

## **AUTHORSHIP AND AI GENERATED WORK: A NEW APPROACH TO COPYRIGHT PROTECTION AND OWNERSHIP\* \*\***

### **ABSTRACT**

*The evolution of safeguarding copyright, initially commenced with the emergence of printing technology during the 16th century, has encountered a new set of difficulties with the innovation and growth of 21st-century technology. The protection and implementation of copyright standards are based on laws that have been established through legislation. This article argued that creative works generated by artificial intelligence are original and should be granted copyright protection. The development of Artificial Intelligence is a significant and influential technological advancement that has facilitated the emergence and integration of unprecedented and distinct creativity. The productivity of AI is experiencing a significant surge across various domains. The relationship between ownership and copyright protection for work created by AI was examined in order to explore the rationale behind granting copyright protection to such works. The current difficulties related to digital copyright and possible future advancements are analyzed. A proposed model of hybrid ownership suggests granting legal identity to the AI system, its programmer, user, and company, all encompassed in a legal entity named artificial personality (AiLE). This article recommended that legal modifications are necessary to handle and establish a new basis for safeguarding copyrights and possessing original works created by AI in Nigeria and other jurisdictions.*

**Keywords: Artificial Intelligence, Authorship, copyright, ownership**

### **1.0: INTRODUCTION**

The progress of technology has brought about a surge in ingenuity and originality, leading to improvements in the way individuals interact with the natural world and their community as a whole. Over the years, there has been

a surge in the exploration, innovation, and utilization of Artificial Intelligence (AI) to address a diverse array of issues.<sup>1</sup>

Artificial intelligence (AI)<sup>2</sup> is a term used in technology to refer to machines which are capable of carrying out "cognitive capabilities," which refers to a person's potential to perform intellectual sports related to knowledge acquisition and hassle-fixing. In 1955, John McCarthy, also known as the Father of AI, coined the phrase "artificial intelligence" during a conference organized at the Dartmouth College by some of the maximum experts of this rising research field.<sup>3</sup> Since 1955, AI has attained or certified a great deal of optimism, but we can't deny that it has also experienced a period of despondency, regret, and funding loss (also known as an "AI Winter"). However, Alpha Go (a computer program that simulates a board game move) was developed in 2015.<sup>4</sup> It evolved using deep learning technology and was subsequently discovered by Google. When Alpha Move (which employs a Monte Carlo tree to search for information and bases its decisions entirely on data or information previously obtained through a synthetic impartial community through extensive training from both human and computer play) successfully defeated an experienced move player, Artificial Intelligence once again attracted intense and tremendous amounts of attention on a global scale.<sup>5</sup> The standard issues (or goals) of AI research include information representation, thinking, knowing, planning, processing natural language, concept, as well as the ability to move and manipulate objects. General Intelligence is what the long-term goals entail. AI can use a wide range of tools, including various types of artificial neural networks, search and mathematical optimization, as well as methods that are solely based on

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<sup>1</sup> Eloghene E. Adaka & Ifeoluwa A. Olubiyi, 'Lessons for Nigeria: Determining Authorship and Inventorship of Artificial Intelligence Generated Works' (2022) (2)(1) *Journal of Intellectual Property and Information Technology Law*; 17

<sup>2</sup> Hereinafter referred to as A.I.

<sup>3</sup> E.O. Olowononi & Oluwaseyi Eletta, 'Artificial Intelligence in Sports: What are the Legal and Ethical Consideration?' (2023) (2) *Cavendish University Law Journal* ;2

<sup>4</sup>*ibid*

<sup>5</sup>*ibid*

probability, data, and economics. Artificial intelligence is required in many different fields, including information engineering, math, pc technology, philosophy, linguistics, and a great many others.<sup>6</sup> Algorithms are frequently used in AI (a set of rules is a predetermined set of instructions that a computer device executes). Any intellectual challenge is doable for AI. Some notable applications of AI include autonomous vehicles (including self-driving cars and drones), clinical diagnosis, the creation of art, gambling games (like chess or move), the proof of mathematical theorems, seek engines (like Google seek), spam filtering, online assistants (like Siri), the prediction of flight delays, the prediction of judicial decisions, a focus on online advertisements, and energy storage.<sup>7</sup>

AI works in four basic ways, providing:

i) Automated intelligence, ii) Assisted intelligence, iii) Augmented intelligence and iv) Autonomous intelligence

