

THESIS

**LEGAL REVIEW OF COPYRIGHT INFRINGEMENT IN
ARTIFICIAL INTELLIGENCE IMAGE GENERATOR
APPLICATIONS**



Submitted by:

**ST SYARIFAH
NIM. B011191039**

**BACHELOR OF LAW STUDY PROGRAM
FACULTY OF LAW HASANUDDIN UNIVERSITY
MAKASSAR
2024**

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TITLE PAGE

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Submitted as one of the requirements to achieve a bachelor's degree in
the Bachelor of Law study program

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**BACHELOR OF LAW STUDY PROGRAM
FACULTY OF LAW HASANUDDIN UNIVERSITY
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2024**

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LEGAL REVIEW OF COPYRIGHT INFRINGEMENT IN ARTIFICIAL INTELLIGENCE IMAGE GENERATOR APPLICATIONS

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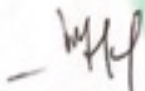
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STATEMENT OF AUTHENTICITY

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Declare that the written thesis entitled **Legal Review of Copyright Infringement in Artificial Intelligence Image Generator Applications** is truly my own work. Things that are not my work in a written thesis are given a citation mark and shown in the bibliography.

If in the future it is proven that my statement is not true, I am willing to accept sanctions in accordance with the regulations of the Minister of National Education of the Republic of Indonesia Number 17 of 2010 and applicable laws and regulations.

Makassar, December 15, 2023
The author of the statement,



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PREFACE

Bismillahirrahmanirrahim

Assalamu'alaikum Warahmatullahi Wabarakatuh.

All praise and gratitude to Allah SWT for blessings, grace, guidance and gifts, in the form of health and science so that the author is given easiness and smoothness in finishing this thesis, entitled “**LEGAL REVIEW OF COPYRIGHT INFRINGEMENT IN ARTIFICIAL INTELLIGENCE IMAGE GENERATOR APPLICATIONS**” which is the final assignment as a requirement to complete the Bachelor of Law degree and obtain a Bachelor of Law degree at the Faculty of Law, Hasanuddin University. *Sholawat* and *salam* may always be poured out to the Prophet Muhammad SAW, who is a role model for mankind. Hopefully what the author has done in writing this thesis can be of godly value and useful for readers.

The preparation of this thesis can be completed because of encouragement, assistance, and guidance from various people who are directly or indirectly related, which the author appreciates and grateful for, so that the thesis can be arranged properly and smoothly. Therefore, on this occasion the author would like to thank and highly appreciate the following:

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The author realizes that in the preparation of this thesis there are probably several mistakes, both in the writing technique and the content presented. Therefore, the author is in need of suggestions and constructive criticism for further improvement. Finally, the author hopes that what is presented in this thesis can be useful, especially for the author and for readers in general. Hopefully everything can be worth as a reward in Allah sight, Aamiin. That's all from me, Thank you. Wassalamualaikum Warahmatullahi Wabarakatuh.

Makassar, October 30, 2023
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ABSTRACT

ST SYARIFAH (B011191039), with the title ***"Legal Review of Copyright Infringement in Artificial Intelligence Image Generator Applications"***. Supervised by **Maskun** and **Ahmad Fachri Faqi**.

This research aims to analyze copyright infringement in images generated by artificial intelligence with image generator features and forms of legal protection for creators whose photographic creation are used in the image generator.

This research uses normative research methods conducted by analyzing the rules of existing legislation. The regulation is then associated with the case that is the focus of this research, namely the artificial intelligence of Stability AI's Stable Diffusion image generator that takes Getty Images photography to be transformed and reprocessed.

The results show that the action of the artificial intelligence image generator violates the copyright of the creator and copyright holder of the copyrighted photographic creation owned by Getty Images under the Copyright Law. Based on the provisions of the Copyright Law, creators and copyright holders can make several efforts as legal protection such as filing civil and criminal lawsuits, alternative dispute resolution, and arbitration. However, the scope of the Copyright Law that is not extraterritorial makes these rules inapplicable.

Keywords: Artificial Intelligence; Copyright; Image Generator.

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CHAPTER I

INTRODUCTION

A. Background

Developments in human life are things that always happen, including developments in the industrial revolution that change the pattern of society in every aspect of life. The real form of this development is the development of the industrial revolution 4.0 to the industrial revolution 5.0.¹ In the 5.0 industrial revolution that is currently happening, the use of technology is much more massive as shown by the development of the Internet of Things (IoT), big data, genetic engineering, smart machines, and also Artificial intelligence (hereinafter referred to "AI").² In this 5.0 industrial revolution, AI is focused on transforming big data to improve human capabilities.³

According to data from Matas Mingela, a Zyro Data Scientist, AI is currently used in a variety of activities. The influence of using AI has been felt in business domains like the retail industry, where the estimated profit even exceeds 800 billion US dollars.⁴ In Indonesia, AI is also developed to maximize the education sector, skill development, and so on. This is evidenced by the establishment of several AI platforms in Indonesia, such

¹ Jaroen Kraaijenbrink, 2022, *What Is Industry 5.0 and How It Will Radically Change Your Business Strategy?*, <https://www.forbes.com/sites/jaroenkraaijenbrink/2022/05/24/what-is-industry-50-and-how-it-will-radically-change-your-business-strategy/?sh=67d07da620bd>, Accessed on May 27, 2023.

² Yenny Puspita, et al., 2020, *Goodbye Industrial Revolution 4.0, Welcome to Industrial Revolution 5.0*, Proceedings of the National Seminar of the Postgraduate Program of PGRI University Palembang, p. 123.

³ *Ibid.*, p. 128.

⁴ Matas Mingela in Zyro by Hostinger, 2022, 31, *Surprising AI Statistics in 2022*, <https://zyro.com/id/blog/statistik-ai/>. Accessed on May 27, 2023.

as Netray owned by PT Atmatech Global Informatika, HARA owned by Databot, Kata.ai, WIRI (We Are Indonesian Intelligence) owned by the Bandung Institute of Technology, and so on.⁵

AI is currently also used to create a certain creation, for example the IBM Watson platform which is an AI platform that can create songs. The role of intellectual property law and some of its effects are also present in the more original and creative uses of AI technology.⁶ The creation of certain creation or the process reproduction of creation by AI has the potential for copyright infringement, especially when the creation that is reproduced by AI becomes the original creation and protected by copyright.⁷

Copyright protection as one of the Intellectual Property Rights regimes (hereinafter referred to as "IPR") in Indonesia is regulated based on Law Number 28 of 2014 concerning Copyright (hereinafter referred to as the "Copyright Law") where the basic concept of protection is the guarantee of 2 (two) exclusive rights, namely moral rights and economic rights.⁸ As a

⁵ VOI, 2023, *From Netray to AI Care, Here Are Some Companies Using Artificial Intelligence in Indonesia*, <https://voi.id/teknologi/257035/dari-netray-hingga-ai-care-berikut-beberapa-perusahaan-yang-gunakan-artificial-intelligence-di-indonesia>. Accessed on May 27, 2023.

⁶ Anke Moerland, 2022, *Artificial Intelligence and Intellectual Property Law*, The Cambridge Handbook of Private Law and Artificial Intelligence, <https://ssrn.com/abstract=4203360> Accessed on May 27, 2023.

⁷ Ron N. Dreben, 2023, *Generative Artificial Intelligence and Copyright Current Issues*, <https://www.morganlewis.com/pubs/2023/03/generative-artificial-intelligence-and-copyright-current-issues#:~:text=Potential%20liability%20for%20copyright%20infringement%20still%20exists%20to,images%20that%20are%20alleged%20to%20infringe%20their%20copyrights> Accessed on May 27, 2023.

⁸ Moral rights are rights inherent in the creator or performer that cannot be removed or eliminated without any reason, then economic rights are rights obtained by the creator to get the economic benefits of Creation and related rights. This has been clearly regulated in Article 5 through Article 19 of the Copyright Law.

result, the creator's creations are protected in terms of their moral and economic rights. The possibility for an overlap AI inventions and copyright protection exists when compared to the earlier description of inventions resulting from AI.

Copyright protection is critical because copyright cannot be separated from IPR born by human intellectual ability, that gives the existence of copyrighted creation ranging from creation of science, art, and literary creation and becomes rights of intangible objects (*immaterial*).⁹ IPR is basically a manifestation of appreciation for human intellectual property given in order to encourage human creativity to advance the welfare of society and the nation's economy.¹⁰

One of the legal problems that occurred in early 2023 related to creation created by AI is the case between Getty images and Stability AI. Getty images filed a lawsuit against Stability AI for infringing the copyright owned by Getty images. According to Getty images, Stability AI, especially on its Stable diffusion platform, has committed copyright infringement in the form of copying and processing millions of Getty images' copyrighted images to obtain Stability AI's own commercial benefits.¹¹

⁹ OK. Saidin, 2015, *Legal Aspects of Intellectual Property Rights*, Jakarta: Raja Grafindo Persada, p. 31-32.

