Impact of Artificial Intelligence on Intellectual Property Rights in Indonesia

Jeanette Jade Wangsa[1*], Kalam Fransisca Fortunata[1], Salma Zhafira Hanunisa[1***]**

[1] Faculty of Law, Universitas Pelita Harapan, Indonesia.
[*] jadewangsaa@gmail.com
[**] kalamfransisca@gmail.com
[***] salmazhafira31@gmail.com

Abstract
In light of the rapid advancements that have been made in the field of technology, Artificial Intelligence, sometimes known as "AI," has experienced an exponential growth that is valuable for a wide variety of fields, including the economy, health, education, communication, and a great number of other fields. Whereas the deployment of Artificial Intelligence is still a contentious topic of discussion, due to the fact that most people do not yet have a clear understanding of the potential risks and/or benefits that Artificial Intelligence may offer. There is not a single industry that will be immune to the impact of Artificial Intelligence, and the field of Intellectual Property Rights (IPR) is not an exception to this rule. An in-depth investigation into the effects that AI has had on intellectual property rights (IPR) will be carried out with the help of this research paper. This investigation will focus on the prospective role that AI will play in the future of IPR, as well as the positive and negative impacts that AI has had on creativity and innovation within IPR.

Keywords: Technology; Artificial Intelligence; Intellectual Property Rights**.**

A. Introduction

There has been a significant amount of progress made in a variety of areas thanks to the rapid advancement that has taken place

in the sector of information technology. Humans, in general, stand to benefit from the existence of a number of technologies, and this is evident across a wide range of sectors including the economy, health, education, communication, and a great deal of other areas. Community activities are able to be more productive and successful when they make appropriate and effective use of technological resources. This is because technological advancements have made it easier to obtain information, which in turn has allowed for technological advancements to be more successful. There is no way to halt the quick advancement of technology, and it goes without saying that there are possible drawbacks involved with making use of advancements like these. However, there is no way to stop the rapid advancement of technology. One technology whose deployment is still the topic of much debate is the application of a technology that is known as artificial intelligence (AI). In spite of this, the development of technologies including artificial intelligence is not a recent occurrence.[1] The term AI was coined by John McCarthy, who made remarkable contributions to both the field of computer science and the field of artificial intelligence, is often regarded as the "father" of artificial intelligence and is considered one of the most influential innovators in the field. John McCarthy was not only widely recognized as the "Father of Artificial Intelligence," but also as a major computer scientist and cognitive scientist. McCarthy gave a presentation on the meaningof artificial intelligence at a conference held on the Dartmouth College campus back in the summer of 1956, which marked the beginning of AI research. The attendees of the

[1] Nadia Intan Rahmahafida and Whitney Brigitta Sinaga, "Analisis Problematika Lukisan Ciptaan Artificial Intelligence Menurut Undang-Undang Hak Cipta," *Jurnal Pendidikan Dan Konseling* 4, no. 2 (2022): 2, https://doi.org/10.31004/jpdk.v4i6.9911

conference, including McCarthy himself, went on to become the leaders of AI research for many decades.[2]

In the beginning, McCarthy defined the term AI as "the science and engineering of making intelligent machines."[3] However, the definition of AI was broadened in a larger scope by several people who also gave contributions to the research of AI, namely Kaplan and Haenlin of whom expanded the definition as "a system's ability to correctly interpret external data, to learn from such data and to use those learnings to achieve specific goals and tasks through flexible adaptation".[4] Furthermore, Poole and Mackworth expressed AI to be defined as "the field that studies the synthesis and analysis of computational agents that act intelligently."[5]

From then on, the field of artificial intelligence has been at the forefront of technological advancement and continues to make progress even to this very moment. Due to the rapid progression of the development of AI, researchers predict that AI will outperform humans in many activities in the next ten years, such as translating languages which was predicted to be at the year of 2024, writing high-school essays by the year of 2026, working in retail by the year of 2031, writing a best-selling book by the year of 2049, ot even working as a surgeon by the year of 2053. Researchers believe there is a 50% of AI outperforming humans in all tasks in forty-five years and automation

