PROTECTION OF AI CREATED WORKS UNDER IPR REGIME, ITS IMPACT AND CHALLENGES: AN ANALYSIS

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Abstract

Artificial Intelligence (AI) is one of the upcoming fields of computer science which deals with the development of intelligent tools and techniques for accomplishing different tasks that require effort and intelligence of a human being. It is considered as one of the biggest achievements, which has the potential to revolutionize diverse aspects of life. The concept of AI can be read together with Intellectual Property (IP) as it refers to the developments of the mind which include literary works, inventions, designs, trademarks etc which are governed under different laws. AI can create different types of IP assets and assist in its management including licensing of the invented creations, enforcement, analysis and so on.

The issue that has been raised at multiple platforms is with regard to the use of AI and its impact on IP as there are high chances of exploitation of those assets along with other legal and ethical challenges. The ownership of the creations, patentability, protection of data and information, infringement of symbols or any other copyright issues etc have become issues of concern which require careful consideration and proper analysis. On one hand, AI is playing a huge role in creating advanced types of IP assets which is effective in developing diverse business models and on the other hand, it can be seen that it is creating issues concerning ownership, patentability, infringement etc. which is having an impact on the Intellectual Property Rights (IPR).

This paper aims to analyse the challenges raised by AI with regard to the developments in the IP sector and infringement of IPR along with its legal and ethical implications. The research will focus on the impact of AI on IPR and the issues arising out of the interventions by AI tools in IP assets. The policy frameworks which are required to address such challenges and bring in effective alternatives will be discussed in the paper along with the recommendations to be provided to the policymakers, legal scholars and other professionals.

Keywords: AI- generated inventions, Copyright, IPR, IP assets, Patentability

Introduction

In this digital era, Artificial Intelligence (AI) has become an indispensable tool which is utilized for technological applications in almost every part of the globe. It has become helpful in automating different activities undertaken by human beings and has minimized the intervention of individuals to make it more efficient and reduce the errors in it. AI has now been recognized globally in innovation and creativity playing a significant role in diverse fields and sectors. The increasing intervention of technology has resulted in the creation of machines which have human-like skills and can be used to make the work of humans easier. The incorporation of AI tools has opened up different opportunities and has facilitated people to focus more on strategic work and other novel techniques.

The rapid development of AI has increased various challenges along with opportunities especially in the area of Intellectual Property (IP) which deals with the creation of new inventions.[2] In the legal sphere, AI has

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2. Ayodele A. Adewole, International Intellectual Property System and the Challenge of Artificial and Monkey Intelligence, 1 IRLJ 183 (2019).

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created a great impact on different types of IP which includes copyright, patents, designs, trademarks and trade secrets. While dealing with certain critical tasks involving huge data, conducting legal research, analysis of documents etc, it is easier to rely on AI tools rather than traditional methods to ensure effective completion of work.

An Overview of AI and its Intersection with IP

AI is one of the important tools generated recently to ensure smoother and faster development of different creations and to make the tasks easier in any field. The intersection of AI with IP needs to be discussed as it concerns the rights and duties of each party involved in it along with the issues of ownership. AI tools and techniques have gained an enhanced significance with the changes in the society and the patentability of AI generated inventions have become an issue of concern. The introduction of AI technology has helped in the overall transformation of certain industries which is paving way for innovations and other novel developments.[3] Patent protection for AI developed products can help in advanced AI research and development whereby legal rights can be provided to exclude others from making use of it. However, if such protection is made available and if the inventions made using AI get patented then it becomes difficult to incorporate and manage it along with human inventions and inventors. It can result in a different and new form of inequality which might create disturbances in the overall AI and patent systems.[4]

The manner in which patentability applies varies based on the legal framework adopted in each country. Some countries have accepted the patentability of AI generated inventions if the criteria and guidelines of patentability have been fulfilled. However, in some other countries, only human inventions are considered to be patentable and ensure that all the necessary elements of a patentable product are being fulfilled which includes novelty, industrial applicability, utility etc. When AI interacts with IP, it can be seen that apart from the positive outcomes arising out of it, there are various con-

sequences resulting from it which is having an impact on both AI development and IP frameworks. In *Gaurav Bhatia v. Union of India*,[5] it was held by the courts that the inventions made through AI can be patented if they are able to meet the requirements of novelty, application in industry and non-obvious nature of the invention as per the conditions made available under the Patent Act.