¹⁰ Siti Nurhalimah, 2017, *Intellectual Property Rights in Indonesia*, IS: Law and Justice Bulletin, Vol 1 No 6c, p. 55-56.

¹¹ VOI, 2023, *Getty images Sues Stability AI For Copyright Infringement*, <https://voi.id/teknologi/245835/getty-images-gugat-stability-ai-atas-pelanggaran-hak-cipta> Accessed on May 27, 2023.

In its lawsuit in Case 1:23-cv-00135-UNA, Getty images postulates that Stability AI has raised more than \$100 million (hereinafter referred to as "USD") from venture capital investors and is already valued at \$1 billion from utilizing intellectual property owned by Getty images. From the use of Getty images' pictures, Stability AI can create an AI feature called Stable diffusion to create new images synthesized by computers at the command of the user's text. Getty images also added that Stability AI charges for the service, so there is a profit it earns on Getty images' copyrighted images.¹²

If it is related to copyright provisions in Indonesia, the image is a creation protected under Article 40 Paragraph (1) point f of the Copyright Law and obtains economic rights protection for 70 (seventy) years during the life of the Creator and continues for 70 (seventy) years after the Creator dies (Article 58 Paragraph (1) of the Law Copyright). When compared with the ownership of the creation based on the case, in this case it means that the image creation is owned by a legal entity, based on the provisions in Article 58 Paragraph (3) of the Copyright Law, the creation is protected by its economic rights for 50 (fifty) years from the first announcement.

This phenomenon is certainly inseparable from the massive use of AI to create a certain creation. Based on this phenomenon, when compared with the use of AI in this case image makers or AI Image Generators in Indonesia are also widely used. AI Image Generator platforms that are

¹² Getty images (US) Inc. (Plaintiff) v. Stability AI, Inc. (Defendant), Case 1:23-cv-00135-UNA Document 1 Filed 02/03/2023, <https://www.theverge.com/2023/2/6/23587393/ai-art-copyright-lawsuit-getty-images-stable-diffusion>

widely used in Indonesia, for example Midjourney, Bing Image Creator, Picsart AI Image Generator, Stable diffusion, and so on.¹³ Previously, AI Image Generator was an AI system whose function was to create original images based on text inputted by the user, images were created using image data sets owned by the system.¹⁴ AI Image Generator can also combine lighting, but AI Image Generator only combines components from other images so that it does not create images by itself and there is an original image that is the material for the image produced by AI Image Generator.¹⁵

On the other hand, there are many Indonesians who use the Getty images platform to commercialize their images so that there is a potential use of images owned by Indonesian image creators by Stability AI in its Stable diffusion platform. The following phenomenon and description of the legal level related to copyright protection indicate the potential for copyright infringement in inventions from AI. The problem between Getty images and Stability AI illustrates that there has been awareness regarding copyright infringement of image creations produced by AI Image Generator. This fact indicates the potential for similar things to happen in Indonesia so that the legal issue in this study is about copyright infringement in the creation

¹³ Lukman Azis, 2023, *10 Tools AI Image Generator, Create Creative Images with AI*, <https://hybrid.co.id/post/10-tools-ai-image-generator-membuat-gambar-kreatif-dengan-ai> Accessed on May 27, 2023.

¹⁴ Austin Distel, December 8, 2022, *AI Image Generator: A Complete Guide*, <https://www.jasper.ai/blog/ai-image-generator#:~:text=In%20short%2C%20an%20AI%20image%20generator%20creates%20an%20more%20than%20piece%20together%20information%20from%20other%20images>. Accessed on May 27, 2023.

¹⁵ Ibid.

created by AI Image Generator and the solution that image creators can take on it by raising the research title "**Legal Review of Copyright Infringement In Artificial Intelligence Image Generator Applications**".

B. Problem Statement

1. What is the Application of Copyright Law in Indonesia to Copyright Infringement by AI Image Generator?
2. What is the form of legal protection for copyright holders whose rights are violated by AI image generators According to Indonesian Copyright Law?

C. Research Objectives

1. To identify and analyze Copyright infringement by AI Image Generator.
2. To identify and analyze the resolution efforts that can be made by image creators whose images are reprocessed in AI Image Generator.

D. Research Usability

1. Theoretically, it is expected to be a contribution of thought to the development of legal science, especially related to the potential for copyright infringement in the form of images produced by AI Image Generator.
2. Practically, it is expected to be an additional reference for practitioners or related parties, regarding potential copyright

infringement in the form of images produced by AI Image Generator.

E. Research Originality

1. Undergraduate Thesis, Marcelina Sutanto with the title Legal Protection of Creations Produced by Artificial Intelligence, Faculty of Law, Hasanuddin University, 2021, The study analyzes the potential of creations produced from artificial intelligence to be classified as intellectual property and artificial intelligence is equated with employees who work based on employment relationships (Works Made for Hire).
2. Undergraduate Thesis, Yolanda Simbolon entitled The Position of Image Creations Produced through Artificial Intelligence in Copyright Regimes (Comparative Study between Indonesia and the United States and the United Kingdom), Faculty of Law, Gadjah Mada University, 2022, The study analyzes image creations produced by Artificial Intelligence including copyrightable creation or not and the comparison of copyright protection of the resulting image creation Artificial Intelligence in Indonesia, the United States and the United Kingdom. In addition, this study also examines the *ius constituendum* of copyright protection in Indonesia related to the creation of images produced by Artificial Intelligence.

CHAPTER II

LITERATURE REVIEW

A. Intellectual Property Rights

1. Definition of Intellectual Property Rights

Black's Law Dictionary defines intellectual property as "A category of intangible rights protecting commercially valuable products of the human intellect". Meanwhile, the World Intellectual Property Organization (hereinafter referred to "WIPO") defines intellectual property as "creations of the mind." Therefore, the essence of intellectual property itself is a product that is comes from human thinking, not animals, machines, or so on. In Indonesia itself, the Directorate General of Intellectual Property defines Intellectual Property as "Rights arising from the results of thought that produce a product or process that is useful for humans".

The point is IPR is the right to enjoy economically the results of intellectual creativity. Thus, it can be concluded that one of the main requirements for a creation to be categorized as Intellectual Property is that the creation must be human-made. IPR is a right arising from the results of thought and producing a product or process that is useful for humans, in essence IPR is the right to enjoy economically the results of a creator's intellectual creativity.¹⁶

¹⁶ Directorate General of Intellectual Property Rights, Ministry of Law and Human Rights R.I., 2017, *Guidebook on intellectual property rights*, Jakarta: Directorate General of Intellectual Property Rights, p. iii.

IPR is a civil law classification specifically to property law, Property Law itself is generally part of the law of asset and is regulated in the second book of the KUHper. The law of things is a translation of the Dutch term, namely "*zakenrecht*".¹⁷ Then in the provisions of Article 499 and Article 503 of the Civil Code stipulate that:

" Objects are everything and every right that can be the object of property rights; and divides goods into those that have a body, and those that do not have a body. "

Countries with Anglo Saxon system (common law system) are the first countries to explain that IPR is included in the type of intangible movables. IPR is also an agreement granting the right to use IPR such as information from a system or technology, the use of a logo, trademark and trade name, patent, or trade secret in exchange for payment of royalties or fees or premiums given by the licensee to the recipients licensee (referred to as "licensor"). This agreement usually provides exclusive rights in the form of the use of economic rights over IPR.¹⁸

So, every intellectual property that exists must not be recognized by others because intellectual property is a creation that has originality and needs to be appreciated which if it is not done then there is a concern for intelligence. Therefore, it is very important to protect IPR.¹⁹ IPR has a special agency that handles it, the agency is called WIPO which is a special

¹⁷ Simanjuntak, 2019, *Indonesian Civil Law*, Ed.1, Cet.5, Jakarta: PRENADA MEDIA GROUP, p. 175.

¹⁸ Hidayah Khoirul, 2017, *Intellectual Property Rights Law*, Malang: Setara Press, p. 2

¹⁹ Nizwana Yuliana and Rahdiansyah, 2019, *Protection Of Intellectual Property Rights (IPR) Reviewed From Epistymology*, Vol. 3, No. 2, Mahaputra Muhammad Yamin University, Riau Islamic University, p. 36

agency of the United Nations where Indonesia itself is one of the members with the ratification of the Paris Conventions For The Protection Industrial Property and Convention Establishing The World Intellectual Property Organization.

