

## CAN COPYRIGHT PROTECTION SERVE AS THE TOOL TO REGULATE THE USE OF THE DEEPFAKES – A COMPARATIVE ANALYSIS BETWEEN THE USA AND INDIA

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### ABSTRACT

*“The only thing anyone can really know for sure is that you can’t really know anything for sure.”*

— A.D. Aliwat, *In Limbo*

*The age of Artificial Intelligence (“AI”) and technology is the age of misinformation and altered realities. This quote by A.D. Aliwat depicts one such facet of AI technology, that are, the Deepfakes<sup>1</sup>. What once was science fiction is now the day-to-day reality. The key focus of this article is the use and misuse of Deepfake technology; though the use of Deepfake falls into the domain of various laws, such as human rights, privacy, and personality rights, the author has restricted the subject matter and findings of the article to the Copyright related rights. Further, the author also tries to present a comparative analysis of the Indian Copyright regime with its position in the US. At last, the author concludes by giving her suggestions and key takeaways for paving the road for a better regulatory framework for Deepfakes in India.*

*Keywords: AI, Deepfakes, Digital media, Social Media, Technology*

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<sup>1</sup> Hasan, H. R., & Salah, K. 2019, *Combating Deepfake Videos Using Blockchain and Smart Contracts*. IEEE Access, 7: 41596–41606, < <https://doi.org/10.1109/ACCESS.2019.290568> > accessed on 15<sup>th</sup> October, 2022.

## 1. INTRODUCTION

Social media is abuzz with images, videos, and footage of famous people doing and saying things that were never originally done or spoken by them. These works are made by the use of AI and deep learning, the phrase Deepfake, is a merger of the words – “deep” and “fake”, deep here means deep learning, while the term “fake” means false and fabricated.<sup>2</sup> The term “Deepfake” first came into the news around 2018, when a Reddit user with the namesake of Deepfake, posted rigged porn videos of celebrities by swapping the faces of Gal Gadot, Taylor Swift, Scarlett Johansson, and others on to various porn models.<sup>3</sup>

However, the origin of this Deepfake technology trace back its root to 1997, when Christoph Bregler, Michele Covell, and Malcolm Slaney created the Video rewrite program, this program essentially used the existing footage of a persona and automatically generated a new video, mouthing words that were not spoken in the original footage.<sup>4</sup>

The unbridled use of Deepfake technology poses major threats to the right to privacy of an Individual, right to credibility, and human rights, as well as infringe their exclusive right over copyrighted works. From revenge porn<sup>5</sup> to creating armed conflicts<sup>6</sup>, Deepfakes are spreading like wildfire, but just like “every coin has two sides”, Deepfakes too have got a silver lining attached to them, as they can be used for medical purposes<sup>7</sup> and in entertainment and fashion industry, they also serve various educational purposes. In light of these productive uses, it becomes imperative to not put an umbrella ban on the Deepfake content but to regulate it in such a manner that it cannot be misused for malicious purposes.

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<sup>2</sup> Grace Shao, *What ‘deepfakes’ are and how they may be dangerous*, 13<sup>th</sup> October, 2019, <<https://www.cnbc.com/2019/10/14/what-is-deepfake-and-how-it-might-be-dangerous.html>> accessed on 15<sup>th</sup> October, 2022.

<sup>3</sup> Ian Sample, *What are Deepfakes – and how can you spot them*, <<https://www.theguardian.com/technology/2020/jan/13/what-are-deepfakes-and-how-can-you-spot-them>> accessed on 16<sup>th</sup> October, 2022.

<sup>4</sup> Christoph Bregler, Michele Covell, Malcolm Slaney, *Video Rewrite: Driving Visual Speech with Audio*, <<http://chris.bregler.com/videorewrite/>>, accessed on 16<sup>th</sup> October, 2022

<sup>5</sup> Karen Hao, *Deepfake porn is ruining women’s lives. Now the law may finally ban it*, <<https://www.technologyreview.com/2021/02/12/1018222/deepfake-revenge-porn-coming-ban/>> accessed on 17<sup>th</sup> October, 2022.

<sup>6</sup> *Deepfake of Ukraine’s Zelenskyy shows that IP laws governing such tech is urgently needed*, published on 29<sup>th</sup> March, 2022, <<https://www.mynewsdesk.com/sg/pitchmark/news/deepfake-of-ukraines-zelenskyy-shows-that-ip-laws-governing-such-tech-is-urgently-needed-445024>> accessed on 15<sup>th</sup> October, 2022.