Whenever there is a new invention, it is important to identify and acknowledge the same and to ensure that it is not violative of any existing invention of previous creation. Since novelty is one of the important elements which need to be considered for any invention, it is highly recommended to have an invention which has a distinct feature of its own. The issues of infringement and utilization of online content for other purposes is one of the challenges which require immediate redressal for implementing the advanced tools and techniques into the system.

Legal Implications of IPR for AI Generated Innovations

AI generated innovations are evolving continuously and are becoming a topic for discussion in various issues of ownership of AI generated inventions. It is a known fact that AI can be used for creating inventions which are unique and have novel features, however, there is always one aspect which remains unanswered which is its ownership. The lack of clarity with regard to the inventor of AI generated inventions is an important issue as they are not sure if AI should be given the title of inventor, or the person involved in it or any other organization which has control over the AI system. The main question as to whether Intellectual Property Rights (IPR) can be assigned to AI outputs was raised from time to time since the IPR regimes across the globe including India did not imagine a situation where machines start functioning as humans.

In India, the legal framework concerning IPR can be seen in the Copyright Act, 1957 and Patent Act, 1970 where it mentions the rights made available through

3.   Zihang Lan, From Animals to Artificial Intelligence: Non-Human Beings' Intellectual Property Protection by "Judicial Capacity for Copyrights", 13 Beijing L. Rev. 697 (2022).

4.   Natalia Opolska & Anna Solomon, Intellectual Property Rights to Objects Created by Artificial Intelligence, 2021 LAW REV. KYIV U.L. 207 (2021).

5.   Gaurav Bhatia v. Union of India, CS(OS) 2563/2013.

copyright and patent inventions. As per Section 13 of the Copyright Act, 1957, certain criteria are mentioned to check the originality of the content[6] and while dealing with AI inventions, it is important to analyze if it fulfills the criteria mentioned under it. In various instances, it has been mentioned that originality of the content is the intellectual effort which is furnished by the humans where the creative process involved behind the invention need to be considered. Similarly, with regard to patent inventions mentioned under the Patents Act, it can be seen that the AI inventions lack inventive step which is considered as an important element under the patentable products.

Adoption of IP

In Infopaq International A/S v Danske Dagbaldes Forening[7], the European Union court mentioned about the "author's own intellectual creation" while dealing with the validity of original works which are eligible for copyright. Even though AI has gained a lot of importance, it is not completely accepted as an original work since there is no involvement of human beings. Similarly, in *Acohs Pty Ltd. v Ucorp Pty Ltd*[8], the same issue came before the Australian court where the question of granting copyright to an AI generated content came up. The court held that copyright cannot be granted for any other work produced by any instrument unless and until there is some kind of involvement of humans. Such case laws mention the significance of products being created by humans and any kind of recognition concerning IP can be given only when there is human invention. In addition to such findings, it has also been stated from a different perspective that the works which are generated by AI should not be owned by any person or organization and it has to be considered free. Such an approach will be beneficial for the public; however, it will be difficult to incorporate it into the existing system as the companies will not be ready to accept such a concept.[9]

The adoption of IP can be seen globally with different legal frameworks in each country based on the manner in which the systems function. In India, while dealing with AI generated works, it can be seen that there is no inclusivity in such frameworks due to which there is no proper regulatory framework. As per Section 2 (d) of the Copyright Act, 1957, an author has been defined as a "person who causes the work to be created"[10] and this person includes a human or legal person. If this definition is analyzed, it can be seen that AI systems are completely excluded from the definition of author as it cannot be brought under the head of a person. A legal doctrine which was adopted from the United States, which mentions the concept of fair use can be discussed with regard to AI generated work where it specifies that the copyrighted material should be used in a limited manner and even without permission in certain special circumstances. The nature and purpose of the works created by AI helps to determine if such works needs to be considered or made eligible as fair use of the products.