At present, IPR has gained attention on a national and worldwide level and has grown in importance. The inclusion of TRIPS in the WTO approval package in 1994 marked the beginning of a New Era of IPR development worldwide.²⁰ Intellectual property law in Indonesia itself refers to a series of regulations that protect the rights of intellectual property owners.

2. Scope and Principles of Intellectual Property Rights

IPR is defined as legal protection of IPR owned to control the use and utilization of intellectual creation produced by following existing laws and, regulations in the field of IPR In general, the scope of IPR is divided into two categories copyright and industrial property rights.

According to Article 1 of the Paris Convention on the Protection of Industrial Property Rights of 1883, as supplemented and amended on October 2, 1979, the legal protection of industrial property includes Patens, Trademark rights, Industrial Design Rights, Geographical Indication Rights, Trade Secret Rights and Integrated Circuit Layout Design Rights.

1. Copyright

Copyright itself has been regulated in a very specific Law, namely

²⁰ DJKI & Kemenkumham, Op.cit, *Intellectual Property Rights Handbook*, p iv.

the Copyright Law, in the regulation it has been defined that Copyright is an exclusive right arising based on the declarative principle of copyright creation in the fields of science, art, and literature to be able to announce and / or broadcast, duplicate, and distribute and / or sell the copyrighted creation.²¹ In addition to this copyright, the Copyright Law also includes moral rights and economic rights as stipulated in Article 5 to Article 19.

2. Patents

Patent rights are exclusive rights granted by the state to prevent other parties within a certain period from making, selling, and using an invention in the field of technology, Patent rights are used to protect new technological inventions that have inventive activities and can be applied industrially.²²

3. Trademark rights

Trademark rights are exclusive rights to all uses of trademarks including those that can appear graphically in the form of images, logos, names, words, letters, numbers, color arrangements, in the form of 2 (two) dimensions and / or 3 (three) dimensions, sounds, holograms, or a combination of 2 (two) or more of these elements to distinguish goods and / or services produced are produced by people or legal entities in trading activities.²³

4. Industrial Design Rights

Industrial Design Rights are exclusive rights granted by the Republic

²¹ Law Number 28 of 2014 concerning Copyright Article 1.

²² Law Number 13 of 2016 concerning Patents, Article 1 and Article 2.

²³ Law Number 20 of 2016 concerning Marks and Geographical Indications Article 1 Paragraph (1-7).

of Indonesia to the Designer for the results of their creation to for a certain time carry out their own, or give consent to other parties to exercise these rights or in short exclusive rights to use the results of industrial Design creation.²⁴

5. Geographical Indication Rights

Geographical Indication Rights are exclusive rights granted by the state to registered holders of Geographical Indication rights, as an effort to protect a mark that indicates the area of origin of an item and / or product which due to geographical environmental factors including natural factors, human factors or a combination of these two factors gives reputation, quality, and certain characteristics to the goods and / or products produced.²⁵

6. Trade Secret Rights

Trade Secret Rights are rights obtained for protection to maintain the confidentiality of information that is not publicly known in the field of technology and / or business, which has economic value because it is useful in business activities and is kept confidential by the owner of the trade secret.²⁶

7. Integrated Circuit Layout Design Rights

Integrated Circuit Layout Design Rights are exclusive rights granted by the Republic of Indonesia to the Designer for the results of their creation,

²⁴ Law number 31 of 2000 concerning Industrial Design Article 1 Paragraph 5.

²⁵ Law Number 20 of 2015 concerning Brands and Geographical Indications Op.,cit. Article 1 paragraph (6).

²⁶ Law Number 30 of 2000 concerning Trade Secrets Article 1 Paragraph (1 and 2).

for a certain time to carry out himself, or give approval to other parties to exercise these rights.

The IPR principle itself contains everything that regulates the rights and obligations of IPR owners in protecting their intellectual creation. This protection is more dominant in individual protection, then the IPR principle appears to balance between individual interests and community interests, the principles are:²⁷

1. The principle of natural justice

The creator of a creation, or anyone else whose creation comes to fruition from their intellectual abilities, deserves a reward. These rewards can be material or immaterial, simply with the existence of a sense of security because they are protected, and recognized for their creation.

2. The Economic Argument

IPR is a right derived from the results of creative activities of a human thinking ability expressed to the general public in its various forms, which has benefits and is useful in supporting human life, meaning that ownership is reasonable because of human economic nature which makes it a necessity to support their life in society.

3. The Culture Argument

The Culture Argument Principle conceptualizes that human creation essentially aims to enable to live, the growth and development of art and literature is very significant for the improvement of the standard life,

²⁷ Budi Agus Riswandi and Syamsudin, 2005, *Intellectual Property Rights and Legal Culture*, Jakarta: PT. Raja Grafindo Persada, p.30.

civilization and human dignity so that it requires humans to produce more creation related to that science.²⁸

4. The Social Argument

The law does not regulate the interests of man as an independent individual, independent of other human beings, but the law regulates the interests of man as a society.²⁹ Therefore, any right recognized by law to a human being or a Communion is for the benefit of the whole society and not just for man as an individual.

3. Theories About Intellectual Property Rights

According to Robert C. Sherwood, the theory of IPR protection as follows:³⁰

1. Reward Theory has a very deep meaning, namely the recognition of intellectual creation that has been produced by inventors, creators, and designers so that he must be given awards in return for their creative efforts in discovering and creating intellectual creation,
2. Recovery Theory, stated that inventors, creators, and designers who have spent time, money, and energy to produce their intellectual creation must get back what they have spent,
3. Incentive Theory, based on this theory, incentives need to be given to strive for the development of useful research activities,

²⁸ Neni Sri Imaniyati, 2010, *IPR Protection as an Effort to fulfill the Right to Science and Technology, Culture and Art*, Journal of Legal Media, vol. 17, Bandung, p.165

²⁹ Budi Agus Riswandi & Syamsudin, op,cit, p. 33

³⁰ Khoirul Hidayah, 2018, *Intellectual Property Rights Law*, Malang: Setara Press, p 8

4. Risk Theory, stated that the results of copyrighted creation contain risks. The risk referred to in IPR is that the creation contains risks that allow irresponsible people to take away rights to other people's copyrighted creation. Thus, it is reasonable and very important to provide a form of legal protection against efforts or activities that contain these risks,
5. Economic Growth Stimulus Theory, namely the protection of IPR is a tool of economic development. A country whose IPR protection system runs well, then its economic growth will be good too.³¹

4. Development of Intellectual Property Rights Protection in the Industrial Revolution 5.0 Era

The 4.0 Industrial Revolution has brought new challenges.³² The development of industry 4.0 must be balanced with preparation by the people in dealing with the development of industry 4.0 which is now known as society 5.0, Society 5.0 is the new future of mankind with the use of technology in various aspects of life. The era of society 5.0 was first introduced by Japanese Prime Minister Shinzo Abe with the aim of balancing technological progress with integrated social problem solving. The balance of society needs to be in order to anticipate the development of industry 4.0 with many AI created.³³

³¹ Nizwana Yuliana & Rahdiansyah, Op.cit, p. 38.

³² Danrivanto Budhijanto, *Virtual Jurisdiction in the Industrial Revolution 4.0*, <https://kumparan.com/danrivanto-budhijanto/yurisdiksi-virtual-dalam-revolusi-industri-4-0-1qmwNnVyYO/1>, Accessed on June 15, 2023.

³³ Sudaryat, Dadang Epi Sukarsa, and Ahmad M. Ramli, 2020, *Intellectual Property Protection Of Creative And Innovative Work Of Startup Businesses In Indonesia In The*

The growth of intellectual property from the industrial revolution 4.0 era to the development of society 5.0 necessitates specific protection in the sphere of intellectual property law, given the low level of IPR registration in this period. This is acknowledged by the Director General of Intellectual Property, and it is directly tied to copyright, patent, and trademark rights.³⁴

B. Copyright

1. Definition of Copyright

Copyright under the Copyright Law is ;

"Exclusive rights of creators that arise automatically based on the declarative principle after a creation is realized in tangible form without prejudice to restrictions in accordance with the provisions of laws and regulations".³⁵

Copyright is a part of intellectual property that only can protect products from human intellect. This is reflected in the definition of *Intellectual Property* described earlier. Therefore, it is very important to protect the Rights of a Copyright because if there's no protection against a creation of copyright it will harm the creator who has taken an efforts starting from inspiring, imagining and thinking to create something so it should be said that Copyright is a part of IPR that is very important to be protected.