AI can perform automated tasks, help do things better and more quickly, assist with better decisions and ultimately, automate decision-making processes that can be done entirely without people. Essentially, AI technologies mimic humans' ability to Sense, Think and Act.<sup>8</sup>

Nowadays, the idea is progressively encroaching upon tasks that were once the exclusive domain of humans, resulting in various shifts in human interactions and perspectives. These shifts affect not just the financial industry but also the legal sector. Artificial intelligence has an impact on a variety of legal areas including but not limited to intellectual property rights, competition law, labour law, criminal law, tort law, and data protection law. AI is a novel domain in the constantly progressing area of intellectual property. While technology enables the development of a fresh and distinct form of "authorship", it presents novel obstacles to copyright laws. Artificial intelligence, in all respects, is singularly distinct from any other technological advancements in the course of human existence. Throughout history, humans have utilized technological advancements as instruments to aid them.

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<sup>6</sup> *ibid*

<sup>7</sup> *ibid*

<sup>8</sup> E.O. Olowononi & Oluwaseyi Eletta, 'Artificial Intelligence in Sports: What are the Legal and Ethical Consideration?' (n.3) p.3

However, Artificial Intelligence possesses the extraordinary ability to self-teach and carry out intelligent decision-making procedures independently. AI technologies such as Machine Learning and Unsupervised Machine Learning have the potential to enhance their capabilities and acquire advanced skills independently, leading to a level of performance surpassing human abilities.<sup>9</sup>

AI systems possess advanced intelligence and autonomous learning capabilities, enabling them to generate unique content that is not a replica or derived from human commands.

As AI continues to advance its intellectual abilities, it begs the question whether works created by AI are eligible for copyright protection. Additionally, in the event that the work created by AI is eligible for copyright protection, determining who has rightful ownership of said work becomes a complex issue. The possible individuals or entities who may claim ownership of the AI-generated work include the AI programmer, the user, the company owning the AI, the AI itself, or potentially no one as it could be considered public domain. Consequently, safeguarding the creative output of AI and determining its rightful proprietorship presents a difficult inquiry for both advocates of intellectual property and legal experts.<sup>10</sup>

## **2.0 ARTIFICIAL INTELLIGENCE**

Since the latter third of the 20th century, AI has been developing. A wide variety of components, tools, and technology are included. One could say that AI is a broad concept. Taking into consideration the definition provided by the European Commission:

*Artificial intelligence (AI) is the term used to describe systems that exhibit intelligent behavior by analyzing their surroundings and acting in some autonomy in order to accomplish predetermined goals. AI-based systems can be entirely software-based and operate only in virtual environments (e.g. g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI*

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<sup>9</sup> E. Brynjolfsson & A. McAfee, 'The Business of Artificial Intelligence' (2017) (18) *Artificial Intelligence HBRP* ;3

<sup>10</sup> R. Deazley, *Rethinking Copyright: History, Theory, Language* (Edward Elgar Publishing; 2006)

*can be embedded in hardware devices (e. g. advanced robots, self-driving vehicles, drones, or Internet of Things software).*<sup>11</sup>

The term "AI" is ambiguous, which can result in some serious misunderstandings. Distinguishing at least between AI as autonomous systems and AI in the form of machine learning is crucial to preventing this.<sup>12</sup>In its broadest sense, artificial intelligence (AI) typically refers to the creation of machine learning, artificial neural networks, data processing, and analysis systems. In other words, artificial intelligence-imitated systems carry out human-like tasks, but more quickly and effectively.

The three categories of AI systems identified by WIPO are – (i) “expert (or knowledge-base) systems”; (ii) “perception systems”; and (iii) “natural language systems”.<sup>13</sup>

The fundamental principle of AI lies in the use of “artificial neural networks”, which are modeled after the human brain to simulate the learning process.<sup>14</sup>Artificial neural networks possess the potential to learn on their own, which enables them to yield improved outcomes as larger sets of data are made accessible.<sup>15</sup>AI facilitates a machine to perform tasks with autonomy or limited human input that may typically demand human intellect. AI is not just a single technology, as it encompasses a variety of subfields including machine learning, robotics, language processing, and deep learning.<sup>16</sup>AI can be divided into two distinct categories known as "machine learning" and "deep

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<sup>11</sup> Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions on Artificial Intelligence for Europe, Brussels, 25.4.2018 COM (2018) 237 final

<sup>12</sup> European Group on Ethics in Science and New Technologies ‘Statement on Artificial Intelligence, Robotics and Autonomous systems’ (2018) p.6 <[https://ec.europa.eu/research/ege/pdf/ege\\_ai\\_statement\\_2018.pdf](https://ec.europa.eu/research/ege/pdf/ege_ai_statement_2018.pdf).> accessed 10 January, 2023.

