



Jus Corpus Law Journal

Open Access Law Journal – Copyright © 2024 – ISSN 2582-7820
Editor-in-Chief – Prof. (Dr.) Rhishikesh Dave; Publisher – Ayush Pandey

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The Legal Battle against Deep Fakes: Copyright Implications, DRM Mechanisms and Regulatory Perspectives in the Digital Age

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Received 19 March 2024; Accepted 23 April 2024; Published 27 April 2024

By breaking several societal norms, the concept of freedom has evolved over the years, and to a great extent, the advancement of technologies paved the way for such a change. From Orkut to Instagram, the trend of sharing and uploading images remains the same. In this 21st generation, celebrities, influencers, and commoners upload their pictures on social media to gain likes, and fame and increase their publicity. There is no bar on such activity as long as they follow the public platform guidelines. But there exists a dark side to this trend where these images are morphed or superimposed and are being uploaded in various internet mediums including pornographic sites, thus making the celebrities, influencers, and commoners' victims of deepfakes. Along with the violation of the right to privacy and right to life, the intellectual property rights of the victims are deeply affected. The law provides copyright protection to the original owner/ author for their content. Thus, deepfakes infringe the guaranteed copyright protection. This paper deals with the question of how deepfake technologies amount to copyright infringement, how they affect publicity rights, their legal implications, and various regulatory mechanisms that can be implemented to combat this issue in this AI era.

Keywords: *deepfake, copyright, infringement.*

INTRODUCTION

The leap from the pre-digital advancement era to a digitally automated and internet era can be recorded through various developments that happened over the years and one such appreciable yet controversial advancement is the growth of Artificial Intelligence (AI). The market size in Artificial Intelligence is expected to reach \$305.90 billion in the year 2024¹ and by the year 2030, it is expected to reach \$738.80 billion.² The influence of AI has taken over all sectors including the medical, educational, automobile, and most importantly the service sector.³ Along with it, the rise of social media is a notable aspect that helped in the dissemination of digital content worldwide. Therefore, the world as we know it today is the result of the coupled effort of AI and various social media platforms.

One of the most significant advancements in the field of AI is the 'Deepfake Technology'. In 2017, a Reddit user used the technology to alter pornographic videos coined the term 'Deepfake'⁴. A machine learning technique known as 'generative adversarial networks' (GANs) is used to create deepfakes.⁵ The manipulated fake content created by merging, combining, or superimposing images, videos, and audio using AI can be referred to as deepfakes. In other words, it is a technology capable of swapping faces, and voice insertion into videos and audio recordings and making it look quite realistic. It is a significant advancement as it creates content with remarkable precision also it plays a crucial role in the entertainment industry. The most popular channels through which deepfake contents reach the public audience are social media platforms. When weighing the benefits and drawbacks, the drawbacks outweigh the benefits.

¹ 'Artificial intelligence - Worldwide' (Statista) <<https://www.statista.com/outlook/tmo/artificial-intelligence/worldwide#:~:text=Artificial%20Intelligence%20%2D%20Worldwide&text=The%20market%20size%20in%20the,US%24738.80bn%20by%202030>> accessed 13 March 2024

² *Ibid*

³ Uday Sharma, 'Trouble to the Ongoing Regime: AI and Its Challenges' (2023) 4(1) *Jus Corpus Law Journal* 512 <<https://www.juscorpus.com/wp-content/uploads/2023/11/37.-Uday-Sharma.pdf>> accessed 13 March 2023

⁴ Kristen Dold, 'Face-Swapping Porn: How a Creepy Internet Trend Could Threaten Democracy' (*Rolling Stone*, 17 April 2018) <<https://www.rollingstone.com/culture/culture-features/face-swapping-porn-how-a-creepy-internet-trend-could-threaten-democracy-629275/>> accessed 14 March 2024

⁵ Shubham Pandey and Gaurav Jadhav, 'Emerging Technologies and Law: Legal status of Tackling Crimes Relating to Deepfake in India' (*SCC Online*, 17 March 2023) <<https://www.sconline.com/blog/post/2023/03/17/emerging-technologies-and-law-legal-status-of-tackling-crimes-relating-to-deepfakes-in-india/>> accessed 14 March 2024