[2] "Penemu Kecerdasan Buatan (AI) John McCarthy," Widya, last modified December 1, 2022, https://widya.ai/penemu-kecerdasan-buatan-ai-john-mccarthy/
[3] Dalvinder Singh Grewal, "A critical conceptual analysis of definitions of artificial intelligence as applicable to computer engineering." *IOSR Journal of Computer Engineering* 16, no. 2 (2014): 9-13. https://doi.org/10.9790/0661-16210913.
[4] Michael Haenlein et al., "Artificial Intelligence (AI) and Management Analytics," "Artificial Intelligence (AI) and Management Analytics." *Journal of Management Analytics* 6, no. 4 (2019): 341–43. https://doi.org/10.1080/23270012.2019.1699876
[5] "Artificial Intelligence Definition," Nunung Nurul Qomariyah, last modified November 9, 2020, https://international.binus.ac.id/computer-science/2020/11/09/artificial-intelligence-definition/

of all human jobs within 120 years, with Asian respondents expecting the aforementioned dates to be much sooner in comparison to those from North America.[6]

Since AI is created for the purpose of emulating the capabilities of human-like functions, the degree to which an AI is able to replicate human capabilities is used as a criterion for determining the types of AI. Thus, with the criterion system of comparison to human capabilities, AI is able to be categorized under several types of AI in which the level of proficiency of an AI is measured by how proficient an AI is able to perform activities as well as a human does. The more human-like functions an AI has, the more evolved it is considered to be, whereas, an AI with more limited functions is considered to be a more simpler type that is less evolved.[7]

Based on the criterion mentioned above, there are four types of AI classifications based on their human-like functionalities such as their abilities to "think" or even "feel" like a human, namely reactive machines, limited memory machines, theory of mind, and self-aware AI.[8]

AI systems have been around for a long time, the type of AI that is the most basic and traditional variety is Reactive Machines. These machines have very few available functions as these systems are unable to "learn" and do not become more effective over the course of time since they are unable to create memories or draw on previous experience to inform their current decisions. Reactive Machines AI

---

[6] Katja Grace et al., "When will AI exceed human performance? Evidence from AI experts," *Journal of Artificial Intelligence Research* 62 (2018): 729-754. https://doi.org/10.48550/arXiv.1705.08807

[7] Naveen Joshi, "7 Types of Artificial Intelligence," Forbes Magazine, October 12, 2022), https://www.forbes.com/sites/cognitiveworld/2019/06/19/7-types-of-artificial-intelligence/?sh=54ba88b2233e.

[8] Ibid.

have absolutely no knowledge or understanding of the past and they respond solely to the world as it is at that specific time, not to any internally formed perception of the world that they may have. They exist only in the ultimate moment of the present. The fact that reactive machines do not store memory or make use of previous experiences to determine future actions is one of their key characteristics as they simply take in the environment around them and respond to what they find.[9]

Limited Memory AI is able to learn from its own past mistakes and can acquire empirical knowledge by watching data or activities and processing them. This form of artificial intelligence derives its ability to make forecasts and carry out difficult classification jobs from the combination of historical data and information that has been pre-programmed. It is the variety of artificial intelligence that sees the most widespread application at the present time. For example, self-driving cars employ AI with Limited Memory to monitor the speed and direction of other vehicles on the road. This allows the cars to "read the road" and make adjustments as necessary. They are able to improve their driving safety through the process of comprehending and evaluating the incoming data. Nevertheless, artificial intelligence with Limited Memory is, as the name suggests, still restricted in its capabilities. The data that is utilized by autonomous vehicles is temporary in nature and is not stored in the vehicle's long-term memory.[10]

[9] "Understanding the Four Types of Artificial Intelligence," Arend Hintze, last modified April 23, 2021. https://www.govtech.com/computing/understanding-the-four-types-of-artificial-intelligence.html.
[10] "4 Main Types of Artificial Intelligence: Explained," David Petersson, last modified June 17, 2021, https://www.techtarget.com/searchenterpriseai/tip/4-main-types-of-AI-explained.