<sup>13</sup> WIPO, ‘WIPO Worldwide Symposium on the Intellectual Property Aspects of Artificial Intelligence’ (WIPO, March 25, 1991) <[https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_698.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_698.pdf).> accessed 23 May, 2023 .

<sup>14</sup> V. K. Ahuja, Artificial Intelligence and Copyright: Issues and Challenges’ (2020) *Indian Law Institute Law Review*; 272

<sup>15</sup>*ibid*

<sup>16</sup>Sejal Chandak, ‘Artificial Intelligence and Policing: A Human Rights Perspective’ (2020) (7) (1) *NLUJ Law Review* ; 46

learning".<sup>17</sup>The computer program contains a built-in algorithm which enables it to acquire knowledge from input data and make decisions in the future without guidance, thus aiding in machine learning. To put it differently, the machine learning algorithms absorb the information programmed by the developer to produce novel outcomes through autonomous decision-making. The programmer establishes the guidelines while the AI autonomously creates the output.<sup>18</sup>

"AI applications like self-driving vehicles and computers that can play chess heavily depend on advanced techniques such as natural language processing and deep learning." Advanced technologies can be utilized to educate computers to perform particular functions such as creating imaginative output by analyzing vast volumes of information and identifying particular patterns within the data that is provided.<sup>19</sup>

AI can facilitate the production of creative works in two ways, namely, through the creation of "AI-generated" works and the assistance of "AI-assisted" works. The creations produced by AI, also called "generated autonomously by AI", pertain to the development of a piece of work without any human involvement. In this field of work, AI has the ability to modify its actions in response to unforeseen data or circumstances, potentially generating output that was not preconceived or anticipated. Conversely, works that involve the assistance of AI are developed with substantial input from humans.<sup>20</sup>

### **3.0 THE SCOPE OF COPYRIGHT PROTECTION**

In essence, copyright is the lawful entitlement granted to individuals who produce written or visual art forms. The diversity of these creations encompasses a plethora of mediums, including literature, musical compositions, visual arts such as paintings and sculptures, motion pictures, digital software, databases, promotional materials, geographical representations, and technical blueprints. Hence, the owner of the copyright holds the privileged authority over the ethical and financial aspects of his or her literary or artistic innovations, which entails determining which section of

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<sup>17</sup> WIPO Secretariat, Revised Issues Paper on Intellectual Property Policy and Artificial Intelligence, WIPO/IP/AI/2/GE/20/1 REV dated May 21, 2020, para 11.

<sup>18</sup>V. K. Ahuja, *Artificial Intelligence and Copyright: Issues and Challenges* (n.12)

<sup>19</sup>*ibid*

<sup>20</sup>*ibid*

the work, shall be replicated, making adaptations, giving out copies, exhibiting and presenting the work publicly.<sup>21</sup>

The main aim of copyright is to motivate and compensate creators for producing new works and allowing the public to enjoy their creations by safeguarding their work against infringement.<sup>22</sup>

The realm of artistic, scientific, and literary creation has expanded exponentially with the advent of Artificial Intelligence. The use of computer programs in the creative process has enabled creation of literary and artistic works that can be executed based on the programmer or user's command. The debate looms over whether these works made by AI, such as paintings, literary texts, and musical compositions, should be entitled to copyright protection. The conventional belief that only humans could create original works that could be copyrighted is being challenged.<sup>23</sup>The list of artistic, scientific and literary works capable of being copyrighted

are: Literary works such as novels, poems, plays, reference works, newspaper articles; Computer programs, databases; Films, musical compositions, and choreography; Artistic works such as paintings, drawings, photographs, and sculpture Architecture; and Advertisements, maps, and technical drawings