Let us take the example of a few instances where the true nature of deepfake technology came to light. During the 2020 legislative assembly election, a video of Manoj Tiwari, who was the candidate of the Bharatiya Janata Party was manipulated using deepfake⁶. In another incident, a pornographic video of an investigative journalist Rana Ayyub went viral where her face was morphed on and was circulated in April 2018. Similarly, videos of famous actresses such as Rashmika Mandanna, Scarlett Johanson, and many others were deepfaked and went viral. The former actress fought a legal war where the accused was arrested⁷ while the latter actress thought that, 'I think it's a pursuit, legally, mostly because the internet is a vast wormhole of darkness that eats itself'⁸ and I opine that it depends upon person to person to fight for their right to their image and privacy. Thus, it is evident that deepfake technologies affect the rights of people in all fields of work. Now let us focus on the legal implications caused by these technologies. Many argue in favour that the deepfake technology infringes the copyright protection offered by law while a few claim that deepfake-generated images come within the ambit of fair use and transformative work, therefore not infringing any copyright protection and that they must be given copyright protection.

COPYRIGHT AND DEEPPFAKE

Deepfake within the Ambit of Fair Use/ Transformative Work: Copyright protection is offered to the original owner of the content and the Copyright Act of 1957 is the legislation that protects authors of original literary, dramatic, musical, and artistic works, cinematographic films, and sound recordings⁹. As per the same law, the unauthorized use of images or videos by any person is condemned¹⁰. Thus, the capability of deep fake technology to swamp faces, superimpose

⁶ 'Deepfake videos were used for the first time in India by BJP: Report' *Deccan Herald* (21 February 2020) <<https://www.deccanherald.com/india/deepfake-videos-were-used-for-the-first-time-in-india-by-bjp-report-806669.html>> accessed 15 March 2024

⁷ 'Main accused in Rashmika Mandanna deepfake video case arrested, says police' *Indian Express* (20 January 2024) <<https://indianexpress.com/article/cities/delhi/rashmika-mandanna-deepfake-video-accused-arrest-delhi-police-9118870/>> accessed 15 March 2024

⁸ 'It is useless fight to stop 'deepfake' porn, says Scarlett Johansson' *Business Today* (04 January 2019) <<https://www.businesstoday.in/pti-feed/it-is-useless-fight-to-stop-deepfake-porn-says-scarlett-johansson/story/306791.html>> accessed 15 March 2024

⁹ Copyright Act 1957, s 13

¹⁰ Copyright Act 1957, s 51

them, etc. violates the copyright principles, making the person liable for copyright infringement. Although this stand is clear, many still turn up with the doctrine of fair use. The doctrine of fair use is a 'defense to copyright infringement as it permits a certain amount of copying without the permission of copyright owner for certain specified purposes'¹¹. And the courts played a huge role in setting a precedent for fair use in copyright law. The case of *Lenz v Universal Music Corp*¹² is one of the cases where the court decided in favour of the fair use doctrine.

Let us take the example of the country where the fair use doctrine can be traced back to – the United States. As per section 107 of the U.S Copyright Act of 1976¹³, the test for fair use delves into the following aspects such as the nature of the use, the amount of content borrowed, the characteristics of the work and its impact.¹⁴ Even the US courts are of the view that 'deepfakes are excusable if it comes within the ambit of fair use'. This view is too broad and there exists a high chance that most of the deepfakes would pass or qualify the above-mentioned test and may be protected under the principle of transformative use¹⁵ as stated in the case *Campbell v Acuff Rose*¹⁶, making the scope of the fair use doctrine wider. Therefore, as per the rules, taking down deepfake materials amounts to an infringement of the right to expression and the deepfakes that are developed for malicious intentions are capable of being protected by embodying/including them under the scope of transformative rules.¹⁷ As a result, a lot of criticism arose for such protection provided for maliciously intended deepfakes¹⁸.