<sup>7</sup> Jackie Snow, *Deepfakes for good: Why researchers are using AI to fake health data*, FASTCOMPANY <<https://www.fastcompany.com/90240746/deepfakes-for-good-why-researchers-are-using-ai-for-synthetic-health-data>> accessed on 15<sup>th</sup> October, 2022.

## 2. WHAT IS DEEPPFAKE TECHNOLOGY?

The Big data, the evolution of AI, and the creative minds of this century, all together are the reason for such an advanced system of software that creates or mutilates the already existing works into something entirely new.

Recently, certain video clips of Tom Cruise went viral, in one of them he's seen eating a lollipop, but the lollipop turns out to be a pack of chewing gum and Mr. Cruise is left questioning his wisdom,<sup>8</sup> in another, he is saying how he always "*flies outside the plan*", The creator of these videos, Chris Ume, a Visual effects (VFX) artist says, "*these videos will make anyone wonder, is it the real tom cruise or is it not?*".<sup>9</sup>

The AI and VFX technology has reached the level, what once was seen as farfetched or something straight out of Mr. Cruises' "*Mission Impossible*" movies is now the reality. For instance, if you don't like Tom Holland in the Spider man movies, you can watch the original Spidey, Tobey Maguire performing,<sup>10</sup> or if an actor has died, he can be resurrected, by the use of this technology.<sup>11</sup>

### 2.1 How is a Deepfake Created?

Deepfakes work on the system of neural networks, and These networks evaluate massive data samples to imitate a person's facial expressions, mannerisms, speech inflections, and inflections..<sup>12</sup>

The Deepfake technology is a result of Generative Adversarial Networks (GANs) and variational autoencoders (VAEs).<sup>13</sup>

In GANs, the data, both correct and incorrect are purposely fed, then the system learns to identify and discriminate the correct and incorrect inputs with the help of a Generator and discriminator

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<sup>8</sup> Rachel Metz, *How a deepfake Tom Cruise on TikTok turned into a very real AI company*, <<https://edition.cnn.com/2021/08/06/tech/tom-cruise-deepfake-tiktok-company/index.html>> , accessed on 15<sup>th</sup> October, 2022.

<sup>9</sup> *Supra* note at 8.

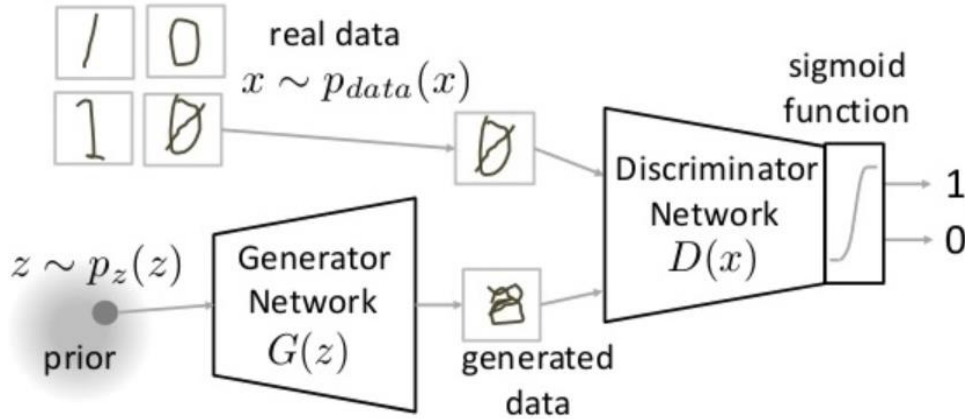
<sup>10</sup> Luke Kemp, *In the age of deepfakes, could virtual actors put humans out of business?*, *THE GUARDIAN* <<https://www.theguardian.com/film/2019/jul/03/in-the-age-of-deepfakes-could-virtual-actors-puthumans-out-of-business>> accessed on 15<sup>th</sup> October, 2022.

<sup>11</sup> *Supra* note at 10.

<sup>12</sup> Kan E (2018), *What the heck are VAE-GANs? Towards Data Science*, <<https://towardsdatascience.com/what-the-heck-are-vae-gans-17b86023588a>> accessed on 15<sup>th</sup> October, 2022.