#### **4.0. AUTHORSHIP/OWNERSHIP OF COPYRIGHTS OF ARTIFICIAL INTELLIGENCE**

Computer programs have been widely utilized in creating copyrighted content from the era of 1970s onwards. The ownership of copyrights was not a major issue regarding computer-generated works. The rationale for this was that computer software was deemed as solely facilitating the creative tasks that required the input of human effort for the completion of the work. These programs were similar to office supplies that relied on human interaction to generate creative output. Nowadays, everything has undergone a significant transformation. By incorporating AI technology, computer programs are no

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<sup>21</sup> Nonso Anyasi and Solomon Oho, 'Copyright Ownership Of AI-Generated Content in Nigeria' (2022) (2)(1) Volume 2 Issue *NBA Lagos Bar Journal*; 6<[https:// ssrn.com /abstract =4300277](https://ssrn.com/abstract=4300277)> accessed 24 May, 2023

<sup>22</sup> *ibid*

<sup>23</sup> *ibid*

longer limited to serving as mere tools, as they now possess the capability to autonomously produce content by making independent decisions.<sup>24</sup>

Artificial intelligence is capable of generating a vast quantity of output in a brief timeframe while requiring minimal investment, presenting considerable employment opportunities. The originality of works produced by AI could render them eligible for copyright protection across all jurisdictions. The utilization of "skill and judgement" in creating something original could be considered fulfilled through the "programming and parameters" utilized by the AI in compiling and producing the output.<sup>25</sup>

In the instance of AI-generated work, there will be no identifiable author. Human intervention is necessary in AI-supported tasks. Hence, if an AI system independently creates a work, the claim of authorship cannot be made by anyone as no human intervention was involved. However, if the work was created through the use of artificial intelligence with human involvement, the person who caused the creation may assert authorship. All nations throughout the globe have been perplexed by the matter of determining the creator of such works. Regarding the issue of authorship, there may be three overarching scenarios: granting authorship recognition for AI, relegating such works to the public domain with no authorship attribution, or implementing *sui generis* law instead of traditional copyright law to safeguard said creations.

The safeguarding of copyright acts as a motivation for the creator to generate further innovative pieces, utilizing their talents, effort, and discernment. If AI is authorized as an author and its produced works are safeguarded by the copyright regulations, it would imply that "human ingenuity" and "machine ingenuity" hold equivalent value. Alternatively, the absence of copyright protection for AI-based creations would imply a preference for human ingenuity over artificial intelligence-generated outputs. Giving more preference to machine-generated creativity or placing machines and humans on equal footing could ultimately stifle human creativity in the long term.

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<sup>24</sup> V. K. Ahuja, *Artificial Intelligence and Copyright: Issues and Challenges* (n.12)

<sup>25</sup> Lucy Rana and Meril Mathew Joy, 'India: Artificial Intelligence And Copyright – The Authorship' (Monday, December 18, 2019) <<https://www.mondaq.com/india/copyright/876800/artificial-intelligence-and-copyright-the-authorship>> accessed 24 May, 2023.



Numerous scholarly articles and books have considered various alternatives to gain a more comprehensive understanding of the appropriate authorization of A.I system produced work ownership. These includes:

- 1) A. I. system-The ownership of the work produced by the AI system lies with the AI system itself.
- 2) Programmer-The individual or group who develops the AI system ought to possess the ownership rights of the work created by the AI.
- 3) User-the user of the AI system.
- 4) Company/Owner-the company that produces or owns the AI. system;
- 5) Public domain-A. I. system-produced work belongs in the public domain.<sup>26</sup>
- 6) Hybrid Ownership-An artificial intelligence legal entity, called AiLE, would represent the AI system, its programmer, user, and company under a legal umbrella, similar to that of an artificial personality. This would result in ownership by AiLE.

### **A. I. System**

The first option may seem apparent, but grasping its concept can prove challenging.AI systems possess intelligence and have the ability to acquire knowledge and produce results without the need for human intervention. Despite their existence, they lack consciousness, and it is important to note that they are not capable of feeling or awareness. Basically, AI has the ability to imitate various functions of the human brain, but it does not possess the innate ability for genuine personal consciousness.<sup>27</sup>The predicament arises when considering the proprietorship of the creative works generated exclusively by an AI system. Laws that safeguard copyright are founded on various theories, including those related to economics, incentivization, and morality. The fundamental principles are in conflict with the concept of

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<sup>26</sup> V.M. Palace, 'What if Artificial Intelligence Wrote This: Artificial Intelligence and Copyright Law' (2019) (71)(1) *Fla L Rev.*; 218.

