

Redefining Intellectual Property and Human Rights in the Era of Artificial Intelligence

Ashok N. Kotangle

Researcher

Abstract: *The high growth rate of Artificial Intelligence (AI) is altering the essence of creativity, innovation, and ownership and making the conventional ideas of intellectual property rights and human rights doubtful. Artistic works, music, literature, inventions, and technological solutions are now generated with slight human intervention by AI systems. This creation poses important legal issues as to whether the node is the author, owner and whether he/she is liable extent of liability intellectual property protection. The current intellectual property legislations were aimed to safeguard human creators; however the advent of AI generated works has caused confusion with the issue whether AI can be called an inventor or writer and who actually is entitled to the rights of such inventions. Meanwhile, AI technologies have far-reaching implications on human rights, especially, the right to privacy, freedom of expression, right to access to knowledge, and right to equality and non-discrimination. In appliances of AI to surveillance, data gathering, facial recognition, and algorithmic decisions, the issue of data protection, discrimination, and digital inequality have become a matter of concern. The balancing of protection of intellectual property and public interest and human rights in the digital era is under an increased need. There is due need for balancing of varied interests, the protection of IP, Public interest and Human Rights in digital era. The paper will analyze the relationship between artificial intelligence, intellectual property and human rights. The researcher examines the issues of AI-generated content, ownership of data and algorithmic governance. The paper also analyzes the development of international law and the Indian legal system about AI and intellectual property. In this paper the research attempts redefine the intellectual property legislation and construct a human-rights-centered approach to AI regulation to provide invention, fairness, and worldwide digital justice.*

Keywords: Artificial Intelligence, Intellectual Property, Human Rights, Data Protection, AI Regulation.

1. Introduction

One of the most impactful technologies of the 21st century is Artificial Intelligence. It has revolutionized sectors like healthcare, education, finance, governance as well as entertainment. People can now use AI systems to paint pictures, compose music, create articles, write software and even positively invent new technologies. This has introduced a significant change in the understanding and application of the intellectual property law.

Conventionally, human creators and inventors were granted intellectual property rights like copyright, patents and trademarks to promote innovation and creativity. Nevertheless, AI-generated works have an issue with this traditional structure, since the creator is not necessarily a human. This leads to a legal issue, to consider: who owns works of AI-generated works, the programmer or the user, a company or the AI?

Simultaneously, the issue of AI has implications on human rights. AI technologies capture and analyze great volumes of individual information, which can be a breach of the right to privacy. The right to equality can be undermined because of the use of algorithmic decision-making. This freedom of expression and access to information can also be affected by AI-generated content. Thus, the balance in the intellectual property and human rights in the age of AI must be achieved.

The purpose of this paper is to discuss the ways the intellectual property and human rights are redefined in the wake of the artificial intelligence development and why the new legal standards are needed.

2. Artificial Intelligence and Intellectual Property Rights

Artificial Intelligence has radically reshaped the conventional perception of intellectual property rights in that it has placed non-human creators and inventors in the innovation ecosystem. The intellectual property law was originally created in order to compensate to human creativity and invention. Nevertheless, AI technologies like machine learning, neural networks, and generative AI can now generate creative works, inventions, software, and piece of artwork with little input of a human. Such a situation opens challenging legal and ethical issues on whether current intellectual property laws are appropriate in tackling the AIs generated works.¹

The greatest problem associated with it is the fact that the intellectual property law is committed to the belief that the human minds are the ones that produce the creativity. Nonetheless, AI applications operate by algorithms and training data and in other instances, the output is not what an individual had intended to program it to generate. Thus, the legislation should decide on the protection of AI-generated works and by whom it is necessary to protect the rights. The most evident such issues are copyright law, patent law and ownership rights concerning AI generated content.²

¹ World Intellectual Property Organization (WIPO), WIPO Technology Trends: Artificial Intelligence (2019).

² Ryan Abbott, The Reasonable Robot: Artificial Intelligence and the Law (2020).

2.1 AI-Generated Works and Copyright.

The law of copyright secures literary, artistic, musical and dramatic creations, which are composed by human beings. Originality and authorship by human beings are the basic conditions to protection against copyright infringement. Nevertheless, Artificial Intelligence is now capable of writing poems, creating music pieces, paintings, news stories and academic works without having any human input in this activity. This has resulted into a gap in the law as most instances of copyright laws in the world only acknowledge human authors as copyright holders.