<sup>13</sup> *Supra* note at 12.

network, and this model serves as unsupervised learning, the system is efficiently trained to do a variety of jobs more efficiently..<sup>14</sup> (See, figure 1)

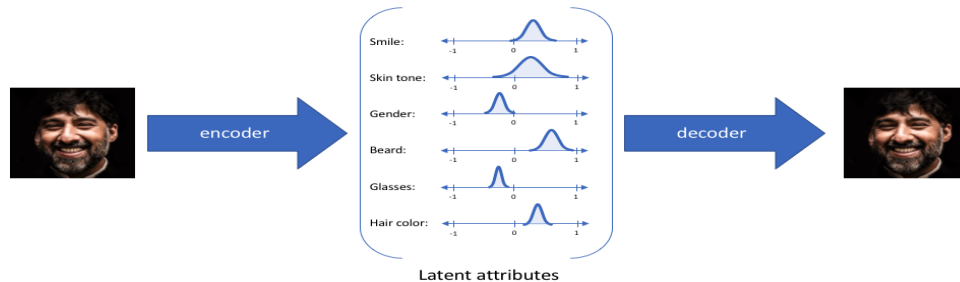


Source: Giles M (2018) *The GANfather: The man who's given machines the gift of imagination.* MIT Technology Review.

VAEs are different from GANs, these are mathematical representations of an image, a discrete value is assigned to an expression, and then whether a person may or may not have the expression in the image is indicated in the form of a probability distribution range, these signals are later encoded and decoded to create various expressions.<sup>15</sup> (See, Figure 2)

<sup>14</sup> *Supra* note at 12.

<sup>15</sup> *Supra* note at 12,



Source: Jordan J (19 March 2018) *Variational autoencoders*. *Data Science with Jeremy Jordan*. Available at < <https://www.jeremyjordan.me/variational-autoencoders/>>.

### 3. LEGAL CONUNDRUMS IN COPYRIGHT PROTECTION SURROUNDING THE DEEPPAKES

These technological advancements raise certain legal and ethical concerns too, as it is now quite possible to deliver the content in minutes in any language, form, or medium without the consent of the owner of such work. This conundrum is left unsolved by the nations, though some are trying to control and regulate it, some have put a complete ban and some are still trying to understand what Deepfakes are.

To tackle the Deepfake-related content, various celebrities, singers, and actors have turned towards copyright protection measures, due to the robust mechanism of the regulations put in place.

The problem of Deepfake, in terms of Intellectual property rights, was also perused and pondered by the World Intellectual Property Organization (WIPO), in their “Draft Issues Paper on Intellectual Property Policy and AI”<sup>16</sup>. WIPO in the draft formulated two specific issues:

- i. Determining who should own the copyright of a deep fake?

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<sup>16</sup> Draft Issues Paper on Intellectual Property Policy and Artificial Intelligence, WIPO/IP/AI/2/GE/20/1: December 13, 2019.

- ii. if there should be a system of equal compensation for individuals whose likenesses and "performances" are utilised in a deep fake.<sup>17</sup>

WIPO believed that there are more severe rights that can be violated such as human rights, privacy rights, fundamental rights, right to erasure, and in light of such severe issues, there is a dilemma as to whether copyright protection even be accorded, let alone finding the owner of a copyright in the Deepfake. WIPO in its findings stated that the copyright should not be given if the work is entirely different from the victim's life but, if a work allows the protection of Copyright, then it should lie with the Inventor of such Deepfake, as the person on whom the Deepfake is made does not own the copyright of such work herself.

Accordingly, WIPO is of the Opinion that the tool of Copyright is not the best arrow in the quiver of laws and remedies available.

The author disagrees with the WIPO's standing on two grounds, firstly, just because more severe rights are violated, it does not mean that the Copyright will not come into the picture. To substantiate this argument, the author would like to take the defense of a recent instance, in which Kim Kardashian; a famous US celebrity took the help of YouTube Copyright measures to remove her doctored video,<sup>18</sup> and secondly, WIPO claimed that the person can be seen in an image or video used in a Deepfake, herself does not have the copyright over such work, but that might not be the case every time, as was witnessed when You Tuber Voice Synthesis digitally impersonated Jay-Z's using the open-source application Tacotron 2, and Jay-Z record's label owned the copyright that works..<sup>19</sup>

Across the globe, two major issues are making the rounds, first, whether the Inventor of a Deepfake will have a copyright and the need for a human to be an author/creator, and second, can the person whose work has been used without her consent take the solace in Copyright protection.