Critical Analysis on the Impact of AI on IPR

AI focuses on utilization of modern technologies to reduce the effort of humans and simplify their tasks especially in businesses and organizations. IPR provides the rights to the creators of a certain product, process or any other novel aspect and ensure that such right is not being violated by any other person or organization. Since AI inventions pose a threat to the existing inventions of humans, it might appear as to AI being superior to humans in different spheres. Since the influence of AI tools is increasing with time, it has become difficult to regulate the process and balance the same through well-structured mechanisms. The protections made available through different IP tools can be effectively implemented and managed only if there are well-established systems which can manage the changing aspects in the respective fields. In such critical instances, it is important to take the appropriate safeguards which can address the legal challenges which are associated with the changing technology in the society. The developments and inventions of individuals across the globe

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6. Section 13, Copyright Act 1957.

7. Infopaq International A/S v Danske Dagbaldes Forening (C-5/08) EU:C: 2009:465 (16 July 2009).

8. Acohs Pty Ltd. v Ucorp Pty Ltd, [2012] FCAFC 16.

9. Soaham Bajpai, Artificial Intelligence and Its Creation: Who Owns Intellectual Property Rights?, 10 GNLU J.L. DEV. & POL. 152 (2020).

10. Section 2 (d) of the Copyright Act, 1957.

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need to be equally identified and acknowledged rather than prioritizing AI inventions since there has to be a proper balance ensuring the participation of people in the creation process.

In *South Asia FM Limited v. Union of India*[11], it was held that a song created using an AI system cannot be considered for copyright protection as there was no involvement of humans and no creativity was involved which is one of the essential elements of providing the protection. On similar grounds, it was held in another case that whatever inventions are created using computer programs or software cannot be considered as an invention under IP as it is something which is something that cannot be invented by a person.[12] Such cases show the need to have particular rules and regulations for maintaining the creation processes and to have clarity with regard to the legal frameworks existing with regard to the same. In general AI generated inventions are not accepted as an invention under IP even though people are highly influenced by the features available in the system along with the simpler mechanisms involved in it to make the tasks easier.

Copyright protection of AI created works

While dealing with AI tools and other applications, it is important to look into copyright challenges as it is one of the issues that can arise as soon as there is a generation of any new content using AI tools. Since AI has the ability to develop huge content there can be copyright issues as there is a higher chance of duplication of content and it becomes easier to reproduce copyrighted content including images, music, videos etc. If the AI powered systems are analyzed, it can be seen that those systems can copy different works even without the permission of the owner.[13] When such issues arise, it becomes difficult to recognize the original work and the copied content. The question which comes up with regard to copyright is whether the contents created with the help of AI can be copyrighted. In certain countries like Spain and Germany, it has been mentioned in the legal framework that only the works and contents which are created by human beings can be protected with the help of copyright. In *Ferid Allani v. Union of India*[14], the same question was asked as to whether the AI generated works can be made eligible for copyright protection as per the rules and regulations in the India legal framework. The concepts of ownership and authorship have been found to be really significant in such cases where they had mentioned the complications that may arise if the AI generated works are provided with ownership. They also discussed the need to acknowledge the individuals involved in the creation process or those who were part of providing the instructions to the system which is in existence. This will further enhance the system, and it aligns with the developing AI generated system as human intervention is identified and acknowledged within the system.

Patentability of inventions by AI

Patentability of inventions and the intervention of AI in such developments has become an issue of concern which needs to be addressed and resolved in an effective manner. A patent is given for a new invention which has to fulfill certain guidelines in order to consider it under the heading of patentable products. The patentability of AI- generated inventions are determined in the European Union by the European Patent Convention (EPC) in which a particular criterion is mentioned for patentability. As per the suggestions given by the European Patent Office (EPO), the AI generated inventions can be patented if it fulfills the criteria required for patentability.