<sup>27</sup> A. Reggia. 'The Rise of Machine Consciousness: Studying Consciousness with Computational Models' (2013) (44) *Neural Networks* ;114.

Artificial Intelligence systems owning copyrighted material.

According to economic theory, in order to generate new employment opportunities, the anticipated profits must either match or surpass the predicted expenses of initiating those opportunities.<sup>28</sup> Alternatively, it implies that the originator of the original piece ought to receive compensation for their labour. Naturally, the desire for economic rights is a powerful catalyst and source of inspiration for individuals. Despite the current level of technological development, the artificial intelligence system lacks the ability to comprehend economic principles and lacks any motivation to enhance its work output and quality. Thus, Artificial Intelligence would not find actual value or motivation through economic incentives.<sup>29</sup>

Moreover, the Berne Convention extensively incorporates the moral rights of copyrighted works. The existence of moral rights is rooted in both civil and common law on a global scale, owing to this very explanation.<sup>30</sup> Moral rights accord authors with due recognition and the liberty to uphold their work's integrity and esteem, refraining from modifying it in a manner that may cause dishonor or defamation.<sup>31</sup> A significant differentiation between economic rights and moral rights lies in the fact that moral rights cannot be transferred to another person.<sup>32</sup> The author retains their moral rights throughout their lifetime as they hold great significance to them, unless they choose to relinquish them. Once more, the moral principles that hold utmost significance to humans are not comprehended by the Artificial Intelligence system.

One challenging goal is to modify the legal obligation of the author to encompass entities other than humans. The development of case law is emphasized through the well-known "monkey selfie"<sup>33</sup> case in the United States. The Ninth Circuit Court of Appeals confirmed the decision of the lower court stating that a non-human entity cannot claim copyright

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<sup>28</sup> C. Craig, 'Copyright Law [Lectures]' (York University, Osgoode Hall Law School; 2021 May.)

<sup>29</sup> K. Hristov, 'Artificial Intelligence and the Copyright Dilemma' (2017) (57) *J. Franklin Pierce Ctr. Intell. Prop.*; 444.

<sup>30</sup> L. Paquette 'Artificial Life Imitating Art Imitating Life: Copyright Ownership in AI-Generated Works' (2021) (33)(2) *Intellectual Property Journal*; 183.

<sup>31</sup> D. Vaver, *Intellectual Property Law: Copyright, Patents, Trade-Marks* (2nd edn. Irwin Law; 2011).

<sup>32</sup> L. Paquette 'Artificial Life Imitating Art Imitating Life: Copyright Ownership in AI-Generated Works' (n. 28)

<sup>33</sup> *Urantia Foundation v. Maaherra*, No. 95-17093 (9th Cir. 1997).

infringement. In accordance with this legal precedent, the United States Copyright Office has employed the *Monkey* case as an analogy for Artificial Intelligence. According to its Compendium, it will not approve creative works that are generated by an independent machine or mechanical process without any input or intervention from the human author.<sup>34</sup>

Providing the Artificial Intelligence system with ownership rights does not necessarily align with the legal requirements or the fundamental principle of safeguarding copyright. Until Artificial Intelligence can achieve a high level of consciousness, it would be inconsistent with the original purpose of copyright to grant ownership of creative works to AI systems.<sup>35</sup>

### **The Programmer**

Another possibility is to assign the copyright ownership of the intellectual property to the developer of the AI system. Ultimately, the individual responsible for developing the Artificial Intelligence system is the programmer.<sup>36</sup> This proposal faces two issues. Initially, comparable to a caregiver or an educator who cannot assert legal control over the original creations of their offspring or pupil, in similar measures, a programmer is unable to ascertain copyright ownership of an original Artificial Intelligence work. Although the programmer may have developed the initial program, it is the self-educating nature of the Machine and its capacity to apply cognitive abilities that empower it to generate creative and original work. In her analysis of the case *Millar v. Roberts*,<sup>37</sup> Lindsay Paquette examined the legal proceedings and deliberations surrounding the matter. In his discourse, Lindsay employs the utilization of an analogy and articulates:

*The exertion of artificial intelligence cannot be attributed to the work of the programmer who created it, as it is the self-governing*

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<sup>34</sup> Compendium of U.S. Copyright Office Practices. (3rd edn US: United States Copyright Office; 2017) s.313.2.