The two types of AI that was mentioned above were already being implemented and can be found in abundance. As for the third classification of AI, Theory of Mind, has yet to be completed yet, it is still currently in an ongoing development that the researchers are innovating. The Theory of Mind type of artificial intelligence will be able to understand whom they are interacting with by perceiving the thought process, needs, beliefs, and emotions of those the individuals or entities that the AI interacts with. In essence, Theory of Mind AI is an AI that is focused on the imputation of emotions, morality and empathy of which will become the next milestone that researchers wish to achieve. Thus, to achieve the Theory of Mind type of AI, the area of artificial emotional intelligence (wherein it is already a budding industry and also an area of interest for present AI researchers) would need more research and development, as well as in other branches of AI.[11]

Building systems that are capable of forming their own self-representations is the final step in the evolution of AI. The ultimate goal of those working in the field of artificial intelligence is to develop software capable not only of comprehending consciousness but also of producing machines that have the capacity to think for themselves. Self-Awareness is a type artificial intelligence only lives in fiction but as is common with stories, it fills the audience with both hope and anxiety. An intelligence that is self-aware but not limited to humans possesses its own autonomous intelligence; hence, it is likely that humans will have to negotiate terms with the creatures they create as

[11] Ibid.

nobody can predict what will take place, either positively or negatively.[12]

The concept of artificial intelligence, which for a while seemed like a far-off fantasy, has recently emerged from the realm of science fiction films and into our everyday lives. This trend has been gaining steam over the past few years, which has resulted in numerous advancements across virtually all industries. There is not a single industry that will be immune to the impact of artificial intelligence, and the field of intellectual property rights is not an exception to this rule. Artificial intelligence will have a dual effect on the field of intellectual property rights. On the one hand, AI will prove to be an asset in the areas of patent and patent search tools, accurate and timely research, providing a mechanism to sort out inventions and ideas, and providing the innovator with a mechanism on patents already existing that are similar to his idea, amongst many other things. On the other hand, AI might also be used to steal intellectual property from other people.[13]

Within this study paper will analyze in depth regarding the impact that artificial intelligence has had on Intellectual Property Rights (IPR), the positives and negatives that AI has had on creativity and innovation in IPR, and it will also address the potential role that AI will play in the future of IPR. AI is regarded as a technology development that is capable of performing a wide range of tasks, from those that are relatively straightforward, such as performing calculations, to those that are extremely complicated. In recent years,

[12] "Types of Functional AI," EITC, accessed December 16, 2022, http://www.eitc.org/research-opportunities/new-media-and-new-digital-economy/ai-machine-learning-deep-learning-and-neural-networks/ai-research-and-applications/types-of-functional-ai.
[13] Ibid.

we have witnessed the explosive growth of artificial intelligence. In essence, in the not-too-distant future, artificial intelligence will be capable of performing anything a human can do, and in fact, much more than that. There is still a great deal of mystery around AI, and the merits and drawbacks of AI are currently one of the most leading, contested topics in the world. Even though there is not a single definition of artificial intelligence that is universally recognized, the most fundamental concept is that it entails the creation of machines and software that are able to carry out tasks that typically need the intelligence of humans. There is no question that the industry of Intellectual Property has been and will continue to be impacted by AI, and the junction of AI and Intellectual Property may have two-sided aspects to it. On the one hand, it has the potential to turn out to be beneficial to the field of intellectual property, but on the other, it has the potential to be detrimental.

In this paper, we will discuss in detail the impact that AI has had on intellectual property, paying particular attention to how it has affected copyright, patents, and traditional knowledge. In addition, we will discuss in detail the liability that may be incurred in the event that intellectual property rights are violated.