As an example, copyright law is used to protect original works of authorship in human beings in a number of jurisdictions. Nevertheless, since AI is creating content without a significant participation of human resources, it is hard to reduce the question of who is an author. There are those legal systems that define computer-generated works and credited their authorship to the individual who made the required arrangements towards creation of the work. Such a strategy tries to address the vacuum left by AI-generated content.³

The other question is whether the AI-created works deserve any protection. Failure to protect the copyright may result in the AI-generated works falling into the public domain hence deterring the motivation to invest in the area of AI innovation. Conversely, the protection of copyright of AI-generated works might result in knowledge monopolies and the concentration of rights by big technology-owning corporations that can manage AI systems. Thus, the copyright regulation needs to be amended to give a clear definition of the authorship and ownership of the works created by AI without sacrificing innovativeness and the public access to knowledge.⁴

2.2 The Patent Law and AI as an Inventor.

The invention that is safeguarded by patent law is a novel non-obvious and one that can be applied to industry. Normally, the law of patents identifies only natural persons as inventors. Nevertheless, AI can now be used to come up with new technology, drug substance, engineering designs and software solutions. This has made a legal issue of whether AI should be classified as an inventor under the patent law.

The controversy arose with patent applications being submitted with an AI system as the inventor. As an inventor, he or she must be a natural person, which reasons led to these applications being rejected by patent offices and courts in various jurisdictions. With these decisions, it can be seen that the traditional legal view was that only human beings could be inventors since the patent law was created to encapsulate and compensate human intellectual efforts.⁵

There is however a problem in this approach. When AI-created inventions are not patented, the companies can opt to hold such inventions as trade secrets without filing them in the patent system. This would decrease technological knowledge to the masses. Hence, other researchers believe that the patent legislation must consider AI-assisted inventions and offer clear guidelines on the ownership and inventorship.

Therefore, the patent law should be changed to suit the increasing impact of the AI in the process of innovation.

2.3 Ownership Issues

The problem of ownership is among the most complicated aspects of AI-generated works since the creation of AI content includes multiple stakeholders. These consist of programmer who came up with the AI system, the person who provided instructions to the AI, the company owning AI system and the providers of data used to train the AI model.⁶

The algorithm is developed by the programmer but the developer might have no control over the end product produced by the AI. The user is able to use prompts or instructions that can affect the output. The AI architecture and computing systems could belong to the company. The information creators are making data, which is utilized to educate the AI model. All these parties make a contribution in one way or another and in this regard, it makes it a complicated issue to know who owns what.

Ownership may have a number of approaches. An option is to give proprietorship to the programmer who developed the AI. The second one is to provide ownership to the user who produced the output with the use of the AI. The third solution is to provide ownership to the owner of AI system in the principle of corporate ownership. Fourthly, one solution is to consider AI-generated works as a public domain work. The two methods have their pros and cons and, thus, new legal provisions are needed to define the ownership of the AI-generated pieces.

3. Human Rights and Artificial Intelligence

Intellectual property rights are not the only areas that are impacted by Artificial Intelligence but also human rights particularly the digital ones. There are many applications of AI technologies in surveillance systems, social media, recruitment, banking, law enforcement, and healthcare. On the one hand, AI increases efficiency and decision-making; on the other hand, it presents the human rights issue with a serious threat of violation of privacy, discrimination, limitation of freedom of expression and failure to access equivalent amounts of knowledge and technology. Consequently, one should examine the issue of AI through the lens of human rights to make sure that technological progress does not infringe principal rights and liberties.

³ Copyright, Designs and Patents Act 1988, c. 48, § 9(3) (UK).

⁴ Andres Guadamuz, Artificial Intelligence and Copyright, 41 WIPO Mag. 14 (2017).

⁵ Jane C. Ginsburg & Luke Ali Budiardjo, Authors and Machines, 34 Berkeley Tech. L.J. 343 (2019).

⁶ Annemarie Bridy, Coding Creativity: Copyright and the Artificially Intelligent Author, 5 Stan. Tech. L. Rev. 1 (2012).