Considering the Indian approach, section 52 of the Indian Copyright Act, 1957¹⁹ deals with this doctrine of fair use and determines the works that are being exempted from copyright

¹¹ Pete Singer, 'Mounting a fair use defense to the Anti circumvention provisions of the digital millennium Act' (2002) 28(1) *The University of Dayton Law Review* <<https://ecommons.udayton.edu/udlr/vol28/iss1/6/>> accessed 15 March 2024

¹² *Lenz v Universal Music Corp* [2008] 572 F. Supp. 2d 1150 (N.D. Cal. 2008)

¹³ Copyright Act of 1976, s 107

¹⁴ Akhtar Hussain, 'Deepfake: A challenge to copyright Law' (2023) 3(4) *Jus Corpus Law Journal* <<https://www.juscorpus.com/wp-content/uploads/2023/09/56.-Akhtar-Hussain.pdf>> accessed 15 March 2024

¹⁵ Siddhesh Birajdar, 'India: Can Copyright Law Regulate Deep Fake?' *Mondaq* (28 April 2021) <<https://www.mondaq.com/india/copyright/1062342/can-copyright-law-regulate-deep-fake>> accessed 15 March 2024

¹⁶ *Campbell v Acuff Rose* [1994] 510 U.s 569, 92-1292

¹⁷ Birajdar (n 15)

¹⁸ Hussain (n 14)

¹⁹ Copyright Act 1957

infringement²⁰ and do not come within the ambit of the acts mentioned in the section. Consequently, this rigid approach taken by Indian courts does not offer the requisite protection from such technologies.

However, the approach of the United Kingdom is different. They strike a balance between fair use and fair dealing doctrine. They think it is relevant to consider the creator's motive and provide space for the protection of legitimate use of deepfakes for purposes such as research or 'pastiche' purposes.²¹

Copyright Protection to deep-faked Images: As discussed above, even deepfakes may be exempted from copyright infringement if it comes within the ambit of fair use but whether are they eligible for the protection offered by copyright law is a question that sparks debates and controversies. Copyright simply means the protection offered to creative works.

To understand the position adopted regarding deepfake better, let us look into the matter of AI as a whole. Can AI be given copyright protection? In India, though it is not explicitly protected by copyright law, AI art is considered machine-generated work and it comes within the purview of the 'computer-generated image' of the Act²², but the thing to be noted is that the Act came into force in 1957- when AI was not in existence. Thus this question is yet to be resolved. Regarding the stand in the US and UK, these images are not subject to copyright protection as it is not created by humans. In the case of *Feist Publication v Rural Telephone Service Company, Inc*²³, it was held that copyright law only protects 'the fruits of intellectual labour that are founded in the creative power of the human mind'. Adding to this, in the year 2018 the Copyright Review Board of the United States Copyright Office refused to register a copyright for work in the name of DABUS on the ground that it 'lacks human authorship necessary to support copyright claim.'²⁴

²⁰ Copyright Act 1957, s 52

²¹ Hussain (n 14)

²² Copyright Act 1957, s 2 (d)(vi)

²³ *Feist Publication v Rural Telephone Service Co* [1991] Inc 499 U.S 3400

²⁴ Shradha Prakash, 'Copyright Ownership Of AI Generated Content In India' *Mondaq* (21 March 2023)

<<https://www.mondaq.com/india/copyright/1295978/copyright-ownership-of-ai-generated-content-in-india>> accessed 16 March 2024

These contentions can be applied to the matter of deepfakes as well. Another argument that came up regarding copyright protection to deep fakes was the concept of 'moral rights'. Moral rights can be defined as the right that protects the reputation of the creator of a copyrighted work and also gives them the right to be attributed to their work²⁵ and in the US, moral rights are extended to visual arts only²⁶. The moral rights of a copyright creator are primarily invoked when the copyrighted work is altered in a way that adversely affects their interests²⁷. If it can be proved that the deepfakes are not covered under the fair use doctrine and violate the moral rights of the copyright owner, then an action for deepfake can be brought.

LEGAL SANCTIONS FOR DEEP FAKE AS PER EXISTING LAWS

Deepfake technologies exploit movie stars and other famous personalities to an extent where their videos are morphed, superimposed, and even uploaded to porn sites. This act cannot be justified and be brought within the ambit of fair use; rather it should be termed as obscenity. This statement can be supported by the case of *Ranjit D. Udeshi v State of Maharashtra*²⁸, where the Supreme Court stated that 'an act would be considered obscene if it ends corrupting the moral fabrics of the person being exposed to it'.