Copyright has an international symbol, namely: ©, and in every creation that has the symbol as above, it can be interpreted that the intellectual property has exclusive rights or rights that are only owned by the

Industrial Era 4.0 And Society 5.0, Journal of Notarial Law, Faculty of Law Unpad, Bandung, vol. 4, No. 1, p. 69.

³⁴ Ibid, p. 72.

³⁵ Copyright Law. Op.cit, Article 1 Paragraph (1).

creator or copyright holder to regulate the use of the creation or the results of the idea or information. Laws related to copyright include:

1. First regulated in Law No. 6 of 1982 concerning copyright
Then amended by Law No. 7 of 1987.
2. In 1997 it was amended again by Law No.12 of 1997.
3. then in 2002, the Copyright Law again underwent changes in
Law Number 19 of 2002,
4. Currently Law Number 28 of 2014.

In addition to the laws contained above, there are many other regulations that regulate Copyright and implementing regulations in the field of Copyright that are more detailed and discuss thoroughly about the regulation and implementation of Copyright, especially regulating Copyright in Indonesia.³⁶

Copyright protects creation in the fields of science, art, literature which includes books, computer programs, pamphlets, faces or layouts of published papers, and all other written creation, lectures, speeches and other such creations, props made for educational and scientific purposes, songs or music with or without text, drama or musical drama, dance, choreography, puppetry and mime, fine arts in all forms such as painting, drawing, carving, calligraphy, sculpture, collage, and applied arts, architecture, maps, batik art, photography, cinematography, translation, interpretation, extraction and other creation and shapeshifter result. All

³⁶ DJKI & Kemenkumham, Op.cit, *Intellectual property rights handbook*, p. 3-4.

forms of creation produced have copyright, but copyright on the results of folk culture or, creation that are unknown to the creator, then the copyright on the creation will be held by the state.

2. Subject and Object of Copyright Protection

In the Big Dictionary of Indonesian, it is explained about the definition of subject and object. The subject itself is a person or thing that is being discussed, described, or dealt to the object observed. Then the object is defined as the thing, or person who are used as targets for research, attention, subject of conversation, and so on.

The subject and object of copyright protection itself has been regulated in the Copyright Law, if it adheres to the understanding of subject and object, it can be concluded in the Copyright Law, there is a copyright subject, namely the creator and copyright holder. A creator is one or several people who individually or jointly produce a creation that is distinctive and personal.³⁷ Copyright holder is the Creator as the owner of the Copyright, the party who legally received the right from the Creator, or other parties who received further rights from the party who received the right legally.³⁸

Creators and copyright holders are very important in copyright law. Behind the rights owned by the creator, certain qualifications are needed so that the creation can be protected such as having an identity and status that functions as a determinant of their ownership rights. Copyright holders

³⁷ Copyright Law, Op.cit, Article 1 Paragraph (2)

³⁸ Ibid. Article 1 Paragraph (4)

themselves get a division between copyright holders based on legal events and copyright holders under the Law.³⁹ Article 16 Paragraph (2) of the Copyright law explains the concept of copyright holder based on legal events, in which it is stated that:

Copyright may be transferred and assigned, in whole or in part because:

- a. Inheritance
- b. grant
- c. Endowments
- d. Testament
- e. A written agreement or
- f. Other reasons that are justified in accordance with the provisions of the legislation.

Article 80 of the Copyright Law also allows a copyright holder to grant permission in the form of a license to other parties on written terms of copyright and rights related to the copyrighted creation.

The rights of copyright holders under the Copyright Law are regulated in Article 37, Article 38 and Article 39 of the Copyright Law, in which the Law explains that if the creator of a creation uses traditional cultural expressions, not identified or does not want to be identified (using aliases or pseudonyms), no announcements are made, or publish but do not Known to the creator, the copyright on these creation is held by the state to be the benefit of the creator.

The object of copyright itself if it refers to the definition of objects based In the Big Dictionary of Indonesian above, we can explain that the

³⁹ Elyta Ras Ginting, 2012, *Copyright law analysis theory and practice*, Bandung: Citra Aditya bakti, p. 183

object of a copyright is any copyrighted creation in the field of science, art, and Literature produced by inspiration, ability, thought, imagination, dexterity, skill, or expertise expressed in tangible form.⁴⁰ So for every creation of copyright as a creator and copyright holder has the right to benefit from exclusive rights which include moral rights and economic rights.⁴¹

3. Moral Rights and Economic Rights in Copyright Protection

Moral rights in law are explained as rights that will be eternally attached to the creator during their life,⁴² but this can be transferred by the existence of a will or other causes in accordance with the provisions of existing regulation. Therefore, in order to ensure the protection of moral rights owned by the creator, there are several things that are prohibited from being removed, changed, or damaged, namely copyright management information and copyright electronic information.⁴³

Copyright management information which includes information about methods or systems that can identify the originality of the substance of the creation and its creator as well as information and access codes in addition to electronic copyright information which includes information about a creation that appears and is embedded electronically in connection with the activity of announcing the creation, creator name and pseudonym, creator as copyright holder, period and use of creation conditions, information

⁴⁰ Copyright Law, Op.cit, Article 1 Paragraph (3).

⁴¹ Ibid., Article. 4.

⁴² Ibid., Article. 5.

⁴³ Ibid., Article. 6.

numbers and codes. Both of these are done as an effort to protect the moral rights of creators and copyright holders of a copyrighted creation.⁴⁴

This moral right is given solely to maintain the good name or reputation of the creator as another form of recognition of one's intellectual creation.⁴⁵ Moral Rights include 2 big things, The first is the Right of Integrity which is a right that concerns all forms of attitudes and treatments related to the integrity or dignity of the creator. In practice, the right is expressed in the form of a prohibition to alter, reduce, or damage the creation that could destroy the integrity of its creator. The principle is that creation must remain intact according to the original creation.⁴⁶ The second right that is the main thing in Moral Rights is the Right of Attribution (right of paternity). In this case, Moral Rights require that the identity of the creator be placed on the creation, either by self-name or pseudonym.

In certain cases, and at the discretion of the creator, the creator can negate their identity and leave their creation anonymous. This particular thing for example, is motivated by the complexity in the collective creation process and the consideration of simply making it easier to write the identity of the songwriter by only listing one name and eliminating other names.⁴⁷

⁴⁴ Yustisia Vision Team, 2015, *Official Copyright Guide From Registering, Protecting, to Resolving Disputes*, Jakarta: Transmedia Pustaka, p.2

⁴⁵ Ferol Mailangkay, 2017, *Legal Study on the Moral Rights of Creators and Users According to Law Number 28 of 2014 concerning the Rights of copyright*, Journal Lex Privatum, Vol. V, No. 4, p. 138.

⁴⁶ Henry Soelistyo, 2011, *Copyright Without Moral Rights*, Jakarta: Raja Grafindo Persada, p. 16.

⁴⁷ *Ibid.*, p. 17.

In copyright protection, in addition to known moral rights there also exists economic rights, economic rights are the right to obtain economic benefits from IPR. It is said to be an economic right because IPR includes an object that can be valued with money. Economic rights are the exclusive rights of creators or copyright holders to obtain economic benefits from the creation. The creator or copyright holder has the economic right to publish the creation, reproduce the creation in all forms, translate the creation, adopt, arrange, or transform the creation, distribute the creation or copy, perform the creation, announce the creation, communicate the creation, and rent the creation.

Everyone who implements the economic rights must obtain the permission of the creator or copyright holder. Meanwhile, any person who don't have the permission of the creator or copyright holder exercises the economic rights of a creation, is prohibited from copying or using the commercially creation. Similarly, the management of the trading venues it manages. In addition, any person is also prohibited from commercially using, reproducing, announcing, distributing, and/or communicating on the Portrait made by someone for the benefit of commercial advertising without the written consent of the person witch was photographed.⁴⁸

In addition to moral rights and economic rights, there are also related rights, related rights are exclusive rights related to copyright, namely exclusive rights for actors who reproduce or broadcast performances, for

⁴⁸ Ibid., p. 3.

sound recording producers to reproduce or rent sound recording or sound recording creation, and for broadcasters to create, reproduce, or broadcast their creation.⁴⁹

4. Copyright Registration

Before registering a creation for their copyright, they must go through several procedures beginning with application for copyright registration, an application Copyright Registration is for record the exclusive rights of the creator that arise automatically based on the declarative principle after a creation is realized in tangible form without prejudice to restrictions to be registered in the Intellectual Property Database and ownership has legal force. This has been regulated in the Copyright Law, and Government Regulation of the Republic of Indonesia Number 28 of 2019 concerning Tariffs and Services for Non-Tax State Revenues.⁵⁰

From the process of applying for registration of creation, it is submitted by filling out the form provided in the Indonesian and typed in triplicate then the application must attach a special power of attorney if the application is submitted through a legal representative and then attach also a sample of the creation with the provisions that have been provided then a certified copy and establishment of a legal entity or a photocopy legalized by a notary.