3.1 Right to Privacy

One of the human rights that have been impacted in the century of Artificial Intelligence is the right to privacy. The facial recognition technology, biometric systems, online tracking, and surveillance systems are some of the systems under which AI systems gather and process a lot of personal information. This information is usually gathered without the knowledge and consent of people.⁷

Government mass surveillance and compiling data about citizens and companies poses a serious privacy challenge. AI has the ability to study individual behavior, tastes, location, and online activities that can result in the abuse of personal information. Without the effective laws on data protection, people can lose control of their personal information. This is why there is a need to implement strong data protection laws and AI regulations to safeguard the right to privacy in the digital age.

3.2 Non-Discrimination and Right to Equality.

AI algorithms are taught by utilizing past information, and in case the information possesses a bias, then the AI system will give discriminative outputs. This is what is referred to as algorithmic bias. Applications of AI in hiring, lending, policing, and healthcare are employed. In case AI systems are biased they could discriminate against a given group of people depending on race, gender, religion, or economic position.⁸

This presents a human rights problem as it goes against equality and non-discrimination. Algorithms used to perform discrimination can also be hard to spot since AIs are black boxes i.e. their decision process is not visible. Thus, AI systems should be clear, responsible and explainable to avoid discrimination and safeguard human rights.

3.3 Freedom of Expression

Social media extensively apply AI to screen and delete content. These AI applications find their application in content moderation, hate speech detection, and control of misinformation. Nonetheless, automated content linking can occasionally censor lawful material, hence, limiting the liberty of speech and expression.⁹

Simultaneously, artificial intelligence-created content like deep fakes, misinformation can also destroy the democratic processes and discussions as well. With deepfake technology, it is possible to produce fake video and audio content that can be viewed as authentic and thus leads to misinformation and damaged reputations. Thus, there is the necessity of the regulation of AI-generated content

alongside freedom of expression.

4. International Legal Developments

AI is an international technology, and it is impossible to regulate it within a single nation. International organizations and different countries are trying to establish law models to regulate AI, intellectual property, and human rights. The regulatory methods used however are varying among jurisdictions and at the moment, there is no international law on AI and intellectual property rights which is uniform.

4.1 European Union

The European Union has gone a long way in regulating the issue of Artificial Intelligence with the proposed Artificial Intelligence Act. EU AI Act is one of the earliest attempts to create a comprehensive law framework and regulate AI technologies. The Act is risk-based and it categorises AI systems based on various categories like high-risk AI, limited-risk AI, and minimal-risk AI.¹⁰

Dangerous AI systems are AI in healthcare, education, employment, law enforcement, and social services. The application of these systems is highly compliant through transparency, accountability, human control and safety standards. The EU framework also focuses on defending the basic right such as privacy, non-discrimination, and data protection.

The European Union is also endowed with powerful data protection rules in the general data protection regulation (GDPR), governing the collection, processing, and storage of personal data. The laws are significant in defending human rights in the AI era.¹¹

In general, the European Union is concerned with the human-rights-based approach to regulation of AI, in respect of whether technological invention is not the infringement of the fundamental rights.

4.2 WIPO world intellectual property organization

Artificial Intelligence and intellectual property rights are the subject of the active working of the World Intellectual Property Organization. WIPO has also performed international consultations and research studies on AI and copyright, AI and patents, and ownership of data.¹²

WIPO has risen main concerns like authorship of AI-generated works, inventorship relating to AI-generated inventions, ownership of data and requirement of new intellectual property frameworks. WIPO has not been dealing with this yet it tries to create a binding international treaty that is exactly about AI but it is trying to come up

⁷ Solon Barocas & Andrew D. Selbst, Big Data's Disparate Impact, 104 Calif. L. Rev. 671 (2016).

⁸ Jack Balkin, Free Speech in the Algorithmic Society, 51 U.C. Davis L. Rev. 1149 (2018).

⁹ Danielle Keats Citron, Deep Fakes and the New Disinformation War, 89 Foreign Aff. 147 (2019).

¹⁰ European Commission, Proposal for a Regulation Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act), COM/2021/206 final.

¹¹ General Data Protection Regulation, Regulation (EU) 2016/679.