In India, there is no specific legal framework for the offense of deep fake but there are certain provisions under the Indian Copyright Act 1957²⁹, the Indian Penal Code 1860³⁰ and the Information Technology Act (2000)³¹ that penalize the act.

²⁵ Betsy Rosenblatt, 'Moral Rights Basics' (*Harvard University*)

<<https://cyber.harvard.edu/property/library/moralprimer.html#:~:text=In%20the%20United%20States%2C%20the,of%20who%20owns%20the%20work>> accessed 16 March 2024

²⁶ Visual Artists Rights Act 1990, s 106 A

²⁷ Neeraja Seshadri, 'Implications of Deepfakes on Copyright Law' (*WIPO*)

<https://www.wipo.int/export/sites/www/about-ip/en/artificial_intelligence/conversation_ip_ai/pdf/ind_seshadri.pdf> accessed 16 march 2024

²⁸ *Ranjit D. Udeshi v State of Maharashtra* AIR 1965 SC 881

²⁹ The Copyright Act 1957

³⁰ Indian Penal Code 1860

³¹ Information Technology Act 2000

Remedies under the Copyright Act 1957: The Berne Convention which deals with the protection of works and the rights of their authors³² provides for certain moral rights requirements and in compliance with it, section 57 of the Indian Copyright Act deals with the ‘right to paternity and integrity’³³. Since deepfakes are believed to be mutilation, distortion and modification of a person’s work³⁴, the person who deployed such technology will be liable for civil and criminal liability as per sections 55³⁵ and 63 of the Copyright Act which provides damages, imprisonment, fines and other injunctive reliefs against infringers³⁶. Deepfakes with malicious purposes are arguably deterred by these provisions. However, they do not offer protection to deepfake created for fair use or with legitimate purpose³⁷

Remedies under Indian Penal Code 1860: Deepfakes can be tackled by the defamation laws in India. According to section 499 of the Indian Penal Code³⁸, an attempt by any person to publish any material against an individual to harm his or her reputation amounts to defamation and will be punished³⁹. And the creation of deepfake porn amounts to defamation as it is created with the sole intention to take revenge or defame the person. Also, section 292 of IPC forbids the sale, distribution, etc. of ‘obscene materials’⁴⁰ but its application is overridden by the IT Act⁴¹, which will be discussed in detail below.

Remedies under the Information Technology Act 2000: Section 67 of the IT Act impose criminal liability for publication or transmission of obscene materials in electronic form.⁴² The

³² ‘Summary of Berne Convention for protection of literary and Artistic Works’ (WIPO) <https://www.wipo.int/treaties/en/ip/berne/summary_berne.html> accessed 16 March 2024

³³ Copyright Act 1957, s 57

³⁴ Neeraja Seshadri and Sindhu A, ‘Are Copyright Laws adequate to deal with Deepfakes?: A comparative analysis of positions in the United States, India, and United Kingdom’ (*KSLR Commercial & Financial Law Blog*, 17 December 2020) <https://blogs.kcl.ac.uk/kslrcommerciallawblog/2020/12/17/are-copyright-laws-adequate-to-deal-with-deepfakes-a-comparative-analysis-of-positions-in-the-united-states-india-and-united-kingdom/#_ftn30> accessed 15 March 2024

³⁵ The Copyright Act 1957, s 55

³⁶ The Copyright Act 1957, s 63

³⁷ Seshadri (n 34)

³⁸ Indian Penal Code 1860, s 499

³⁹ *Ibid*

⁴⁰ Indian Penal Code 1860, s 292

⁴¹ *Sharat Babu Digumarti v Govt. (NCT of Delhi)* (2017) 2 SCC 18

⁴² Information Technology Act 2000, s 67

perpetrators of deepfake pornography will be liable for imprisonment up to 3 to 5 years or a fine as the circumstances of the case may be.⁴³ Also, section 79 of the IT Act which deals with intermediary liability⁴⁴ can be brought to action. Post the case of *Myspace Inc v Super Cassettes Industries Ltd*⁴⁵, the above-mentioned intermediary liability is imposed for copyright infringement as well. The court laid down that, 'In case of copyright infringement, intermediaries have a responsibility to take down infringing content when notified by private parties, even without a court order'⁴⁶. Consequently, it resulted in the harmonious construction of the provisions of the Copyright Act and Information Technology Act.