⁴⁹ DJKI & Kemenkumham, Op.cit. *Intellectual property rights handbook* p. 5.

⁵⁰ Ministry of Law and Human Rights of the Republic of Indonesia, *Copyright Registration Application*, <https://jakarta.kemenkumham.go.id/layanan-divisi-pelayanan-hukum-dan-ham/permohonan-pendaftaran-hak-cipta> Accessed on June 16, 2023.

If the application is a legal entity then a photocopy of identity card and proof payment of application fees in the event that the application for registration of the copyright holder's creation is not the creator himself, The applicant must attach proof of the transfer of copyright. After carrying out the existing procedures, a fee will be charged for the copyright submitted in accordance with the provisions that have been imposed and it takes 1 (one) working day for the completion of the application that has been submitted. In addition to applications for copyright registration of creation, applications for registration of transfer of registered copyrights can also be made, requests for registration of changes in name and address, requests for official citations of registered creation.⁵¹

5. Copyright Transfer

The period of protection of a copyright when viewed with the provisions of Article 29 of the Copyright Law such as books, pamphlets, and all other written creation, drama or musical drama, dance, choreography, all forms of fine art, such as painting, sculpture and sculpture, batik art, song or music with or without text, architecture, lectures, lectures, speeches and other similar creations, Props, maps, translations, commentaries, interpretations and flowers occur during the life of the creator and continue until 50 years after the creator dies.

When owned by two or more people, copyright lasts for the life of the creator who died last and lasts for 50 years thereafter. Then it is also

⁵¹ DJKI & Kemenkumham, Op.cit, *Intellectual Property Rights Handbook*, p. 8-10.

regulated in the provisions of Article 30 of the Copyright Law regarding the period of copyright protection for computer programs, cinematography, photography, data bases, creation of the Transfer valid for 50 years since it was first announced. Then if a creation is owned or held by a legal entity, copyright is valid for 50 years from the time it was first announced, copyright owned or held by the state based on Article 10 Paragraph (2) of the Copyright Law is valid indefinitely, Article 11 Paragraph (1) and Paragraph (3) of the Copyright Law is valid for 50 years from the time it was first known to the public.⁵²

However, the copyright can also be transferred either in whole or in part, this is regulated in the Copyright Law regarding the transfer of copyright in Article 16 Paragraph (2) of the Copyright Law states that,

Copyright can be transferred, either in whole or in part because:

- a. Inheritance;
- b. grant;
- c. endowments;
- d. testament;
- e. written agreement; or
- f. other reasons that are justified in accordance with the provisions of laws and regulations.

But note that what is meant by "Can be transferred" is only economic rights, while moral rights remain attached to the creator. Regarding the transfer of moral rights, based on Article 5 Paragraph (2) of the Copyright Law, moral rights cannot be transferred while the creator is alive, but the exercise of these rights can be transferred by Will or other causes in

⁵² DJKI & Kemenkumham, Op.cit, *Intellectual Property Rights Handbook* p. 5.

accordance with the provisions of laws and regulations after the creator dies.⁵³

6. Forms of Copyright Infringement

An act can be said to be a copyright infringement if the act violates the exclusive rights of the creator or copyright holder and causes harm to the creator, it has been regulated in the copyright law that the creative creation produced by the creator or copyright owner has been protected. The following forms of copyright infringement are generally committed by persons or entities that are not responsible under Copyright Law:

1. Unauthorized duplication occurs when a person or entity duplicates, copies, or reproduces a copyrighted creation without permission from the copyright owner.
2. Illegal distribution: This violation occurs when a copyrighted creation is distributed to others without permission. Examples include selling, renting, or giving away the creation to another party without authorization.
3. The creation of derivative creation of this violation occurs because of the existence of entities that Creating derivative creation means using existing creation as a basis for creating new creation. Infringement occurs if a derivative creation is created without the permission of the original copyright owner.

⁵³ Risa Amrikasari, 2019, *Transfer of Copyright by Written Agreement*, <https://www.hukumonline.com/klinik/a/pengalihan-hak-cipta-dengan-perjanjian-tertulis-1t5b7dd3a4261c2/> Accessed on June 16, 2023.

4. Unlicensed commercial use, this violation occurs due to the use of copyrighted creation for commercial purposes, such as in advertisements or products, without obtaining permission from the copyright owner.
5. Unauthorized public appearances, these violations occur when a copyrighted creation is displayed in public, such as in a performance or concert, without permission from the copyright owner.
6. Broadcasting without permission, this violation is carried out by broadcasting copyrighted creation through media such as radio, television, or the internet without the permission of the copyright owner.
7. Unauthorized online use, this violation is carried out by uploading or sharing copyrighted creation online, such as on websites, social media platforms, or forums, without permission.
8. Altering copyright information, this violation is done by removing or altering information that identifies the copyright owner of the creation without permission, which can make it difficult to identify or contact the copyright owner.
9. Use of a portion of a creation, this infringement is when someone using a portion of a copyrighted creation without permission, especially if that use diminishes the commercial value or potential impact on the original creation.

10. Public broadcasting without permission, this violation is carried out by means of public broadcasting of copyrighted creation, such as in a public place or through a means of public reception, without the permission of the copyright owner.

So, it can be concluded that copyright infringement occurs if the use and all forms of utilization of copyrighted creation that cause harm and violate exclusive rights owned by a creator, exclusive rights themselves are rights that are solely intended for the holder so that no other party may utilize without the permission of the copyright holder of an intellectual creation to avoid harm to the copyright holder.⁵⁴

C. Overview of Artificial intelligence

1. Understanding Artificial Intelligence

Human beings are created with extraordinary intelligence. Newborns can only cry when they feel hungry or uncomfortable but stop immediately when the mother feeds their milk or changes their diaper. This is an early learning concept through a causal mapping in the neural networks of their brain. This intelligence continues to grow rapidly so that it is able to form 10 types of intelligence proposed by Howard Gardner in the theory of multiple intelligences, namely musical rhythmic, visual Spatial, verbal linguistic, logical mathematical, bodily kinesthetic, interpersonal, intrapersonal, naturalistic, existential and moral.

⁵⁴ M. Djumhana and Djubaedillah, 2014, *Intellectual Property Rights: History, Theory and Practice in Indonesia*, Ed. 4, Bandung: PT. Citra Aditya Bakti, p. 94.

Until now, there has not been a single machine that can match the multiple intelligences of humans as a whole. Experts define AI differently depending on their own point of view. Some focus on the logic of human thinking only, but there are also those who define AI more broadly on human behavior.⁵⁵ The most appropriate definition of AI for now is acting rationally, namely with a rational agent approach which means the computers or technology that exists today can-do logical reasoning and can also perform actions rationally based on the results of the reasoning.⁵⁶

AI is a simulation of human intelligence modeled in the form of a machine and programmed to think like a human. According to McLeod and Schell, AI is an activity that gives machines such as computers the ability to display behavior considered equivalent to the abilities demonstrated by humans and is a computer system that can create that requires human intelligence to complete. AI is a technology that requires data to become knowledge, just like humans, need experience and data to improve their intelligence. An important process in AI is learning, thinking and self-correction to improve its knowledge.

One of the advantages of AI over humans is that the AI learning process is not always controlled by humans but can be programmed to learn on its own based on the experience gained when their used by humans to improve themselves from the mistakes they have made before. The most

⁵⁵ Dr. Suyanto, 2021, *Artificial Intelligence (Searching, reasoning, planning, and Learning)*, Ed. 3, Bandung: Informatics, p. 10.

⁵⁶ *Ibid.*, p. 28.

important points in AI technology are learning, reasoning and self-correction.

AI is the ability of digital computers or computer-controlled robots to perform tasks that are usually linked to intelligence.⁵⁷ The study of how to produce machines that have some of the qualities possessed by the human mind, such as the ability to understand language, recognize images, solve problems, and learn.⁵⁸

2. History of Artificial Intelligence

Historically, the term and concept of AI which in Indonesia is known as *Kecerdasan buatan* has been born since the 1950s. In its development, AI has experienced ups and downs. In the 1980s, AI became very popular with a new technique called machine learning (ML). But soon its development slowed down until in the 2010s AI was again popular with the birth of a new technique called Deep Learning (DL) which is ML Modernization. Since then, DL has been widely applied to Data Meaning (DM), Business Intelligence (BI), and Big Data Analytics (BDA).⁵⁹

Actually, concepts related to AI have existed since ancient Greece, but not many of their creation have reached us. This concept of AI in ancient Greece was more inclined towards the Beatles than the thoughts of their philosophers. In ancient Greece, there is a myth about Hephaestus, that is

⁵⁷B.J. Copeland, 2023, *Artificial Intelligence*, Britannica, <https://www.britannica.com/technology/artificial-intelligence>, Accessed on June 19, 2023.