¹² World Intellectual Property Organization (WIPO), WIPO Technology Trends: Artificial Intelligence (2019).

with international guidelines and policy frameworks.¹³

WIPO is significant since the protection of intellectual property is somehow international, and global collaboration is required to control the works of AI and other inventions.

4.3 India

India is also working on policies and regulation of Artificial Intelligence, data protection and digital governance. Government of India has unveiled the initiatives like the National Strategy of Artificial Intelligence and Digital Personal Data Protection laws.¹⁴

The Indian strategy aims at responsible AI, digital regulation and personal information security. But India is yet to invest in having specific law addressing AI and intellectual property rights. Current intellectual property regulations are the Copyright Act, the Patents Act, the Information Technology Act¹⁵, all of which are used to address AI-related cases, and all these regulations were not even intended to be applied to AI technologies.

Digital divide, absence of technological infrastructure, and data protection issues are also other problems in India. Thus, India requires a well-developed system of laws to control AI, preserving innovation and human rights.

4.4 Lack of Uniform International Law

Lack of a standardized global legal framework is one of the largest issues of AI regulation. The ways of AI regulation in different countries are not similar. There are countries that prioritize innovation and economic growth and on the other hand there are those which prioritize human rights and information protection.

Because AI can cross the boundaries of countries, the absence of a common regulation can generate legal issues associated with rights of intellectual property, the ownership of data, as well as the protection of human rights. Thus, it is necessary to cooperate with other countries and establish international rules governing AI.

5. Must Redefine Intellectual Property and Human Rights in the AI Era

The emergence of Artificial Intelligence has resulted in the fact that the traditional intellectual property regulations and the human rights framework cease to be adequate. The concept of knowledge creation, ownership, and distribution is being changed through AI technologies. Thus, it requires the redefinition of the interdependence between intellectual property and human rights within the AI era.

The traditional form of intellectual property laws was made according to the presumption that creativity and invention

are a product of human minds. Nevertheless, AI systems have now the ability to come up with content and inventions. This poses confusion to the law of authorship, inventorship and ownership. Thus, the intellectual property regulations need to be revised to cover AI-generated creations and AI-aided innovations¹⁶.

The AI technologies may infringe upon numerous human rights, such as the freedom of expression, right to equality, and the right to privacy. Systems of facial recognition, surveillance systems, and algorithmic decision-making systems have the potential to produce privacy invasion and discrimination. Hence, AI control should involve the benefits of human rights.

The purpose of the intellectual property law is to encourage creativity by providing unique privileges to the creators and innovators. Access to knowledge, technology and medicines, however, can be limited by over protection of intellectual property. To be innovative and develop in the age of AI, one should have access to data and technology. Consequently, the intellectual property protection and the common good must be struck in line.

The control of AI technology lies in the hands of the selected few developed nations and technology giants. Equal access to AI technology, data, and infrastructure may not be received by the developing countries. This generates digital disparity on the international level. Thus, cooperation between countries is required in order to provide equitable access to AI technology and knowledge.

A human-rights-based method of regulation of AI implies that AI laws should be formulated so as to safeguard privacy, equality, dignity, and freedom of expression without restricting innovation and technological advancement. This method makes sure that technology is beneficial to humanity and it does not impair basic rights.

6. Suggestions and Recommendations

Intellectual property and human rights have become new areas where the legal, ethical, and social issues raised by the robust growth of Artificial Intelligence are emerging. As such, it is a pressing necessity to create an extensive legal framework to resolve the problems emerging because of AI-generated works, AI-assisted inventions, ownership of data, and human rights safeguarding. The suggested and recommended measures can contribute to the creation of a reasonable and efficient regulatory system.

The sixth one is the new Intellectual Property Laws on AI-generated Works.

The current intellectual property legislation was created to safeguard the human creativity and invention. Nonetheless, AI generated works are not exactly easy to encompass using conventional copyright and patenting systems as the creator or inventor may not necessarily be a human being. This is

¹³ WIPO, Revised Issues Paper on Intellectual Property Policy and Artificial Intelligence (2020).

¹⁴ NITI Aayog, National Strategy for Artificial Intelligence #AIForAll (2018).

¹⁵ Information Technology Act, 2000 (India).

