 DOI: *https://doij.org/10.10000/IJLSI.111511*

INTERNATIONAL JOURNAL OF LEGAL SCIENCE AND INNOVATION

[ISSN 2581-9453]

Volume 4 | Issue 5

2022

An Analysis of the Implications of Artificial Intelligence on Gaming Sector

SAUBHAGYA SINGLA[1]

I. INTRODUCTION

According to Russel & Novig "AI is the capability of a device to perform functions that are normally associated with human intelligence, such as reasoning and optimisation through experience". Thus they can also be called as Intelligence Agents of the user, manufacturer or the software developer which not merely help them to carry out tasks efficiently but also to perform functions by themselves alone. Whereas, gaming in general sense refers to either gambling or playing video games on interactive software through the mediums on which this software is used like gaming laptops consoles like Sony's PlayStation, Nintendo's Nintendo switch or Microsoft Xbox etc.

The application or software that is analysed in this paper would be where AI is used in gaming which refers to responsive and adaptive video game experiences that is the intersection between the gaming and AI in order to implement these Finite State Machines are used to implement AI in various gaming software's. These AI-powered interactive experiences are usually generated via non-player characters, or NPCs, that act intelligently or creatively, as if controlled by a human game-player. AI is the engine that determines an NPC's behaviour in the game world like open world games like Batman Arkham series or God of war where the choice that the player make in the story mode or which gadgets or weapons is used to kill the final character AI is used continuously to make the game with thousands of algorithms which determines how the story goes next according to the player who's playing or open world online games like Fortnite or fall guys by epic games.

The issue arises when further AI is used to convert the appearance of the famous personalities among human being and or famous characters to which the companies own copyright is created by AI to include them into their NPC [non playable character] appearances in the video games for instance signature moves like Ronaldo's signature move after he scores a goal that is included in FIFA video game or Batman in Batman Arkham series, etc. Thus the grey area in which the research is based upon as to try and answer the question of liability of

[1] Author is a Student at Christ University, Bengaluru, India.

AI that is who will be liable for the acts of AI with respect of gaming industry.

II. LEGAL ISSUES

There are various legal issues where the AI is used for creating video games. The issues that would come up like in the open world games such as Fortnite created by epic games in that NPC [non playable character] and playable character can be customized as the personality of various individual or characters like LeBron James the famous basketball player from the Los Angeles Lakers team, Batman from DC Comics, Spiderman from Marvel comics and many more. The issue arises when these characters are licenced to the epic games or any other game developer as the question arises and when these characters are created in a fictional or graphical representation with the use of AI and inserted in the games then if any disagreement occurs regarding the appearance of the said characters then who will be liable whether the owner of the game production house, the creator of the software of AI which helps to convert real life human beings appearance in video games or the user of that software who is mere intermediary in this whole function. Further another issue can also be that the personality itself maybe unaware of their inclusion in the video game and a possibility that such inclusion may damage their personality rights. So in those cases whether they will have a right to sue or not is the question that remains un answered.

III. LIABILITY IN GENERAL

According to Salmond, "Liability or responsibility is that the bond necessarily that exists between the wrongdoer and therefore the remedy of the wrongdoer."

Broadly speaking the liability can be categorize into 2 categories that is Fault based liability and No fault Liability

FAULT BASED LIABILITY:

Fault-based liability means that a person is liable for damage caused by his or her own actions. Fault is often thought to be intentional, but this is certainly not always the case. It may be that someone does something by accident. "Fault" is a type of liability in which the plaintiff must prove that the defendant's conduct was either negligent or intentional, fault-based liability is the opposite of strict liability. All the other torts can be consider under fault tort including battery, assault, defamation, trespass, negligence, nuisance, intentional torts and etc.

NO FAULT LIABILITY:

The Rule of Strict Liability also known as The Rule of No-Fault Liability which means the individual might have the liability without being at fault. The person in this case may not have done any harmful or negligent act or may have put in some positive efforts, however, the rule claims him for compensation. That means the defendant or the doer will be held liable irrespective of presence of any negligence from his part. This can be classified into three categories that is strict liability, absolute liability and vicarious liability.

1. STRICT LIABILITY

It includes the liability where dangerous or harmful substances was in the premises of the individual and if that substance escapes in any manner and causes damages to other then liable for damages. This principle stands true if there was no negligence on the side of the person keeping it and the burden of proof always lies on the defendant to prove how he is not liable. This rule was laid down in the case of Rylands and Fletcher

2. ABSOLUTE LIABILITY

The rule of absolute liability, in simple words, can be defined as the rule of strict liability minus the exceptions. In India, the rule of absolute liability evolved in the case of MC Mehta v Union of India. This is one of the most landmark judgment which relates to the concept of absolute liability. The facts of the case are that some oleum gas leaked in a particular area in Delhi from industry. Due to the leakage, many people were affected. The Apex Court then evolved the rule of absolute liability on the rule of strict liability and stated that the defendant would be liable for the damage caused without considering the exceptions to the strict liability rule.