The answer to these questions is different in different regimes, as the USA's fair use exception is more liberal compared to the fair dealing as provided in Indian Copyright laws.

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<sup>17</sup> *Supra* note at 16.

<sup>18</sup> Tiffany C. Li, *Kim Kardashian vs. Deepfakes*, < <https://slate.com/technology/2019/06/deepfake-kim-kardashian-copyright-law-fair-use.html>> accessed on 15<sup>th</sup> October, 2022.

<sup>19</sup> Ivy Attenborough, *Voices, Copyrighting and Deepfakes*, < <https://www.ipwatchdog.com/2020/10/14/voices-copyrighting-deepfakes/id=126232/#>> accessed on 14<sup>th</sup> October, 2022.

### 3.1 Position in the USA

The position of the law in the US is quite clear when it comes to the requirement of the human being as a creator for the Copyrighted work, the copyright law only accords protection to “the fruits of intellectual labour”, that is “founded in the creative powers of human minds”, thereby only a human can be the creator of any copyrightable work, and since the Deepfakes are created by the AI, they are not given protection as Copyrighted works.

Time and again, the US copyright office has denied offering copyright to a work created by AI, the recent attempt was made by Thaler for his work of art titled, *A recent entrance to Paradise* which was also not granted any protection.<sup>20</sup>

Now, coming on to the second issue, that is whether the use of work without the consent of the copyright owner will result in infringement, understanding Section 107A of the Digital Millennium Copyright Act, 2017,<sup>21</sup> is paramount. The Section provides for the fair use doctrine, and it is based on a four-factor test –

- (i) Purpose and character of the use,
- (ii) Nature of copyrighted work,
- (iii) Amount and substantiality of the portion taken and
- (iv) The effect of the use on potential markets.

In most cases, the purpose and character criteria are satisfactorily met by deep fakes because they are developed for fundamentally different goals than those envisioned while generating the original work. In addition, U.S. courts have often ruled that "fair use" can occur even when using identifiable copyrighted content or when using a substantial amount of the original work without permission.

In *Bill Graham Archives case*<sup>22</sup>, The U.S. Court of Appeals for the second circuit stated that transformative uses of copyrighted works are permissible provided they deviate from the images' original expressive intent. Similarly, in terms of market impact, this technology is in its infancy,

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<sup>20</sup> Sims D (3 September 2021) US judge rules only humans, not AI, can get patent. TechSpot.

<sup>21</sup> Digital Millennium Copyright Act, 17 U.S. Code § 107.

<sup>22</sup> Bill Graham Archives v. Dorling Kindersley, Ltd., 448 F.3d 605.

has no actual market value, and hence offers no threat to the original invention's market, thus satisfying this condition as well.

Thus, US Copyright law permits the creation of Deepfake content, given its permissible use. While these regulations make no distinction based on the intent of the creator, it is possible to classify deep fakes created with malicious intent as parodies and even protect them as such.

An instance of such use is the music video of Kendrick Lamar's "The Heart Part 5"<sup>23</sup> which features a fresh collaboration between the rapper and Hollywood's most well-known and reviled parodists: South Park's Trey Parker and Matt Stone. In the video, the rapper transforms into Will Smith, Jussie Smollett, O.J. Simpson, Kobe Bryant, and Nipsey Hussle using questionable technology. It's unclear that the celebs gave their permission to appear in the video, raising the question of whether Lamar and production company JG Lang are in the clear legally for exploiting their likenesses. The answer is that the Deepfakes in the video are "highly transformative" and "fair usage would be a solid defence against a copyright challenge."

Several states in the United States have introduced legislation to crack down on the illegal use of digital replicas and other acts related to the depiction of real people and events, including deep fake pornography. Virginia is at the forefront of this movement, having amended preexisting revenge porn laws to account for deep fake content as well, under the "falsely-created material" head.