¹⁶ Laurence R. Helfer, Human Rights and Intellectual Property: Conflict or Coexistence?, 5 Minn. Intell. Prop. Rev. 47 (2003).

why new intellectual property laws are planned to be implemented so that anyone who creates AI-based works and inventions can specifically apply them.

Authorship and ownership of AI-generated content should be specified in these laws. An option is to give ownership to the individual or organization that did the required preparations in the creation of the AI-generated work. The other alternative is to establish a separate rights category that applies AI-generated works. These reforms would eliminate legal ambiguity and stimulate AI innovation spending at the expense of making sure that intellectual property protection does not limit knowledge access by the people.

6.1 Legal Dilution of AI Inventorship.

The law on patent now acknowledges natural persons as the only inventors. Nevertheless, AI systems are seen to find applications more in the invention process. Thus, patenting should be rewritten to include the idea that an AI-assisted innovation is a patentable one and that the inventor in this situation should be the author of such invention.

Among the available options is considering the inventor as the human developer or user of the AI system when the system is applied as an invention aide. A third measure is the adoption of a new category of law which can be the AI-assisted invention. Legal guidelines on inventorship and ownership would decrease courts, and foster the innovation and technology.

6.2 Enhancing Data Protection and Privacy Regulations.

AI systems are premised on high volumes of data including personal data. In case personal information is gathered and handled without adequate protection, it can be against the right of privacy. Hence, legislation on data protection and privacy must be enhanced to control the gathering, retention, and manipulation of personal data by AI systems.

Governments must enact stringent laws that enforce strict data protection laws that demand informed consent, data minimization, purpose limitation, and accountability of misuse of personal data. People also need to be provided with the right to ask about the way their data is being used and the right to find redress in case of its abuse.

6.3 AI Systems Transparency and Accountability.

The work of many AI systems is based on the so-called black box systems, i.e., the way these systems make decisions is not made visible. Such non-transparency can cause discrimination, mistakes, and violation of human rights. Thus, the AI systems need to be accountable, explainable, and transparent.

Companies and AI developers are supposed to have been made to reveal how decisions are made by the AI systems, particularly in the high-stakes industries like health, employment, banking, and law enforcement. The harm of the AI systems should also be legally liable.

6.4 AI International Cooperation to Regulate.

The Artificial Intelligence is an international technology, and thus, the world needs to collaborate to control AI. The nations must collaborate to come up with international standards addressing the area of AI governance, intellectual property rights, data protection, and preservation of human rights.

International organizations must also be significant in coming up with global AI governance systems. The collaboration with other countries will assist in minimizing the legal issues and guaranteeing fair use of AI technology between nations.

The inclusion of human rights principles in laws governing AI governance is another aspect addressed by this chapter of the document (6.6).

The principle of human rights like the right to privacy, right to equality, freedom of expression, and human dignity should be established as the basis of AI laws and policies. Human-rights-based approach can guarantee that technological development serves the interests of the society as it does not harm people.

Governments must make sure that the AI systems are developed and applied in a way that considers the human rights. These involve eliminating algorithmic discrimination, fostering personal information security, transparency, and an ability to provide reparations against the damages AI systems cause people.

7. Conclusion

The dynamics between intellectual property and human rights is being reshaped by Artificial Intelligence. The current traditional intellectual property laws are inadequate to address the issue of AI-generated works and AI-aided inventions since their creation was aimed to protect the human creators and inventors. The introduction of AI-generated content and inventions have posed legal uncertainty in terms of authorship, inventorship and ownership.

Meanwhile, AI technologies threaten such human rights as the right to privacy, the right to equality, and the freedom of expression. The problem of privacy of data, bias in algorithms, surveillance, and digital inequality became significant in the AI era. Accordingly, the law on intellectual property should be redefined and a human-rights-based approach to regulating AI introduced.

The one-sided legal system must encourage innovation, as well as safeguard human rights. This framework must feature new intellectual property regulations of AI-enabled works, effective laws regarding AI ownership, effective laws regarding data protection, openness and responsibility in AI systems, and global collaboration in AI governance. With adequate regulation, the Artificial Intelligence can enhance innovation, economic prosperity, and social good without violating the human rights and human dignity.

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