B. Discussion

B. 1. Copyright

The products of human thought in the realms of science, art, and literature are what give birth to and give rise to the concept of copyright. The concept of copyright is inherently present the moment a new creation is made by a human mind. A creator has a civil right to copyright protection over their work, the right to copy is considered a private right. The argument is supported by the fact that a creation

is brought into existence by the creativity of a creator. The creativity that come forth as a result of the creator's thinking and innovative efforts. A copyright cannot be anything that already existing outside of human activity or outside of the fruits of human creativity; rather, it must originate from the creative act of humans.[14]

Through Article 1 Paragraph 1 of Law Number 28 of the year 2014 concerning Copyright (Undang-undang Hak Cipta), the Government of Indonesia has stated that, "Copyright is the exclusive right of the creator that arises automatically based on the declarative principle after a work is realized in a tangible form without reducing restrictions in accordance with the provisions of the legislation." From the definition put out in the UUHC it can be concluded that copyright is a natural right; it is absolute and its rights are protected as long as the creator lives, as well as an additional several years after the creator dies, the protection period after the creator dies is 70 years as accordance in the Copyright Act. As an absolute right, that right can basically be defended against anyone, those who have that right can sue for any violations committed by anyone.

What is considered to be a creation can be seen in essence as in accordance with Article 1 Point 3[15] of *a quo* law, namely:

(a) **Originality,** that refers to one own's idea that the creation made is personal in nature being the only one in the world as it is borne from the human mind and innovation thus allowing for the unique personality of the creator to shape the creation to be one of a kind;

[14] Ok Saidin, *Aspek Hukum Hak Kekayaan Intelektual* (Jakarta: PT Raja Grafindo Persada, 2015)
[15] Law Number 28 of 2014 concerning Copyright

(b) **Creativity,** in which the creation would be distinctive to its own characteristics that even though it may have similarities with another product or invention but seeing as each person is unique due to the human intellectual ability of cipta (produce), rasa (sense), karsa (intention); and

(c) **Tangible form,** meaning that it is the raw idea or concept that the creator has thought of has already been manifested and expressed into a form that is materialized, as ideas or concepts cannot be protected under the IPR.

The notion of IPR is to protect the creation that is mind by the intellectual mind, wherein in this matter is generally humans. Creating works, whether it be of art, literature, music or more, using artificial intelligence could have vital implications for copyright law. As traditionally, the creator of which made a computer-generated program that creates works is not an issue due to the fact that the program is only a helping tool that assists in the making of a creative process[16], it may be compared to a simple tool such as pencil and paper. As stipulated in Article 2 point (a), it stated that the Indonesian IPR law only applies to all Creation and product related rights of the citizens, residents and legal entities of Indonesia. Thus, with the latest developments of AI, the computer program can no longer be defined as only a tool due to the reason being that AI is able to act intelligently based on the information and data that it has received. This means that artificial intelligence is able to act and perform in the creative

[16] "Mungkinkah Monyet Memiliki Hak Cipta Atas Suatu Karya?", Utomo Priyambodo, last modified July 15, 2019, https://kumparan.com/kumparannews/mungkinkah-seekor-monyet-memiliki-hak-cipta-atas-suatu-karya

process that humans do without requiring human intervention, it can no longer be called merely a tool.[17] This leads to the issue at hand wherein AI is able to go through a creative and innovative process that humans do in which it poses a gap in the laws as AI is not a rightful creator that is recognized under the law and neither it is a holder of copyrights, therefore, posing as an issue when AI does produce work.