⁵⁸Cambridge Dictionary, 2023, *Artificial intelligence*, Cambridge, <https://dictionary.cambridge.org/dictionary/english/artificial-intelligence> Accessed on June 20, 2023

⁵⁹ Dr. Suyanto, Op.cit, p. 1.

someone who made mechanical servants pointing to the concept of intelligent robots/machines at that time. This shows that people at that time had an image of intelligent beings whose physique was not made of flesh like humans and animals. There are also many other myths similar to that.⁶⁰

The history of AI continues in 1206, namely in the Islamic Civilization in the Middle Ages, Al-Jazari developed the first humanoid robot that could be programmed and create mechanically. At that time Islamic civilization did produce many interesting findings that created mechanically. There are also many findings of mechanical devices that create automatically But Al-Jazari can go one step further by developing not only automated tools, but also humanoid and programmable in its users.⁶¹

Western civilization itself produced great philosophers after centuries before being confined in the dark ages. Among the philosophers who are famous and much influential in Western Civilization today are Rene Descartes and Thomas Hobbes. According to Descartes, animals are basically nothing more than complex machines. Meanwhile, Thomas Hobbes published *The Leviathan*, which theorized mechanically and combinatorically thought.⁶²

Then on In the 20th century, computers began to be widely used. In fact, in world wars one and two, computers played an important role. The war also sparked new discoveries in the field of computer science. When

⁶⁰ Edward seiler and John H. Jenkins, *Frequently Asked Questions about Isaac Asimov*, http://www.asimovonline.com/asimov_FAQ.html#series13, Accessed on June 20, 2023

⁶¹ Ibid.

⁶² Ibid.

the war ended, the development of computer science became faster, including discussions related to AI.

Briefly in 1943, Warren McCulloch and Walter Pitts published *A Logical Calculus of the ideas Immanent in Nervous Activity*. This creation provides the basis for the concept neural network which is vital to the development of AI. Even if we review AI and Machine Learning In this day and age, the basic concept remains neural networks.⁶³ Continuing in 1950, A. M. Turing introduced the Turing test, which is a test to test the intelligence of a machine. Previously, Alan Turing also put forward the concept of universal Turing machine which became an important concept for computer development.

Today, the terms Turing test and universal Turing machine are still often used in computer science and AI.⁶⁴ Then in 1955 Allen Newell, Cliff Shaw and Herbert Simon developed a computer program called *Logic Theorist* which is more often referred to as the first AI program and in 1956 the *Logic Theorist* was presented at a conference called DSRPAI this conference that came up with the term “Artificial intelligence” for the first time.⁶⁵

At The previous year AI developed very rapidly and even gave great hope, but in 1974 to 1980 AI could not develop further because computer

⁶³ Ibid.

⁶⁴ Ibid.

⁶⁵ T. Lewis, 2015, *A Brief History of Artificial Intelligence*, Live Science, <https://www.livescience.com/49007-history-of-artificial-intelligence.html> Accessed on June 20, 2023.

capabilities at that time were still very low and funding to research AI further also decreased.⁶⁶ John Hopfield and David Rumelhart introduce algorithms Deep Learning which is currently widely used it was introduced in 1980, in this period also famous for the invention of the model neural network which is currently referred to as Hopfield network. Then in this period also Edward Feigenbaum introduced Expert system, a computer program that is trained by experts in a field so that the program can advise laypeople in that field. Industry also uses a lot Expert System.⁶⁷

Then from 1987 to 1993 there was a resumption of AI winter along with the collapse of the market for several types of computers and reduced funding from the government.⁶⁸ After the AI Winter, this year there is a very fantastic achievement. These great achievements include computer capabilities that have improved from before.⁶⁹

This increased computer capability is in accordance with Moore's law which we still feel. The achievement also led to the victory of IBM's computer program, called Deep Blue, in a chess game against Gary Kasparov, the world chess champion at the time, with this great achievement, AI became popular again.⁷⁰

Continuing on the development of AI in the 21st Century which in this century is much greater than before, there are 2 (two) main influencing

⁶⁶ Ibid.

⁶⁷ T. Lewis Op.cit

⁶⁸ Council of Europe, Op.cit.

⁶⁹ T. Lewis Op.cit ,

⁷⁰ Ibid.

factors, namely the discovery of graphics cards or GPUs (graphic processing units) and the massive data available.⁷¹ GPU is related to processing graphics objects, this GPU is a very suitable thing to be applied to AI. This is because AI, especially those based on neural networks, requires many parallel operations that GPUs are designed to optimize for such parallel operations.

Even now, GPUs are still often the choice for developing AI. In addition to these 2 factors, there are several other factors, and in that case there is a significant paradigm shift. With massive data and high computational performance, AI can be designed to learn on its own. In that way, in 2012, Google managed to create an AI that was able to recognize cats on a video.⁷² Due to this rapid development, the market value of AI-based software reached 9.5 billion and this value will increase 13-fold to 118.6 billion by 2025⁷³

3. Forms and Types of Artificial Intelligence

The form of intelligence so far has 4 (four) divisions, this division is adjusted to the ability of AI in a technological device. These forms include Acting humanly, Thinking humanly, Think rationally and Act rationally.⁷⁴ Acting humanly itself means imitating creation, activities or things that are

⁷¹ AAAI, A Brief History of AI, *AI Topics, Association for the Advancement of Artificial Intelligence (AAAI)*, <https://aitopics.org/misc/brief-history>, Accessed on June 20, 2023.

⁷² AI Topics, Op,cit.

⁷³ P. Gralla, 2019, *AI by the numbers*, *Hewlett Packard Enterprise (HPE)*, <https://www.hpe.com/us/en/about/doppler.html>, Accessed on June 20, 2023.

⁷⁴ 2022, *Understanding Artificial Intelligence: History, Benefits, and Examples*, Sampoerna University, <https://www.sampoernauniversity.ac.id/id/kecerdasan-buatan-adalah/>, Accessed on June 21, 2023

often done by humans but in the form of AI all these things are done by AI, so it also applies to Thinking humanly where the thinking system that is usually done by humans to carry out their activities is carried out by a technological device.

Then there is also think rationally, this form is an advanced form of humanly thinking, this is done to improve the system in AI so that it can carry out human activities more rationally. After discussing the existing history of AI above, we can take some points that there are three types of AI that until now are very famous, including manipulation AI, Neural AI, and Neural networks.⁷⁵

Manipulation AI is a type of AI that is often used in a study on AI, Neural AI, Neural AI is a type of AI that has been popular since it was popular in the 1980s, where AI in this type presents knowledge through artificial neural which is then connected through the learning process. Then the last type that exists is neural networks where this type is arranged in layers related to simulations, which is usually a type of widely used in repeated experimental processes that until now.⁷⁶

The existence of this type of AI makes 3 other layers of division which in these layers have different ways of use, namely some are intended in layers that specialize in research on AI then the results of the research

⁷⁵ Batam Institute of Technology, *5 Applications of AI Technology that Facilitate Human Activities*, <https://iteba.ac.id/blog/penerapan-teknologi-ai-dalam-teknologi/#:~:text=Ada%20tiga%20jenis%20AI%20yang,populer%20sejak%20tahun%2080%20Dan>, Accessed on June 21, 2023.

⁷⁶ Ibid.

obtained will be used to learn more about AI, and after studying the theories and at the next stage will be simulated on the theories and learning that has been obtained, Although there are layers that have different uses and benefits, in the end the division has only one common goal, which is to further increase the use of AI.

4. The Development of the Use of Artificial Intelligence in the Era of Revolution 5.0

The faster development of hardware and software, AI technology has been used in various aspects of human life, until In the development of the 5.0 era, AI is very dominant, especially in Indonesia itself because in this era many AI-based tools have emerged. The Indonesian state is highlighting the rapid development of AI, its emergence shows that technology has increasingly mastered human life.⁷⁷ The development of AI in this era has brought many conveniences to the people of Indonesia itself.