The essential aspects that are considered for patentability are novelty and non-obvious nature of the product. In Japan, there is a separate legislative framework developed to incorporate the patentability aspects which is the Patent Act.[15] As per the Act, similar to the existing guidelines, it has been said that if the product is new, involves an inventive or creative step of the inventor, and can be used for industrial purposes then the inven-

11. South Asia FM Limited v. Union of India, AIRONLINE 2018 MAD 1839.

12. Nippon Steel Corporation v. Union of India, W.P. (C) 801 of 2011.

13. Gabor Szilagyi & Judit Gyarmathy, Emergence of Digitalization and Artificial Intelligence in the Intellectual Property System, 3 INSTITUTIONES ADMINISTRATIONIS - J. ADMIN. SCI. 122 (2023).

14. Ferid Allani v. Union of India, W.P.(C) 7/2014 & CM APPL. 40736/2019.

15. Kateryna Nekit, Vira Tokareva & Volodymyr Zubar, Artificial Intelligence as a Potential Subject of Property and Intellectual Property Relations, 9 IUS HUMANI, REVISTA dE DERECHO 231 (2020).

tion can be patented. The Japan Patent Office (JPO) has the main authority to determine the patentability of the products and ensure the fulfillment of the criteria for the same.

AI and Trademarks

AI is considered a tool for assisting businesses and enabling the functions across various devices and systems. It can be used for better detection of any unauthorized use of contents including trademark online concerning businesses. Trademark is mainly used for connecting branding with consumer buyer behavior where unique trademarks are created for each product or business to attract consumers from different levels. The growth of AI has reduced the relevance and significance of certain traditional aspects and people have moved to utilizing AI means for conducting businesses and managing different sectors. The online platforms which are developing with time are using AI tools extensively to show the desired products to consumers based on their search history. Such techniques are found to be beneficial especially for the growth of businesses and other organizations which are dependent on consumer response and their involvement.

In *M/S Kibow Biotech v. M/S Registrar of TradeMarks*[16], it was held that AI cannot be considered as a proprietor or owner of a trademark as per the application of Trademarks Act, 1999 in India. As per the laws provided under the Act, it has been stated that only one person can be made eligible for registering the trademark and AI is not qualified under it to register the trademark. Similarly, in *Dr. Alaka Sharma v. Union of India*[17], the court discussed the trademark to be granted to an AI generated painting. It was held that such a painting does not fulfill the eligibility required to be considered as a trademark as it does not have a distinctness and unique feature of its own. The initial steps to be taken to incorporate trademarks which are generated using AI is to introduce legal frameworks which can regulate such changes, developing separate systems for addressing issues concerning ownership, and enhancing the examination of trademark.[18] As there is continuous progress into the digital age, there has to be better integration of the laws concerning AI and trademark in order to foster innovation and ensure that the rights of the inventors are protected.

AI and Design

The impact of AI technology can be seen in the design sector, leaving those involved in designing wonder whether AI will replace and transform design. AI generated art has taken over online websites and platforms, which is greatly influencing the people, especially the present generation.[19] A design can be described as the aspect which constitutes the visual features of a particular product. In an industrial design, the functionality of the product is looked at in addition to the appearance of the product. The intersection of industrial design and AI has resulted in a new era of creativity along with a range of legal considerations.[20] As AI is contributing to design creation, it is important to clarify the ownership of designs similar to other IP tools and techniques. This issue can be addressed by the designers and AI developers by looking into the origin of datasets which are used to train the models of AI.

Pros of Incorporating AI into IPR

While dealing with AI, apart from the challenges raised, it is important to look into the manner in which AI can contribute towards increasing the efficiency of different sectors. A series of initiatives has been developed with regard to AI systems which is helpful for the effective development of AI technologies. AI powered systems can help in improving the search for databases and it becomes easier to get accurate data through such structured frameworks. The technical information and other documents required for better assessment can be analyzed in an effective manner and methods to prevent any violation or infringement can be incorporated.

Minimizing risk and increasing efficiency

One of the important benefits of utilizing AI is minimizing the risks or errors which may arise during any process and increasing the efficiency of the system. AI

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16. M/S Kibow Biotech v. M/S Registrar of Trade Marks, 2021.
17. Dr. Alaka Sharma v. Union of India, SECOND APPEAL No. - 192 of 2007.
18. W. Keith Robinson, Enabling Artificial Intelligence, 60 HOUS. L. REV. 331 (2022).
19. A. D. Reiling, Courts and Artificial Intelligence, 11 IJCA 1 (2020).
20. Anushka Dwivedi, Convergence of Artificial Intelligence with IP Laws, 3 JUS CORPUS L.J. 791 (2022).