Remedies for Breach of Privacy: As in the case of *K.S. Puttaswamy v Union of India*⁴⁷ where the right to privacy became a fundamental right under Article 21 of the Constitution of India⁴⁸, 'information privacy' is also an important concept as it prevents the dissemination and control of access of such information by himself/herself. The Personal Data Protection Bill, 2018 which came after the *Puttaswamy* decision protects personal data such as photos, videos, etc. and the deepfake makers who use such personal data would be liable or guilty of personal data breach as the confidentiality is being compromised.⁴⁹

REGULATION OF DEEP FAKE TECHNOLOGY - NEED OF THE HOUR

Proper regulation is very much necessary given that the cases of deep fakes and copyright infringement are prevalent. Technological measures are to be implemented to curb this technological issue and one such technical measure is the 'Digital Rights Management' mechanism. They may not directly prevent deepfakes, but they definitely will mitigate their spread. The first Act that introduced the law regarding DRM was the U.S Copyright Act 1976⁵⁰.

⁴³ *Ibid*

⁴⁴ Information Technology Act 2000, s 79

⁴⁵ *Myspace Inc v Super Cassettes Industries Ltd* (2016) SCC OnLine Del 6382

⁴⁶ *Ibid*

⁴⁷ *K.S. Puttaswamy v Union of India* (2017) 10 SCC 1

⁴⁸ Constitution of India 1950, art 21

⁴⁹ Shruti Dhapola, 'Personal Data Protection Bill 2018 Draft Submitted by Justice Srikrishna Committee: Here is What it Says' *The Indian Express* (28 July 2018) <<https://indianexpress.com/article/technology/tech-news-technology/personal-data-protection-bill-2018-justice-srikrishna-data-protection-report-submitted-to-meity-5279972/>> accessed 15 March 2024

⁵⁰ US Copyright Act 1976

It was enacted to fulfil the standards laid down for copyright protection in the WIPO Internet Treaties such as the WIPO Copyright Treaty, 1996⁵¹ and the WIPO Performers and Phonograms Treaty, 1996⁵². The Copyright (Amendment) Act 2012, introduced anti-circumvention laws by inserting sections 65 A and 65B.⁵³ Thus ‘Digital Rights Management’ mechanisms such as encryption, digital watermarking, digital signature, etc. were employed to protect digital content⁵⁴ from unauthorized use. Strengthening the application of these mechanisms may protect the contents available online from being deepfake technologies to a great extent.

The digital watermarking employed by content creators can help to prevent unauthorized use. They are unique identifiers rooted in digital content such as images, music, and video files,⁵⁵ and they can be used to track and identify copyrighted materials, making it easier to detect their infringement/unauthorized use⁵⁶. This method was found effective in a study conducted by NIST in 2012.⁵⁷

REGULATORY MEASURES TAKEN BY DIFFERENT COUNTRIES

Deepfake technologies are indeed a threat to democracy as they spread wrong information whereby affecting national security⁵⁸ from national and international perspectives. Several countries have come up with various ways and legislations to curb the issue of increased deepfake content and copyright violations. The Indian Government has undertaken several

⁵¹ WIPO Copyright Treaty 1996, arts 11-12

⁵² WIPO Performers and Phonograms Treaty 1996, arts 18-19

⁵³ The Copyright (Amendment) Act 2012

⁵⁴ Sangharsh Pandey, ‘Changing Mechanisms in Copyright Ontology: Digital Rights Management’ Manupatra <<https://www.manupatra.com/roundup/328/Articles/digital%20rights%20management.pdf>> accessed 15 March 2024