There are many very useful forms of implementation generated by AI, one of the most obvious benefits of AI is the ability to automate operations, speed up many administrative and organizational tasks, check homework, grade papers, view disease records and timesheets, and prepare report cards are just a few examples of tasks where AI greatly facilitates all human activities.⁷⁸ In addition, other products related to AI are

⁷⁷ Arsito Ari Kuncoro, 2023, *AI (Artificial Intelligence) Development Potential in Indonesia*, <https://teknik-informatika-s1.stekom.ac.id/informasi/baca/Potensi-Pengembangan-AI-Artificial-Intelligence-di-Indonesia/3f99231c98ed3a3db491ccb2f15accd2f43a6bbd>, Accessed on June 21, 2023.

⁷⁸ Seprianus Kiding, 2021, *The Use of Artificial Intelligence in Education, Between Its Benefits and Controversies*,

grouped into four techniques, namely Searching, Reasoning, Planning, and Learning.

Searching techniques are used to find the optimum route to guide a person on a journey. Currently, in cities with high congestion, online transportation or online taxis with the Global Positioning System (GPS) application are the mainstay of the community, then the Reasoning Technique is widely used in medicine. Since the early 2002s has successfully built a software called medic ware, which is used to record patient medical records.

Reasoning techniques can be used to reason whether a drug is safe or dangerous if used simultaneously with other drugs. Then in the world of manufacturing and robotics, Planning Engineering plays a very important role then lastly, Learning Techniques that have been used in various fields such as transportation, speech processing, computer vision, robotics and so on.⁷⁹

Behind the interest in AI and the fact that it greatly facilitates all community activities, particularly in Indonesia, AI also causes anxiety and fear for some Indonesians, particularly those who do not understand AI well; they are concerned about job losses caused by AI technology. This occurs as a result of a paradigm change and a shift in time, or it can be seen as one invention AI can disrupt things that have been for a long time. It is

https://www.researchgate.net/publication/350721684_Manfaat_dan_Kontroversi_penggunaan_Artificial_Intelligence_dalam_Dunia_Pendidikan, Accessed on June 21, 2023

⁷⁹ Dr. Suyanto, op,cit, p.16-17.

known that in 2023, the use of AI in Indonesia to support creation is still minimal, which is not yet 50% of the survey, entitled "Unveiling the Tech Revolutions: How technology reshapes the Future of creation", this survey was conducted by Populix.

Populix itself is a consumer survey platform that connects researchers from various industries with respondents throughout Indonesia.⁸⁰ According to the survey, as 45% of respondents are currently also using AI platforms to support job effectiveness, and also improve their abilities in various other fields to compete with future working conditions.⁸¹

In addition to industries such as business and medical industry, there is also AI in the field of creative industries with the help of AI Image Generator, this AI uses technology to create images and industries from text can be words, phrases or sentences in English that describe certain objects, characters, or situations given by users.⁸²

Most generator systems provide something innovative and sophisticated without taking a lot of energy or time to create new creations with a degree of variation, high resolution, high originality, and the ability to produce complicated and abstract visuals. As a result, AI image generators have drawn the interest of many people and institutions in numerous

⁸⁰ Early, *What is populix?*, <https://www.populix.co/login>, Accessed on June 22, 2023.

⁸¹ Martin bagya Kartiyasa, 2023, *Survey Reveals only 45% of workers in Indonesia are utilizing AI*, <https://techno.okezone.com/read/2023/06/20/54/2834112/survei-ungkap-baru-45-persen-pekerja-di-indonesia-yang-manfaatkan-ai>, Accessed on June 22, 2023.

⁸² Dika appkey, 2023, *AI Art Generator: Full review of Top Generator picks!*, <https://appkey.id/desain/design-web/ai-art-generator/>, Accessed on June 22, 2023.

disciplines such as design, art, technology, and so on..⁸³

D. Protection of Created Creations Artificial intelligence Image

Generator

Before discussing the legal protection of AI generated creations, we have to understand the meaning of legal protection first. According to Big Dictionary Indonesian, *pe-lin-dung-an* (Pro-tec-ti-on) is the process, method, act of protecting, while Protection is (1) A place of refuge; (2) The act (thing and so on) of protecting has similarities in elements, namely (1) the element of the act of protecting; (2) the element of the parties protecting; (3) the element of the ways of protecting.⁸⁴

In relation to the law, legal protection is an action or effort to protect the public from arbitrary actions by the authorities that are not in accordance with the rule of law, to create order and tranquility so as to enable humans to enjoy their dignity as human beings.⁸⁵ According to Fitzgerald, explaining the theory of legal protection that the law aims to integrate and coordinate various interests in society because in a traffic of interests, protection of certain interests can only be done by limiting various interests on the other hand.⁸⁶

⁸³Dr. Mampuono, 2023, *Fast and powerful drawing with Dall-E, An open AI, Educational article*, <https://bbpmpjateng.kemdikbud.go.id/menggambar-cepat-dan-dahsyat-dengan-dall-e-sebuah-open-ai/>, Accessed on June 22, 2023.

⁸⁴ Big Dictionary Indonesian (*KBI*) Ed. 2, cet. 1, Jakarta: Balai Pustaka, p. 595.

⁸⁵ Setiono, *Rule of Law*, Surakarta: UNS, 2004, p. 3.

⁸⁶ Rita Teresia, 2015, *Copyright Legal Protection Against Song Owners for Downloading Songs Through Sites Without Paying on the Internet*, Thesis, Bachelor of Law Program Universitas Riau, Pekanbaru, p. 10.

Legal protection is the main form of protection because it is based on the idea that the law as a way that can accommodate the interests and rights of consumers comprehensively. In addition, the law has a compelling force that is officially recognized in the state, so it can be implemented permanently. In contrast to Protection through other institutions such as economic or political Protection, for example, which is temporary or temporary.⁸⁷

According to Philipus M. Hadjon argues that Legal Protection is the protection of dignity, as well as recognition of human rights owned by legal subjects under the provisions of the law from any arbitrariness. As a result of the many risks arising from the occurrence of copyright infringement generated by irresponsible AI in exploiting and commercializing a copyright content found on the internet. Which can be detrimental to the creator who has sacrificed time and effort for a creation, then this is where legal protection is needed. No exception creation that have been made changes to the embodiment of a creation of conventional into digital does not eliminate the rights and protection of the creator and their creation.⁸⁸

The images used by AI itself can be found on various sites and applications specialized in image providers such as Google, Pinterest, Getty images and other sites. Image is one of the protected creations under Article 40 Paragraph (1) letter F of the copyright law. The copyright law

⁸⁷ Wahyu Sasongko, *Basic Provisions of Consumer Protection Law*, Bandar Lampung: University of Lampung, 2007, p. 30–31.

⁸⁸ Putri Yan Dwi Akasih. *Copyright Protection on the Internet Through Creative Commons*. *Journal of Business Law Review*, Volume 2. p 13.

specifies images such as, motifs, diagrams, sketches, logos, color elements and calligraphy.⁸⁹ Copyright protection for creations in the form of images themselves applies as long as the creator lives and will continue for 70 years after the creator dies, starting from January 1st of the next year.⁹⁰

Furthermore, images that now have freedom of utilization that are made directly in all media that can be drawn from the hands of a creator to the use of digital media have also been regulated in the law, creation using digital media whose preparation becomes an intellectual creation and is contained in an internet site are protected as IPR,⁹¹ This is clearly stated based on Article 25 of the Electronic Information and Transaction Law (ITE). The existence of the ITE Law further strengthens the protection of all forms of intellectual creation, especially image creation.

E. Legal Issues Related to Artificial Intelligence

1. Legal Issues Related to Artificial Intelligence

In the development of the 5.0 era, which is mastered by the rapid advancement of AI technology, it causes many complexities and problems in various fields, especially intersecting in the legal field. In the Pros and Cons of AI Robot as Subject published by Atlantis Press, it is discussed that legal issues related to AI are fundamentally unknown and there is no law that expressly mentions the position of AI in Indonesia.

This causes a legal vacuum that will be fatal if one day AI causes

⁸⁹ Copyright Law Op.cit, Article 40 Paragraph (1) letter F.

⁹⁰ Copyright Law Op.cit, Article 58 Paragraph (1) letter F.

⁹¹ Law 19 of 2016 concerning Information and Electronic Transactions (ITE) Article 25.

losses and unlawful acts, because it will be difficult to know who is responsible for the losses caused.⁹² Another legal issue related to AI is the unknown creator or ownership of an AI, where the creation produced by AI involves many parties, such as learning algorithm programming, input data suppliers, algorithm trainers, feedback suppliers, AI system users or companies that invest in research and development of AI systems.⁹³

The problems that arising in connection with the infringed IPR, is a case involving a United States clothing and sports equipment company that is one of the largest in the world. The objects in this case are the world's first smart shoes and also several AI applications whose patents were infringed by the brand, namely NIKE in the United States and which filed a lawsuit over IPR owned by the German brand ADIDAS.