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software and tools can identify and analyze huge data and suggest effective remedies based on the nature of the instances. The objections which may arise with regard to any invention can be identified at an earlier stage through analyzing the description of the data, rights concerning the application and so on. In *MySapce Inc v. Super Casssettes Industries Ltd*[21], there was a discussion on the manner in which AI tools were utilized to enhance the existing system and provide proper remedy based on the nature of the case. Here the AI generated algorithm was used in order to identify the contents which were copyrighted and eliminate the same from the social media platforms. It was held by the court that such use of AI tools cannot be considered as a violation or infringement under the Act as there is no reproduction of the copyrighted material and hence it falls under the legal sphere of those which can be accepted under copyright law.

Driving insights and development

AI software can be utilized for brand creation and also for creating accurate data and conducting thorough examination processes of the systems. AI tools are effective in developing new ideas and incorporating the same into appropriate devices along with removing the counterfeit goods. While dealing with the issues of IP right holders, one common issue that can be seen is the rise of counterfeit goods in the market. AI based solutions can be adopted in such instances in order to find the right remedy and identify the counterfeit goods in different sectors.

AI and IPR- Future Prospects

The legal and ethical issues concerning the ownership of AI generated IP can be analyzed with the help of cases where the question of ownership has been raised. In *Thaler (Appellant) v Comptroller-General of Patents, Designs and Trademarks*[22], there were two British patent applications made for two inventions by the appellant which was created by an AI machine termed as DABUS. In this case, DABUS AI system created a food container and a light beacon which were placed for patent approval. Here it was held that under the existing patent law, an AI system cannot be considered as an inventor and the ownership of AI generated IP need to be considered separately along with particular guidelines governing the same. Similarly, in the Edmond de Belany artwork case,[23] an AI system was used to create a portrait and it was sold in an auction. While it was sold, various questions came up regarding the ownership of the artwork which was created using AI technology and systems. Since the artwork was created by a French art collective, it was considered as the creator of the work and the questions concerning the role of the AI system were left unanswered. In the creation of IP, AI gains more prevalence and it becomes important to address such challenges concerning ownership to ensure that AI benefits are recognized and the rights of IP owners are given sufficient protection.[24]

While dealing with the aspect of the future of IPR, various questions can come up with regard to the role of humans in the process of invention and regarding the rights to be given for the invention of the products. It is important to reassess the laws and regulations of IP tools in order to understand the future of AI and IPR and accommodate the inventions of AI without interfering or taking away the inventions of humans.[25] In this period of rapid innovations and technological advancements, the involvement of AI in the invention process provides a captivating sight into the future.

Ethical Considerations and Issues

Developments concerning AI and its infringement of rights concerning IP has raised various legal issues along with ethical challenges. One of the major issues concerning AI-based content creation is the high chance of plagiarism and violation of rights of the original inventor which lead to problems with regard

21. MySapce Inc v. Super Casssettes Industries Ltd, C.M. APPL.20174/201.

22. Thaler v. Comptroller-General of Patents, Designs and Trademarks, 2021/020.

23. Portrait of Edmond de Belamy Case (2018).

24. Vladislav V. Arkhipov, Victor B. Naumov & Kseniia M. Smirnova, The Limits of Automatic Decision-Making Based on Artificial Intelligence in Cases That Have Legal Significance, 2021 VESTNIK SAINT PETERSBURG U.L. 882 (2021).

25. A. Amarendar Reddy, Human Rights vs Artificial Intelligence, 4 INDIAN J.L. & LEGAL RSCH. 1 (2022).

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to originality and fair use of contents.[26] Novel tools and innovative IP strategies need to be incorporated in order to resolve issues arising out of AI-generated counterfeit products. The abuse of AI needs to be reduced and rights of content creators need to be protected in order to ensure a harmonious functioning of AI and IP. The potential misuse of AI generated inventions is one of the challenges which need to be addressed as there is a high possibility for biases and unnecessary fairness towards such products. As the whole world is running behind such easy measures and tools, it has become difficult to understand the actual novelty in different inventions coming up in the market. In *Anuradha Bhasin v. Union of India*,[27] there was a discussion that was raised with regard to the internet shutdown which happened in Jammu and Kashmir. It was observed by the court that any kind of use of AI in content moderation would result in different types of biases and discrimination and there has to be proper systems to prevent the same in their respective domains.