According to the rule of absolute liability, if any person is engaged in an inherently dangerous or hazardous activity, and if any harm is caused to any person due to any accident which occurred during carrying out such inherently dangerous and hazardous activity, then the person who is carrying out such activity will be held absolutely liable. The exception to the strict liability rule also wouldn't be considered. The rule laid down in the case of MC Mehta v UOI was also followed by the Supreme Court while deciding the case of Bhopal Gas Tragedy case. To ensure that victims of such accidents get quick relief through insurance, the Indian Legislature passed the Public Liability Insurance Act in the year 1991. Plainly absolute liability is exception minus strict liability, it is a more stricter version of strict liability.

3. VICARIOUS LIABILITY

Vicarious liability means the liability of a person for an act committed by another person and such liability arises due to the nature of the relation between the two that is usually in the cases of principal and agent that means if the act is committed by agent it is deemed to be committed by the Principal himself and he shall be liable to compensate the aggrieved party.

IV. AI AND LIABILITY [GAMING SECTOR]

Ascertaining liability, civil and criminal, for damages or losses resulting from activities of an AI is a matter of priority, as it exercises control over itself in various degrees. The liability of AI is subjected to whether the status of personhood has been given to him or not. Person refers to judicial or artificial person who is subject to certain rights and liabilities not humans. Any entity which is granted legal personhood under the law is capable of being entrusted with certain rights and duties. Thus, the question as to if legal personhood should be granted to AI may be an advanced solution to our current liability issue.

However if personhood is given or not given to AI it give rise to two situations where liability can be imposed:

1. When personhood is given then AI itself
2. If not given then the liability to shifted to either the user of that software, manufacturer of that software or the developer of that software

Since personhood is not given any act which is done by AI in the gaming industry or general the liability is shifted upon the user, manufacture or the software developer of that AI

For Instance: Suppose you are playing a Fortnite game by playing the character of Dwayne Johnson but through customization of AI if the user customize that character and makes fun of it then Dwayne Johnson himself can file suit for infringing his personality rights under copyright but the issue here arises is that against whom he'll file the suit whether against that player[user] who is playing the game, that manufacture of the game[epic games] or the software developer in employee former or current who build the software or AI to enable such customization.

In this situation if the theories of liability is looked into then Fault Based Liability will come into picture and after ascertaining the liability of the person who's liable then liability will be imposed.

Black-Box Paradox

A common problem foreseen by the legal systems is that many companies use AI-powered models based on the ideology that interpretability must be sacrificed for accuracy. These black-box models are created directly from data by an algorithm which means that even the developer of the code cannot interpret how these variables are combined to reach the predicted output. The human mind and the neural networks in an AI do not function in the same manner, thereby, even if all the variables were listed out, the complex functions of an algorithm could not be dissected.

In simple language Black Box is a problem where the user or the software developer knows the input and output which he has put in the software but the process through which AI has reached the solution is not known as it depends upon various Artificial Neural Networks learning from each of the nodes in the neural networks hitting one another. Thus, sometimes the reason for which the AI was created by the software developer may not be reached by the AI since, the process while reaching the decision by the AI is not disclosed.

Such a paradox exists as, under English law, a claimant seeking remedy must show factual causation as well as legal causation. Both, the facts showcasing the AI's illegal actions as well as the immediate injury or damage caused due to such illegal actions to the aggrieved party must be shown. In criminal cases, the actus reus and mens rea must be determined. As there is no way of understanding the internal processing of data in the AI, ascertaining the mental element is impossible.

In some cases, however, even the human mind has exhibited certain 'black box' functions where actions taken by such a human could not be justified for any reason. Previously, courts have held humans responsible based on fault-based liability in such cases. Nevertheless, one can conclude that only a legal entity can be subjected to such sanctions.

Another instance where AI is used in the famous game of Mario by Nintendo where the double jump made by Mario is basically done by AI by finite method. In this case the author has observed that the multi-jumping AI in Super Smash Bros, melee is not optimal, in that there are situations in the game where the AI will consistently select a multi-jump that fails to cross a gap even though such a multi-jump is possible. The more recent games in Nintendo's Super Smash Bros. series feature better, but still not optimal, multi-jumping AI. Due to the online nature of Super Smash Bros. for Wii it is possible that the AI in this game could be improved in a future update. While multi-jumping is a common feature in video games, the only games we could find that feature real-time multi-jumping AI are the games in the Super

Smash Bros.TM series.