A recent issue that arose due the advancement of AI is an infringement of copyright of art.[18] As elaborated above, AI softwares develop by receiving information and data in which it processes and uses it to further its own code or software by generating from what it has received. Previously, the software programs of AI were not a threat as it was only able to generate blurry images in the size of a blueberry. However, in the present year, any person that does not even need prior knowledge in technology is able to use an AI software to copy an artist's style in a matter of mere hours. This illustrates the pressing issue of the legality and ethics of artificial intelligence.[19]

In regards to artificial intelligence, the World Intellectual Property Organization (WIPO)[20] specifically discussed the matter of AI where each country member begins to accept new challenges in regulating the substance of Intellectual Property Protection policies in

[17] "Artificial Intelligence dan Perlindungan Kekayaan Intelektual", Kiky Amaruly Utami, last modified February 10, 2022, https://mucglobal.com/id/news/2759/artificial-intelligence-dan-perlindungan-kekayaan-intelektual

[18] "UU Hak Cipta Perlu Mengatur Perlindungan Hukum Dari Kemajuan Kecerdasan Artifisial," Gusti, last modified October 15, 2021, https://www.ugm.ac.id/id/berita/21816-uu-hak-cipta-perlu-mengatur-perlindungan-hukum-dari-kemajuan-kecerdasan-artifisial

[19] "The Scary Truth about AI Copyright Is Nobody Knows What Will Happen Next," James Vincent, last modified November 15, 2022, https://www.theverge.com/23444685/generative-ai-copyright-infringement-legal-fair-use-training-data

[20] Andres Guadamuz, "Artificial Intelligence and Copyright," WIPO Magazine, October 2017, https://www.wipo.int/wipo_magazine/en/2017/05/article_0003.html

relation to AI innovation. In a nutshell, current legal products must be able to keep up with the innovation and current developments of technology. Moreover, the Director General of Intellectual Property of the Ministry of Law and Human Rights (Kemenkumham) named Freddy Harris stated that the law will always develop in suit following the existing developments.[21]

One could say and argue that the issue of which artificial intelligence poses is not important but the way how the law is implemented will have overarching implications, especially for the industrial and commercial sector. This may lead to a legal milestone in regards to artificial intelligence in Indonesia as long as the laws regarding copyright in the field of AI that is established encapsulates wholly the scope that must be clear and evident in its provisions, as well as its threshold to limit the substantial similarity of works in their respective fields. The laws should not be what hinders the developments of technology in Indonesia but rather encourage digital innovation to improve the growth of the economy and boost the well-fare of the people as a whole with its ingenuities.[22]

B. 2. Liability of Infringement

The use of still-copyrighted material without the creator's or rights holder's consent is known as copyright infringement and in this case, it violates certain exclusive rights granted to copyright holders such as duplicating, reproducing, distributing, displaying, or

[21] "Menyoal Perlindungan Hak Cipta Dalam Pemanfaatan Artificial Intelligence," Mochammad Januar Rizki, last modified July 02, 2020, https://www.hukumonline.com/berita/a/menyoal-perlindungan-hak-cipta-dalam-pemanfaatan-artificial-intelligence-lt5efd7b7e3097a/?page=all.
[22] "Tiga Antisipasi Masalah Pemanfaatan Artificial Intelligence Terhadap Perlindungan Hak Cipta," KlikLegal.com, last modified July 3, 2020, https://kliklegal.com/tiga-antisipasi-masalah-pemanfaatan-artificial-intelligence-terhadap-perlindungan-hak-cipta/

exhibiting creations, or creating derivative works. To deter and punish copyright violators, copyright holders typically follow particular technological and legal guidelines. Infringements of intellectual property rights is still frequent in Indonesia[23], and there are numerous instances of actual but unintentional copyright infractions as there are still a lot of people who are unaware of or misunderstand this. Therefore, legal restrictions apply to all types of copyright infringement. Infringers of copyright and patent laws are subject to fines and imprisonment and this complies with Law No. 28 of 2014 Regarding Copyright. In terms of granting creators or owners the ability to profit from investments made in their intellectual labor in the fields of industrial property and copyrighted works, intellectual property rights (IPR) are fundamentally the same as other material property rights. It is important to recognize the prevalence of intellectual property rights (IPR) violations in Indonesia. Technological advancements, particularly those in digital technology, are seen to contribute to the rise of intellectual property rights abuses (IPR).