### 3.2 Position in India

With regards to the first issue, India does not allow an AI to be an author, as the need for human intervention is also necessary for the Indian Copyright regime. The Author is defined under section 2(d) of Copyright Act 1957<sup>24</sup>, as:

*"Author" means, —*

1. *in relation to a literary or dramatic work, the author of the work;*

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<sup>23</sup> Winston Cho, *Does Kendrick Lamar Run Afoul of Copyright Law by Using Deepfakes in "The Heart Part 5"?* <<https://www.hollywoodreporter.com/business/digital/does-kendrick-lamar-run-afoul-of-copyright-law-by-using-deepfakes-in-the-heart-part-5-1235145596/>> accessed on 15<sup>th</sup> October, 2022.

<sup>24</sup> Copyright Act 1957, § 2(d).



2. *in relation to a musical work, the composer;*
3. *in relation to an artistic work other than a photograph, the artist;*
4. *in relation to a photograph, the person taking the photograph;*
5. *in relation to a cinematograph film or sound recording, the producer; and*
6. *in relation to any literary, dramatic, musical, or artistic work which is computer-generated, the person who causes the work to be created;*

In *Rupendra Kashyap Vs. Jiwan Publishing House Pvt. Ltd.*,<sup>25</sup> it was decided that in the context of exam question papers, the author of the examination paper is the person who has compiled the questions; this person is a natural person, a human, and not an artificial person and Central Board of Secondary Education is not a natural person, and it would be entitled to claim copyright in the examination papers only if it establishes and proves that it has engaged persons specifically for purposes of preparing the examination papers.

The courts have also noted in prior rulings that a legal entity can never be the creator of a work protected by copyright.<sup>26</sup>

In India, the owner of a copyright has the right to exercise that right only under the terms of Section 14 of the Indian Copyright Act. The owner of the copyright to a cinematograph film or sound recording has the exclusive right to make or licence the reproduction of the film or sound recording in any form, including using photography.<sup>27</sup>

To address the second issue, we must examine section 52 of the Copyright Act, which defines "fair dealing" in India and provides a comprehensive list of conduct that is not considered an infringement of copyrights.<sup>28</sup>

Since deep fakes are not included in this exemption, it is simpler to hold the developer liable. As the right to dignity is protected under Section 57(1)(b)<sup>29</sup>. Any alterations to or changes made to a

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<sup>25</sup> *Rupendra Kashyap vs Jiwan Publishing House*, 1996 (38) DRJ 81.

<sup>26</sup> *Tech Plus Media Pvt. Ltd v. Jyoti Nanda*, (2014) 60 PTC 121.

<sup>27</sup> Copyright Act 1957, § 14,

<sup>28</sup> Copyright Act 1957, § 52.

<sup>29</sup> Copyright Act 1957, § 57(1)(b).

copyrighted work are illegal. In addition, Articles 55 and 63 impose criminal and civil culpability for infringements of exclusive rights.

The concept of fair dealing is often criticized for being rigid, in contrast to the fair use doctrine that prevails in the United States. India's current position in copyright law is strict, so it can be used as a suitable tool to combat deepfakes. However, all deepfakes, including those made for legitimate purposes or entertainment, violate copyright under India's Fair Use Principles. This position should be changed to account for deepfakes created for legitimate purposes.

#### 4. CONCLUSION

With the advent of Big data and the GAFAM (Google, Amazon, Facebook Amazon, and Microsoft), the cyber world is creating more havoc, and the untapped potential of AI is now being realized.

Security advisor Nina Schick in her book *Deepfakes: The Coming Infopocalypse*<sup>30</sup>, discusses how the amount of time and information needed to make a convincing fake audio or video clip with AI has been greatly decreased thanks to recent advancements. Even scarier is the fact that it's getting simpler to create Deepfakes.

The copyright regime of the US is not much equipped to deal with Deepfake content as it is too liberal in its approach and every other work can be seen as transformative, which will harm the credibility of the original copyright owner. However, India in its approach is too strict as it does not even allow the bonafide use of such advanced technology when it is known it can even be used to detect tumours.

In the author's opinion, both approaches work on the extremes, wherein the US needs stricter regulatory measures for the protection of Copyright and on the other hand, India needs to be liberal in its approach to allow the beneficial use of deepfakes. Both nations can learn from each other and develop a system where both purposes can be fulfilled, that is, the Deepfakes do not violate the copyright of the owner, are not used for malicious reasons as well as are not completely banned either. There is a need for new regulations and frameworks, as nations need to match up to the technology. There cannot be a war between Law and technology, both must work hand-in-hand for future generations.

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<sup>30</sup> *Deepfakes: The Coming Infopocalypse*, by Nina Schick.