In reality, platforms have finite length as the use of infinite length platforms only to justify the correctness of our player and AI strategies, and if our strategies would cause a character to overshoot a finite-length platform, the same strategies could be applied to land successfully on such a platform by either lowering the horizontal velocity of the character or by initiating the multi-jump earlier, i.e., farther to the left. Thus, if there is any glitch where Mario is not jumping then the user or gamer can sue the company or software developed based upon the fault liability.

V. AI AND COPYRIGHT ACT

Copyright refers to the Intellectual Property Rights given to the owner of that work for his hardship and creation. The important criteria here is that the copyright which is given over the work should be original in the aspect as it is not merely a mechanical copy of other existing work to which copyright is there or not.

AI comes into the picture of copyright when the personality rights are being affected by a person by the use of AI or the rights of work of copyright holder is infringed.

MORAL RIGHTS:

Moral rights finds expression in Section 57 of the Copyright Act, 1957 which is in accordance with Article 6 of the Berne Convention. They are the author's or creator's special right which includes the right to paternity and the right to integrity.

The right to paternity is the right of the author to claim authorship over his work and have it attributed to him. On the other hand, the right to integrity permits the author to restrain or claim damages in the event of any distortion, mutilation, modification or any other untoward act done to his work. However, it is essential that such act in question should prejudice the honour and reputation of the creator or author and such act should be done before the expiry of the term of copyright in the work.

Further Moral rights are also referred as one of the personal rights that show a relationship between the creator and his work. They give control over the creation of work of the creator or the original owner of the work. They do not give any direct financial benefit to the author of the work but give them right to protect their work even after the assignment or licence of the work if the work according to author has been distorted, mutilated or modified in such a

way that would be prejudicial to the honour or the reputation of the author of the work. They help to avoid modification or alteration of the content. Moral rights preserve the integrity of

the author's work. Section 57 of the copyright act states the author's special rights including the moral as well as paternity right.

This can be used by the software developer of the game that is if after the AI is enabled in the game and then the manufacturer or user is using it for such purposes that it hurts the honour of the software developer even if the rights over the game has by the manufacture, then the developer can exercise his moral rights and paternity rights contained under section 57 of the copyright act.

DEEP FAKES:

Deepfake stems from combination of 'deep learning' and 'fake' and is product of artificial intelligence applications that merge, combine, replace and superimpose images and video clips to create fake videos or pictures that appear authentic. Deepfake technology merely does not swap faces of the person in the videos or photos but creates such photorealistic results which make it very difficult to differentiate between fake and reality. Owing to the avid technology and vast connectivity on the social media platforms, it becomes very difficult to check the authenticity of the news and control the spread before it reaches hundreds and thousands of people.

Deepfake algorithms employ deep learning models such as auto-encoders and generative adversarial networks to examine facial expressions and movements of a person and synthesize facial images of another person making analogous expressions and movements. Researchers have identified that deepfake content majorly falls into three categories:

(i) Face Swap, in which the face in a video is automatically replaced with another person's face;

(ii) Lip-sync, in which a source video is modified so that the mouth region is consistent with an arbitrary audio recording;

(iii) puppet-master, in which a target person is animated (head movements, eye movements, facial expressions) by a performer sitting in front of a camera and acting out what they want their puppet to say and do.

This new artificial intelligence technique does have many legitimate and creative prospects such as protecting real patient privacy by creating virtual patient thereby removing the need to share personal data of real patients, generating live-action animation and interactive simulation, recreating classic scenes in movies, creating new movies starring long-dead actors, making use of special effects and advanced face editing in post-production, improving

amateur videos to professional quality in movies, transforming e-commerce by turning consumers themselves into models for improving sale and there can be various other additions to this list.

It can be used in gaming industry as where characters such as batman, superman or any other famous character or personality's face is used in the game without any consent from its copyright or trademark holder that is Detective Comics in this instance. Through the use of AI and deepfake the character face or the face of famous personality is so used that it seems like the face of NPC character is the same of that famous personality and copyright holder. Thus face is swap and copyright or personality rights infringement take place by AI.

The remedy can be seek under Section 51 of the copyright act as it lays down the performance of the acts that lead to copyright infringement of the protected work. Thereby any person or organization attempting to make deep- fakes of photographs, visual recording or sound recording and publish on internet without any authorization of the copyright owner shall be liable of copyright infringement. Where copyright in any work has been infringed, the owner of the copyright shall be entitled to all remedies by way of injunction, damages, accounts and other- wise as are or may be conferred by law for the infringement of a right. But if the suit or case is filed against AI the problem is again that whether personhood status has been given to it or not as if not that AI itself cannot be held liable but on the basis of fault theory its user, manufacturer or software developer or even in this instance or any service provider under Information Technology Act,2000 can be held liable for using deep fakes in gaming

DEEPFAKES UNDER INFORMATION TECHNOLOGY ACT:

Through the way of amendment in section 79 of Information Technology Act, 2000 a separate provision and regime for intermediaries was created. Intermediary Guidelines Rules, 2011 provide that an intermediary would be required to inform users by including in its user agreement or terms and conditions to not host, display, upload, modify, publish, transmit, update or share any information that infringes any patent, trademark, copy- right, or other proprietary rights.