In addition to having a positive effect on the availability of media for copyrighted works, advances in digital technology also result in good and contemporary display quality of copyrighted works. However, the exploitation of digital technology by some parties in order to engage in illegal activities has a detrimental consequence. IPR in the technology industry is the first victim of the infringement since improvements in digital technology have made it simple to violate IPR. Computer use makes it simpler to violate

[23] "Pelanggaran HAKI," Rudi Ferdiansah, last modified October 5, 2022, https://internationaljournallabs.com/blog/pelanggaran-haki/.

Intellectual Property Rights. The process of duplicating is made considerably simpler to conduct by computers' ability to copy and print as well as their ability to offer information online.

Enforcing the law's intended purpose is the only method to get around this. Even though the government already has a set of rules, sanctions for violations of Intellectual Property Rights (IPR) have not yet had a deterrent effect on the offenders, causing the level of violations to rise. Other challenges include the small number of law enforcement officials who deal with matters involving intellectual property rights and the leniency of the judgments rendered against offenders in order to avoid having a deterrent impact. In addition, the general populace lacks awareness of the need to respect and follow IPR regulations, and their purchasing power is limited. In order to develop and implement targeted strategic policies that will decrease and eradicate IPR violations as well as raise public awareness of the need to respect others' IPR, collaboration between law enforcement officials and relevant agencies is required.[24]

Since copyright is an exclusive right that belongs to the author[25], so in theory, any use of the work by another party—including economic rights as defined by UUHC—must have the author's consent[26]. Reproduction and/or commercial use of the work is banned without the author's or copyright holder's consent[27]. This prohibition has both civil and criminal repercussions for breaking it as stipulated in Indonesia's Law no 28 of 2014 regarding Copyright.

---

[24] "Pelanggaran Hak Kekayaan Intelektual," Direktorat Reserse Kriminal Khusus, last modified April 12, 2019, https://reskrimsus.metro.polri.go.id/2019/04/12/pelanggaran-hak-kekayaan-intelektual/.

[25] Article 4 of Law No. 28 of 2014 concerning Copyright.

[26] Article 9 paragraph 1 of Law No. 28 of 2014 concerning Copyright.

[27] Article 9 paragraph 3 of Law No. 28 of 2014 concerning Copyright

Reproduction, according to UUHC, is the act or process of making one copy or more of a phonogram in any way and in any format, either permanently or momentarily. Commercial Use, on the other hand, refers to the use of Works and/or Related Rights products with the intention of receiving money or other forms of compensation. It is possible to classify the utilization of works as input data for AI development as reproduction. It is regarded as commercial use if it is done for profit. As a result, when using someone else's creation as input data, Indonesian AI developers must first get consent from the creator or copyright holder.

However, UUHC also governs copyright restrictions, which, under some circumstances, permit the use of works created by other parties without their consent or the consent of the copyright owners. For example for the matter of education or research that doesn't harm the reasonable interest of the copyright holder.

Thus, without the creator's or the copyright holder's consent, Indonesia can basically create AI for educational and research purposes by using works protected by copyright as input data. However, consideration for the Author's or Copyright Holder's legitimate interests must still be given when using the Work. The use of the Work may constitute a copyright infringement if it comes out that doing so would be harmful to the reasonable interests of the Author or the Copyright Holder.

The issue which arises is that, despite the fact that "reasonable interest" has been defined as an interest grounded on balance in receiving economic benefits from a creation, there is no precise way to define this "balance." Additionally, there has not yet been a court ruling in Indonesia with binding legal precedence that may be utilized to assess the "balance" of these legitimate interests.