<sup>35</sup> Atif Aziz, 'Artificial Intelligence Produced Original Work: A New Approach to Copyright Protection and Ownership' (2023) (2)(2) *European Journal of Artificial Intelligence and Machine Learning*; 13

<sup>36</sup> *ibid*

<sup>37</sup> (1769), 4 Burr. 2303, 98 E.R. 201.

*functionality of the AI, rather than the cognitive strain of the programmer, that accomplishes the task.*<sup>38</sup>

Moreover, an AI system capable of generating unique and copyrightable content involves a team of diverse programmers engaged in various programming tasks, particularly in the case of advanced systems. Determining the exact distribution of copyright ownership is a challenging task due to the absence of a definite contributor who directed a particular output or outcome.<sup>39</sup>

The ultimate output of an AI system does not lie in the hands of its programmer. It goes against copyright principles to assign ownership to someone who did not have a determining role in the creation of the work.<sup>40</sup>

### **The User**

An alternative approach is to confer copyright ownership upon the individual utilizing the AI system. This approach posits that the AI system is akin to a tool wielded by the author of the original work. The main contention is that employing AI to create a painting is comparable to utilizing conventional painting tools such as the paintbrush in generating the authentic artwork.<sup>41</sup> The major issue with this assumption is that there exists a vast discrepancy between the traditional paintbrush and the AI system generating the artwork. Initially, a paintbrush is simply a device that lacks the ability to function on its own, while AI systems, such as those utilizing the GAN algorithm to produce pictures and artwork, possess the capability to learn and create independently.<sup>42</sup> Instead of actively creating the work themselves, the AI system users may have played a role in its conceptualization.<sup>43</sup> The user would receive recognition and compensation for work that they did not actively contribute to through their intellectual effort. Additionally, there is a chance

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<sup>38</sup>L. Paquette 'Artificial Life Imitating Art Imitating Life: Copyright Ownership in AI-Generated Works' (n. 28)

<sup>39</sup> Atif Aziz, 'Artificial Intelligence Produced Original Work: A New Approach to Copyright Protection and Ownership' (n.33)

<sup>40</sup>*ibid*

<sup>41</sup>*ibid*

<sup>42</sup> L. Paquette 'Artificial Life Imitating Art Imitating Life: Copyright Ownership in AI-Generated Works' (n. 28)

<sup>43</sup> V.M. Palace, 'What if Artificial Intelligence Wrote This: Artificial Intelligence and Copyright Law' (2019) (71)(1) *Fla L Rev.*; 218.

that the AI system can operate endlessly without any original contribution from the user and consequently, be excessively compensated or recognized.<sup>44</sup>Therefore, bestowing ownership rights to the user would essentially be allowing someone who did not actually create the work to receive a reward, which would go against the principles of copyright protection laws.

### **The Company/ Owner**

One potential course of action would be to confer ownership privileges onto the individual or organization responsible for possessing the AI system. The rationale behind endorsing this possibility stems from the notion of the dynamic between workers and their employers, which ultimately impacts the quality of output generated during their tenure. Historically, the concept of "work made for hire" has been the primary basis for endorsing this alternative. Based on information from the United States According to the U.S. Copyright Act, the author initially retains ownership of a work made for hire, but ownership is later passed on to the employer.<sup>45</sup>While possible, this choice might lead to a situation where only wealthy corporations have access to AI-based algorithms and monopolize their use.<sup>46</sup>Hence, organizations might opt for economical AI systems to perform tasks in lieu of real-life human artists. This goes against the very essence of what copyright laws seek to safeguard and imbue.<sup>47</sup>Additionally, this goes against the principle of copyright laws that aim to uphold public interest. Granting exclusive rights to corporations owning AI-generated works may lead to a marginalization of creativity and originality in the monopolization of the creative process by large corporations.