In its lawsuit, ADIDAS claims NIKE's adapt technology violates its "adidas_1 2005" sneaker which has the ability to feel and adjust foot comfort when used. In addition to these shoes, ADIDAS also claimed that the application owned by NIKE, namely NIKE SNKRD, has similar features to ADIDAS Confirmed. The app owned by ADIDAS has been launched by the brand since February 2015, while Nike, which in this case is accused of copyright infringement, only launched the app in May 2015. The lawsuit reads "ADIDAS has long been a leader in mobile technology, including technology related to mobile fitness" and says that "ADIDAS is the first in

⁹² FL. Yudhi Priyo Amboro and K. Komarhana, 2021, *The Prospect of Artificial Intelligence as a Civil Law Subject in Indonesia*, Journal of Law Review, Vol XX (2), p. 153.

⁹³ Marcelina Sutanto, 2021, *Legal Protection of Creations Produced by Artificial Intelligence*, Thesis, Faculty of Law, Hasanuddin University, p. 86.

the industry to comprehensively bring data analytics to athletes”.⁹⁴

This is stated in the lawsuit filed by ADIDAS to NIKE as proof that there has been a violation of IPR. In addition to the case that occurred between ADIDAS and NIKE, there is also a case that is currently very much discussed on various existing social media platforms, this case is known as deepfake.

In this case, the process of producing pornographic content using visual changing technology which is now developing into AI Generated Porn. In AI technology, it is used to change / edit certain figures as if posing without clothes and even produce videos as if doing sexual scenes, which in this case is included in non-consensual content because the victim does not allow or even does not know that the photo of himself was changed / edited into that type of content.⁹⁵

2. Legal Issues Related to AI Image Generator

AI Images Generator is a type of technology to create images easily. The case related to this type of AI is a case that emerged in early 2023 related to the creation created by AI between Getty images and Stability AI, In the case Getty images as the party who filed the lawsuit gave an accusation to the defendant, namely stability AI has copied and processed 12 million images belonging to Getty images without obtaining the

⁹⁴ Kompas Daily, June 13, 2022, <https://lifestyle.kompas.com/read/2022/06/13/162126020/kembali-memanas-adidas-gugat-nike-atas-tuduhan-pelanggaran-hak-cipta?page=all>, Accessed on July 4, 2023.

⁹⁵ Kezia Kevina Harmoko, <https://www.mainmain.id/r/24081/kasus-fake-porn-ramai-diperbincangkan-siapa-saja-bisa-jadi-korban>, Accessed on July 4, 2023.

appropriate license.

In the lawsuit in case document 1:23-cv-00135-UNA, Getty images as the plaintiff argues that stability AI collected up to more than 100 million US dollars from venture capital investors and was already worth 1 billion USD from the proceeds of utilizing intellectual property owned by Getty images. From the use of Getty images, Stability AI can create an AI feature called stable diffusion, stable diffusion itself is an AI tool or tool that can change text models to images to create new creation of art that do not require a long process even just seconds.

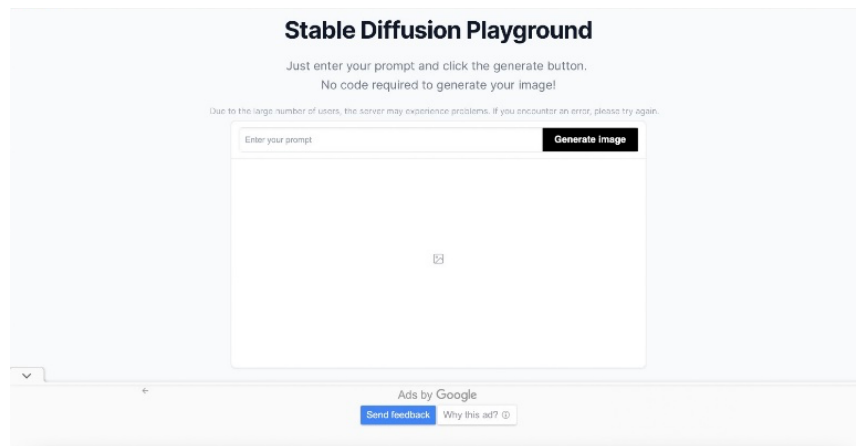


Figure 1. Stable Diffusion Website Display

Based on the information on the website, it can be seen that users can easily type the image they want to create and press the Generate Image menu to get the image according to what they typed. Next, in figure 2. It can be seen that when the user types 'cat in a scarf', an image will appear produced by Stable Diffusion in the form of a cat wearing a scarf.



Figure 2. Stable Diffusion Resulting Image.

In training to improve the ability to produce AI images, it requires existing man-made images.⁹⁶ To prepare for this capability, stable diffusion is known to use licensed images courtesy of Getty Images, as well as the following images:

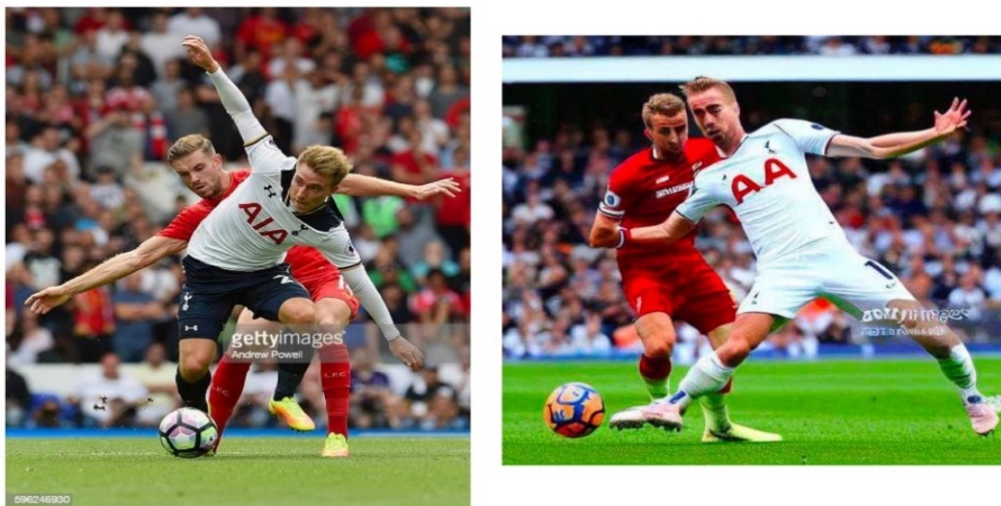


Figure 3. Image Changes Courtesy of Getty Images by Stability AI in the Form of Changing Ball Color, Object Shape to Watermark

⁹⁶ Galuh Putri Riyanto, 2023, *Getty images sues AI company, allegedly using images without permission to train artificial intelligence*, <https://tekno.kompas.com/read/2023/01/19/12010047/getty-images-gugat-perusahaan-ai-diduga-pakai-gambar-tanpa-izin-untuk-latih?page=all>, Accessed on July 12, 2023.



Figure 4. Examples of Image Changes Courtesy of Getty Images by other Stability AI.

In their lawsuit, Getty Images stated that based on information and beliefs held by Getty images, stability AI has copied more than 12 million photos from the Getty Images collection along with descriptions, Meta data related to photos taken without permission or compensated Getty images as part of an unlawful scheme, also listed in the lawsuit that stability AI charges for the service, so there is a profit it earns on Getty Images' copyrighted images.

Getty Images has licensed technology innovators for purposes related to AI in a way that respects IPR, but the issue is that Stability AI does not use the license that Getty Images has provided and in its lawsuit Getty images said it believes that Stability AI choose to ignore viable licensing options and there are longstanding legal protections in place for their own commercial interests. Often what is produced by stable diffusion is an image that still contains a logo/watermark officially owned by Getty Images, causing confusion about the source of the image and clearly implying that

the image is copyrighted to Getty images, although there are also some creation that created by stable diffusion can be said aesthetically pleasing but most other images taken from Getty images are much lower quality and sometimes even look very strange from the original images owned by Getty Images.

So, because of that can also lead to dragging down the Getty images brand which makes it seem to provide images that are low quality, unattractive, or offensive to parties including staff photographers Getty images as creating a creation made for rent, then to third parties who creation with Getty images with agreements that grant related copyrights, and also to hundreds of content partners even thousands of photographers who contribute photos and images uploaded on Getty images and rely on their income from copyright licenses obtained from Getty images.