⁵⁵ Adv. Syed Nihal P M, ‘FROM DIGITAL WATERMARKING TO CREATIVE COMMONS: CHAT GPT'S CONTRIBUTION TO COPYRIGHT PROTECTION’ (*Reflections*, 17 May 2023) <<https://reflections.live/articles/4043/from-digital-watermarking-to-creative-commons-chat-gpts-contribution-to-copyright-protection-an-article-by-syed-nihal-pm-9813-lhran2bx.html>> accessed 15 March 2024

⁵⁶ *Ibid*

⁵⁷ *Ibid*

⁵⁸ Samiya Choudhary, ‘Unmasking the Truth: The Rise of Deepfake and Its Implication on Society’ (2023) 4(1) Jus Corpus Law Journal <<https://www.juscorpus.com/wp-content/uploads/2023/10/10.-Samiya-Choudhary.pdf>> accessed 15 March 2024

regulatory measures⁵⁹ which include – MeitY and MHA keeping close contact with social media platforms under the provisions of the IT Act, 2000 to effectively remove objectionable content, initiatives such as ‘promotion of fact-checking’ and ‘Information Security Education & Awareness’ (ISEA) were introduced to educate the citizens to not to fall for and to refrain from sharing/spreading fake news.⁶⁰ These are the measures taken by the GOI to tackle the menace of these latest technologies.

In January 2024, the representatives of the United States proposed the ‘No Artificial Intelligence Fake Replicas and Unauthorized Duplications Act’ (No AI FRAUD), a framework that protects individuals from AI-generated fakes.⁶¹ The ‘digital depiction’ of any person without his/ her permission is also made illegal as per this new framework.⁶² In the UK, the UK Online Safety Act was passed in the year 2023, which made it illegal to share digitally manipulated explicit images or videos online.⁶³

These are the steps taken by the major countries. Many other countries too have come up with a variety of measures to regulate and control deepfake technology. We have already discussed the technological measures to be undertaken and the legal measures that are undertaken by the governments. Apart from that certain educational measures such as public awareness programmes to raise awareness about the prevalence of deepfakes should be incorporated.

CONCLUSION

New advancements in technology are very common in this era. Deepfake technology, as mentioned above, has brought its pros as well as cons to the digital world. Instead of utilising them fruitfully, they are being misused to an extent where world-famous celebrities and

⁵⁹ ‘Ministry of Electronics and Information Technology (MeitY) Lok Sabha Unstarred Question No. 2613’ (*Sansad*, 2019) <<https://sansad.in/getFile/loksabhaquestions/annex/172/AU2613.pdf?source=pqals>> accessed 15 March 2024

⁶⁰ *Ibid*

⁶¹ Aled Owen, ‘Deepfake laws: is AI outpacing legislation?’ (*Onfido*, 02 February 2024)

<[https://onfido.com/blog/deepfake-law/#:~:text=Deepfake%20law%3A%20EU,3\)%20of%20the%20proposed%20Act.](https://onfido.com/blog/deepfake-law/#:~:text=Deepfake%20law%3A%20EU,3)%20of%20the%20proposed%20Act.)> accessed 15 March 2024

⁶² *Ibid*

⁶³ *Ibid*

commoners set themselves out to fight legal battles against such perpetrators and copyright infringers. However, it is very important to note that the already existing regulatory and governance structure is not enough to control and manage the emerging AI technology. Although several countries have attempted to bring out measures to find a solution to this global issue, their effectiveness is still in question. The copyright infringer uses the loophole of 'fair use' as a defence and escapes the legal trial. Thus, it is very necessary to upgrade the present legal framework and strengthen the enforcement of copyright laws. Deploying the DRM mechanism can be considered a temporary solution to this issue but there is a need for a mechanism or software - which can easily detect deepfake content and this, will be an effective means to deter the unauthorised use of copyrighted material. To sum up, this research deals with the intersection of AI and deepfake and provides insight into the importance and the need for a more consolidated legislation that gives solutions to the existing technological challenges. Deepfake has become a global issue and its regulation is the need of the hour. Every technology, if used in the right way is extremely helpful and advantageous but exploiting those makes one fall into the deep trap of the internet web. Deepfakes, if not properly handled may lead to such trouble. And as a prudent citizen, it is very important to 'choose' what we believe. Always keep in mind that 'things are not always as they seem'.