### **The Public Domain**

The fifth alternative is to allow the AI-generated work to be accessible to the public. Consequently, AI-generated original creation would rightfully belong to the general populace. Expanding on this concept, Lindsay Paquette states in her paper:

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<sup>44</sup> *ibid*

<sup>45</sup> Compendium of U.S. Copyright Office Practices (n.32)

<sup>46</sup> L. Paquette 'Artificial Life Imitating Art Imitating Life: Copyright Ownership in AI-Generated Works' (n. 28)

<sup>47</sup>*ibid*

*If human authorship is necessary for originality in work and the absence of such human authorship means no originality, then AI-generated works don't qualify for copyright protection. As a result, they belong to the public domain, which could potentially boost human creativity by providing a wide range of materials for human creators to utilize and mix with their own intellectual labor and personal expression.*<sup>48</sup>

Although a compelling argument, the primary limitation of this alternative is that it contradicts the principles of copyright laws regarding incentives and labour. If the AI system's original work is owned by the general public, it diminishes the motivation and compensation for developers to create and investors to fund AI technologies. Conventionally, the doctrine of copyright protection safeguards the original works of the author with the aim of enabling them to benefit from their hard work.<sup>49</sup> In the short run, the lack of copyright protection may increase the accessibility of said work. However, over time it could discourage both financial and intellectual investment in AI systems, potentially hindering future innovation. Thus, allowing the original AI work to be in the public domain could potentially harm its success.<sup>50</sup>

### **The Hybrid Option-Artificial Intelligence Legal Entity**

One smart approach could possibly be to merge the strengths of various models while simultaneously limiting the limitations typically associated with conventional models. Therefore, opting for a hybrid solution allows for the author's ownership of the original content to be maintained responsibly and properly credited to the rightful owners. One potential solution to tackle worries surrounding rewarding, motivating, and maintaining responsibility for a copyrightable creation is available as an option. An option that can effectively tackle issues related to mental work and individual creativity.<sup>51</sup>

The primary challenge lies in attempting to address the copyright safeguards for AI-generated works using conventional approaches. The truth is that advancements in digital technology have caused a notable change and

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<sup>48</sup>*ibid*

<sup>49</sup> V. Aina, *Copyright law, and Artificial Intelligence: A Critique of the Emerging Legal Framework in Nigeria* (Lambert 2020)

<sup>50</sup> Atif Aziz, 'Artificial Intelligence Produced Original Work: A New Approach to Copyright Protection and Ownership' (n.33)

<sup>51</sup>*ibid*

presented fresh obstacles to the current legal systems.<sup>52</sup> A flexible approach is necessary to adapt to advancing technology. The hybrid approach primarily suggests granting legal personality to those involved with the AI system through a designated entity known as the Artificial Intelligence Legal Entity (AiLE). The stakeholders and shareholders of the AiLE may consist of users, programmers, AI, as well as the companies and owners involved. This can be expressed by means of a distinctive agreement among stakeholders which can function as the principal document governing the operations of the AiLE. In accordance with their involvement in the initial project, each individual involved in the development of AiLE has the potential to be allocated ownership. This choice will adhere to global copyright laws in regions where artificial personalities possess the right to possess the original content. Moreover, this will open up opportunities for legal amendments in areas that still recognize individuals as copyright owners of certain work.<sup>53</sup>

Additionally, it will tackle the matter of accountability and liability. Having a distinguishable personality is of utmost importance when dealing with legal consequences of copyright violation.<sup>54</sup> Granting AiLE the ownership of AI-generated work ensures that they are held accountable for any breach of copyright laws that may occur throughout the entire process of programming, training, deployment, and output. This procedure will pave the way for the incorporation of AI-generated content into everyday work and act as a foundation for the future growth of fields like arts, music, and literature.<sup>55</sup>

This model will also cover the fundamental concept of economic incentives and rewards. As with human creators, AI-generated work will be safeguarded and thus AiLE will persist in reaping the rewards of its AI-generated works. By employing humans as both programmers and users, AiLE will possess a unique advantage over AI in producing a greater amount of original work.<sup>56</sup>

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<sup>52</sup> C. Hutchison, *Digital Copyright Law* (Irwin Law 2016)

<sup>53</sup> Atif Aziz, 'Artificial Intelligence Produced Original Work: A New Approach to Copyright Protection and Ownership' (n.33)

<sup>54</sup> L. Paquette 'Artificial Life Imitating Art Imitating Life: Copyright Ownership in AI-Generated Works' (n. 28)

<sup>55</sup> Atif Aziz, 'Artificial Intelligence Produced Original Work: A New Approach to Copyright Protection and Ownership' (n.33)

<sup>56</sup> *ibid*

If a group of programmers, users, and companies collaboratively create an AiLE, stakeholders such as artists, writers, musicians, and others who were involved in training the AI system could also be considered as part of the collective group. A joint entity would offer a fair system for generating revenue from the work produced by artificial intelligence. Moreover, due to the presence of stakeholders beyond the company, the likelihood of companies establishing a monopoly on AI technology will be reduced.<sup>57</sup>

The idea of an artificial being or persona is a human-created notion, similar to the very concept of ownership.<sup>58</sup> One solution to the current challenge of assigning ownership of copyrightable work created by AI could be the implementation of a hybrid model that confers legal personality to a range of parties involved in the development and use of AI systems, including individual users, programmers, companies like AiLE, and the AI systems themselves.