PERSONALITY RIGHTS:

Identity is sufficiently similar to other objects the law regards as property and therefore deserves at least some of the sticks in the traditional bundle of property rights. These property rights are enunciated in the umbrella head of personality rights however, protection offered to the personality rights is not covered in detail in Indian laws. The Courts in India have

recognized right to publicity that vest in public figures who have acquired a status and personality which grants commercial value to their individual persona.

In India, the closest statute to protect personality rights of an individual is Article 21 of the Constitution of India under right to privacy and right to publicity. There is no specific statute or law that protects the personality rights of an individual in India per se.

Situations where a personality rights is violated by AI in gaming for instance in the game of Fortnite open world online RPG by Epic Games the personalities of famous public figures are used as NPC or skin that can be applied to NPC so that the user [gamer] can customize them.

This right is violated that is privacy and publicity which is part of personality rights when AI after using them implements them into the game in such a way that violates their rights

For instance: The personality of LeBron James the famous basketball player of the team Los Angeles Lakers is used in Fortnite and while converting the personality of him into the game through AI the personality traits or body of him is not according to real life then AI is said to be infringe the personality rights of the player

The major damage in personality right cases is caused due to misappropriation of their personality thus, violating their right to privacy and right to publicity. Owing to the influence of such people and adding to the fact that their appearances in games can be easily done by AI they are more exposed to their infringement of their rights which can be used to deliver an altogether different message to the general public about their personality. The person whose personality rights is infringed can ask for the claim for injunction against misappropriation of their personality and reputation for unauthorized advantages against AI or its user, manufacture or software developer.

VI. Conclusion

It is rightly said by John McCarthy that AI is the process of making intelligent machines which involve the science and engineering in it but the benefits of the ultimate result that is AI can only be reached if it is used for right purposes. AI has unlimited application but with its power, the liability of it also increases talking in respect to specific gaming industries as stated above in the paper AI is used to create NPC character but when that character is given the identity of famous personality then the problem arises. Further with the help of deep fake technology used by AI the character or face of the NPC can be changed and make it look like it is the original game or from original developer or if not original game then the personality rights again come into picture. As discussed above the main question is as to who will be

liable in any of these situations as since personhood status to AI that is artificial person is not given to it thus, an AI cannot be subjected to the rights and liabilities but the imposition of liability or punishment is shifted towards either the user of AI, its manufacturer or the software developer. Through Fault Based Liability after ascertaining whom should the liability be imposed among three or all three should be liable to compensate the aggrieved party. Even if there is no fault of any of them the Black Box problem is still pertinent to AI as to how AI has reached that algorithm which is not input or output as predicted by the user. The solution to it can be that explainable AI can be created that is where AI gives the explanation as to why it created or came to such solution or outcome which will make AI more reliable and acceptable among user but that is a hypothetical situation which still needs a lot of work.

*****

VII. REFERENCES:

1. Use of AI Techniques in Serious Games: Decision Making and Machine Learning,M. Frutos-Pascual and B. G. Zapirain, "Review of the Use of AI Techniques in Serious Games: Decision Making and Machine Learning," in IEEE Transactions on Computational Intelligence and AI in Games, vol. 9, no. 2, pp. 133- 152, June 2017, doi: 10.1109/TCIAIG.2015.2512592.]

2. Playing first-person shooter games with machine learning techniques and methods using the VizDoom Game-AI research platform, Adil Khan,Volume 34,2020,100357, ISSN 1875-9521,

3. Administering Artificial Intelligence, Alicia Solow-Niederman, Administering Artificial Intelligence, 93 S. CAL. L. REV. 633 (2020).

4. Optimizing the Video Game Multi-Jump: Player Strategy, AI, and Level Design, Aaron M. Broussard, Martin E. Malandro and Abagayle Serreyn, The American Mathematical Monthly, Vol. 123, No. 10 (December 2016), pp. 1013- 1032, Taylor &Francis, Ltd. on behalf of the Mathematical Association of America,

5. T.T. Nguyen and others 'Deep Learning for Deepfakes Creation and Detection [909.11573, 1-16 (2019).

6. Shruti Agarwal and Hany Farid, 'Protecting World Leaders against Deep Fakes' (2019) CVFR Workshop Paper, 38–45.

7. Geraint Rees, 'Here's How Deepfake Technology can Actually be a Good Thing' World Economic, Forum, (25 November 2019)

8. Aaron M. Broussard, Optimizing the Video Game Multi-Jump: Player Strategy, AI, and Level Design, The American Mathematical Monthly, Vol. 123, No. 10 (December 2016), pp. 1013- 1032

*****