Additionally, according to the provisions of Article 43 letter (d) UUHC, it is not considered a copyright infringement when third parties' intellectual property is created and distributed through non-commercial information and communication technology media. In other words, this can support the production of works in digital format that can be used as input data for non-commercial AI development in Indonesia. However, if the author subsequently expresses opposition to the development of a digital format for his work, this action is seen as a copyright violation. Because the creator can at any moment voice objections to any factors that might impede the AI development program for non-commercial interests currently ongoing in Indonesia, this clause could be a barrier to the development of AI for non-commercial interests in Indonesia.

C. Conclusion

The rapid development of artificial intelligence grew vastly in many aspects of research in perfecting and improving the capabilities of its software to emulate human-like functions. AI is classified into four types based on their abilities to "think" and "feel" like a human, namely reactive machines, limited memory machines, theory of mind and self-aware AI. With the ability of AI to be able to act and perform in the creative process how a human does without needing human intervention in its "creative process", such as creating art, music, literature, or more. This arises an issue wherein the Article 2 Point A stated that the rights of IPR only applies to citizens, residents, and legal entities, whereas AI cannot fall in either category which poses a gap in the law.

With concern of AI, the World Intellectual Property Organization (WIPO) addresses the matter of artificial intelligence where each country must begin to accept the notion of AI by regulating the substance and policies in relation to AI. The concept of artificial intelligence should not be something that must be hindered or stopped but rather Indonesia should embrace AI and encourage it as it can be the milestone of Indonesia in its legal aspect in regards to artificial intelligence. The laws and regulations regarding technology encourage innovation in the field of artificial intelligence to improve the economy and welfare of Indonesia.

The regulations of Law No. 28 of 2014 respecting Copyright must nevertheless be taken into consideration while using Works as input data in the creation of AI in Indonesia. Therefore, in theory, any use of the Works by third parties requires the Author's consent, including the use of copyright-protected Works as input data for the creation of AI. If a work protected by copyright is used as input data in the creation of AI without the author's consent, there are civil and criminal penalties for those who do so as stipulated in Law No 28 of 2014. Indonesia's Law No. 28 of 2014 Concerning Copyright, on the other hand, also specifies provisions regarding the duration of copyright protection and provisions regarding copyright restrictions, which permit the use of copyrighted works without the author's consent under specific circumstances without being regarded as a copyright infringement. Thus, an individual can utilize the laws regarding copyright restrictions while still paying attention to the specified requirements. In addition, an individual can also use Works that have expired, as using Works as input data for the creation of AI does not require authorization from the Author. Besides that, an

individual can also use works with copyright protection or those with an open license, which don't need the author's consent.

There are still a few provisions that have not been clearly regulated, including how to measure "balance" in applying "reasonable interest," how to determine a part of a work is important and distinctive so that it becomes a characteristic of a work in assessing a "substantial part," and how long a copy of a work can be used as input data before it becomes subject to copyright restrictions. Due to the ambiguity of certain of these rules, conflicts regarding the applicability of these copyright restriction measures may arise between the party developing AI and the Creator or Copyright Holder.

REFERENCES

Laws and Regulations

Law No. 28 of 2014 concerning Copyright

Books

Saidin, Ok. *Aspek Hukum Hak Kekayaan Intelektual*. Jakarta: PT Raja Grafindo Persada, 2015.

Journal Articles

Grace, Katja, John Salvatier, Allan Dafoe, Baobao Zhang, and Owain Evans. "When will AI exceed human performance? Evidence from AI experts." *Journal of Artificial Intelligence Research* 62 (2018): 729-754. https://doi.org/10.48550/arXiv.1705.08807

Grewal, Dalvinder Singh. "A critical conceptual analysis of definitions of artificial intelligence as applicable to computer engineering." *IOSR Journal of Computer Engineering* 16, no. 2 (2014): 9-13. https://doi.org/10.9790/0661-16210913.

Haenlein, Michael, Andreas Kaplan, Chee-Wee Tan, and Pengzhu Zhang. "Artificial Intelligence (AI) and Management Analytics." *Journal of Management Analytics* 6, no. 4 (2019): 341–43. https://doi.org/10.1080/23270012.2019.1699876.

