken as is seconded by jurisdictions like India, Ireland, New-Zealand, UK, etc.

[16]Pamela Samuleson, 'Allocating Ownership Rights in Computer Generated works' (UC Berkley) 47
[17]'AI – GENERATED WORK OF ART: WHO DESERVES THE AUTHORIAL CREDIT? | IPRMENTLAW' (*IPRMENTLAW | Where IP meets media & entertainment*) <https://iprmentlaw.com/2019/01/05/ai-generated-work-of-art-who-deserves-the-authorial-credit/> accessed 17 April 2023.