The future of IPR and AI will continue to have challenges as the convergence of these two concepts invites different questions on ownership of an invention which is a critical concept. One of the major issues that is in existence is the lack of legal clarity where the current IPR laws are not able to resolve or find a framework for better functioning. Various ambiguities and legal disputes are coming up due to the vagueness in the laws that are in place. In addition to it, since AI systems have high reliance on data there might arise issues of data security and privacy resulting in conflicts with other IP considerations. If a proper AI system which balances the IP inventions needs to be developed, there has to be an effective regulatory framework developed by the government and international organizations for addressing the IP challenges concerning the inventions of AI. The impact of AI on IPR needs to be conveyed and a proper awareness needs to be given in order to train professionals and give a clear understanding on AI and IP tools and regulations. In addition to it, an ethical system needs to be developed by incorporating ethical guidelines for the use of AI and maintaining innovation and creativity within the system.

Since the legal implications of AI generated works need to be addressed, certain steps have to be taken with regard to different aspects beginning with updating the laws concerning IP in order to align with the changes and developments happening in AI technology. The challenges arising out of AI generated content need to be addressed including copyright ownership, fair use of the contents in the digital era. While updating the existing laws, it is also important to create separate criteria for the works which are AI generated so that it can be acknowledged separately from other traditional copyrights.[28] Even though there is no specific law developed for it, AI generated works can be mentioned under a separate head. The implementation of governance policies along with the implementation of data usage is another step which can be taken in which different compliance mechanisms can be incorporated to ensure the proper use of materials which are copyrighted. In addition to it, expert officers can be appointed to take the required measures and implement the laws that have been developed in this regard.

Conclusion and Suggestions

The developments in technology have resulted in diverse changes across the globe in multiple disciplines which have had a positive and negative impact on IP fields. AI generated inventions are gaining great significance nationally and internationally and it has influenced people as it is easier to manage and helps in efficient completion of tasks. The fine line separating AI generated content and human made inventions is getting blurry with time and has made it difficult to determine under which category each invention falls. AI generated works have not been recognized under a separate legislation or framework and does not have any particular regulatory system for carrying out functions related to it. The challenges raised by AI technology have to be included in the legislation in order to balance the existing situation and find an effective alternative to incorporate AI into IP. Such integration will help in the smooth functioning of the system and further enhance the scope of the existing legal framework.

26. Neeraja Seshadri, The Dilemma of Artificial Intelligence Generated Works and Indian Copyright Law, 3 INDIAN J.L. & LEGAL RSCH. 1 (2021).

27. Anuradha Bhasin vs Union of India, AIRONLINE 2020 SC 17.

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AI has brought remarkable changes and developments in the legal field, specially focusing on the IP practices and systems. In addition to it, various challenges concerning ownership and copyright have also come up due to the increasing interference of technological advancements. As the developments in AI continue to happen, it is important to analyze the issues and find appropriate solutions for resolving the issues and creating an effective system for development. While finding solutions for AI related issues, the main challenge which needs to be addressed and resolved is the protection of rights of the inventors in order to ensure that AI is not violating or infringing the rights to be made available to those who are developing those products or contents. The development of AI in IPR is presenting a global challenge which is demanding careful consideration of the situation along with a proactive action without much delay. The rights of the creators have to be protected, and sufficient consideration must be given to the machines that are emerging along with adaptable regulations and rules.

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22. Soaham Bajpai, Artificial Intelligence and Its Creation: Who Owns Intellectual Property Rights?, 10 Gnlu J.l. Dev. & Pol. 152 (2020).

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26. W. Keith Robinson, Enabling Artificial Intelligence, 60 Hous. L. Rev. 331 (2022).

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