Rahmahafida, Nadia Intan, and Whitney Brigitta Sinaga. "Analisis Problematika Lukisan Ciptaan Artificial Intelligence Menurut Undang-Undang Hak Cipta." *Jurnal Pendidikan dan Konseling* 4, no. 2 (2022): 2. https://doi.org/10.31004/jpdk.v4i6.9911.

News or Magazine Articles

Guadamuz, Andres. "Artificial Intelligence and Copyright." WIPO Magazine, October 2017. https://www.wipo.int/wipo_magazine/en/2017/05/article_0003.html

Joshi, Naveen. "7 Types of Artificial Intelligence." Forbes Magazine, October 12, 2022. https://www.forbes.com/sites/cognitiveworld/2019/06/19/7-types-of-artificial-intelligence/?sh=54ba88b2233e

Website Contents

Direktorat Reserse Kriminal Khusus. "Pelanggaran Hak Kekayaan Intelektual." Last modified April 12, 2019. https://reskrimsus.metro.polri.go.id/2019/04/12/pelanggaran-hak-kekayaan-intelektual/.

Ferdiansah, Rudi. "Pelanggaran HAKI." Last modified October 5, 2022. https://internationaljournallabs.com/blog/pelanggaran-haki/.

Gusti. "UU Hak Cipta Perlu Mengatur Perlindungan Hukum Dari Kemajuan Kecerdasan Artifisial." Last modified October 15, 2021. https://www.ugm.ac.id/id/berita/21816-uu-hak-cipta-perlu-mengatur-perlindungan-hukum-dari-kemajuan-kecerdasan-artifisial.

Hintze, Arend. "Understanding the Four Types of Artificial Intelligence." Last modified April 23, 2021. https://www.govtech.com/computing/understanding-the-four-types-of-artificial-intelligence.html.

KlikLegal.com. "Tiga Antisipasi Masalah Pemanfaatan Artificial Intelligence Terhadap Perlindungan Hak Cipta." Last modified July 3, 2020. https://kliklegal.com/tiga-antisipasi-masalah-pemanfaatan-artificial-intelligence-terhadap-perlindungan-hak-cipta/.

Petersson, David. "4 Main Types of Artificial Intelligence: Explained." Last modified June 17, 2021.

https://www.techtarget.com/searchenterpriseai/tip/4-main-types-of-AI-explained.
Priyambodo, Utomo. "Mungkinkah Monyet Memiliki Hak Cipta Atas Suatu Karya?" Last modified July 15, 2019. https://kumparan.com/kumparannews/mungkinkah-seekor-monyet-memiliki-hak-cipta-atas-suatu-karya.
Qomariyah, Nunung Nurul. "Artificial Intelligence Definition." Last modified November 9, 2020. https://international.binus.ac.id/computer-science/2020/11/09/artificial-intelligence-definition/
Rizki, Mochammad Januar. "Menyoal Perlindungan Hak Cipta Dalam Pemanfaatan Artificial Intelligence." Last modified July 02, 2020. https://www.hukumonline.com/berita/a/menyoal-perlindungan-hak-cipta-dalam-pemanfaatan-artificial-intelligence-lt5efd7b7e3097a/?page=all.
Utami, Kiky Amaruly. "Artificial Intelligence dan Perlindungan Kekayaan Intelektual." Last modified February 10, 2022. https://mucglobal.com/id/news/2759/artificial-intelligence-dan-perlindungan-kekayaan-intelektual.
Vincent, James. "The Scary Truth about AI Copyright Is Nobody Knows What Will Happen Next." Last modified November 15, 2022. https://www.theverge.com/23444685/generative-ai-copyright-infringement-legal-fair-use-training-data.
Widya. "Penemu Kecerdasan Buatan (AI) John McCarthy." Last modified December 1, 2022. https://widya.ai/penemu-kecerdasan-buatan-ai-john-mccarthy/.