## **5.0 THE CURRENT INTERNATIONAL PERSPECTIVE ON INTELLECTUAL PROPERTY PROTECTION FOR ARTIFICIAL INTELLIGENCE-GENERATED CONTENT**

Assessing the worldwide regulations concerning whether AI-created material should be protected by copyright laws and intellectual property rights attributed to it is essential. As a consequence of this, nations across the world have responded in different ways regarding updating their intellectual property (IP) laws, specifically copyright laws, to include protection for content generated by artificial intelligence (AI). Some have taken regulatory measures while others have kept their existing laws that do not recognize AI-generated material as eligible for protection under the law.

Typically, copyrights cover artistic endeavors that are unique and carry a human creator, rendering them original by most accounts of originality. Copyright laws in most countries, such as Spain and Germany, specify that only works produced by a person are eligible for protection. It is necessary to expand safeguarding measures to cover content generated by AI since advancements in AI technology allow for the creation of content with minimal

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<sup>57</sup> *ibid*

<sup>58</sup> R.D. Brown, 'Property Ownership and the Legal Personhood of Artificial Intelligence' (2021) (30)(2) *Information & Communications Technology Law* ;223



human involvement, granting AI a greater role in the creative process rather than being solely a tool used by humans.<sup>59</sup>

A court in Shenzhen, China has recently made a ruling that grants copyright eligibility to an article produced by artificial intelligence. The court ruled that the AI program's creator should be recognized as the one who created the AI-generated works. For five years, Tencent, a major Chinese technology company, has been releasing news articles generated by an automated program named 'Dreamwriter', with a particular emphasis on finance and business-related topics.<sup>60</sup>In 2018, a digital platform was in operation, which was under the management of Shanghai Yingxun Technology Company, the website imitated an AI-derived financial assessment originating from Tencent. The article came with a disclaimer stating that it was created by the Tencent Robot Dreamwriter. Additionally, the Court determined that the article demonstrated a unique expression and met the necessary criteria to be considered written work, thereby qualifying for copyright protection.<sup>61</sup>This case and court reasoning provide three options for Copyright law to determine authorship without human interaction. The options include:

- Works that have been created or generated by AI are not eligible for copyright protection,
- The authorship of this type of work can be attributed to either the AI program creator or the end user who kick starts the creative process by issuing commands, or
- Acknowledgment of the innovative potential of the AI and assignment of authorship credit for such achievement to the AI.<sup>62</sup>

Courts in different locations may not adopt a similar approach or hold the same perspectives as the aforementioned Chinese legal system's approach to safeguarding content produced by artificial intelligence. Before a creative work can receive copyright protection in the United States of America (USA),

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<sup>59</sup>G. Andres, 'Artificial Intelligence and Copyright' <[https://www.wipo.int/wipo\\_magazine/en/2017/05/article\\_0003.html](https://www.wipo.int/wipo_magazine/en/2017/05/article_0003.html)> accessed 24 May, 2023

<sup>60</sup> S. Paul, 'Chinese Court Rules AI-Written Article is Protected by Copyright' <<https://venturebeat.com/2020/01/10/chinese-court-rules-ai-written-article-is-protected-by-copyright/>>accessed 24 May, 2023

<sup>61</sup>*ibid*

<sup>62</sup>*ibid*

it must meet the stringent criteria of "human authorship" set forth by the Copyright Office. The standard for deciding whether a work can gain copyright protection was set out in the case of *Feist Publications v Rural Telephone Service Company, Inc.*<sup>63</sup>The U.S. Copyright Office will register an original work of authorship, provided that the work was created by a human being. The copyright law only protects 'the fruits of intellectual labour' that 'are founded in the creative powers of the mind.'<sup>64</sup>

In the same way, an Australian court made a decision in a case involving *Acohspty Ltd. Ucorp Pty Ltd*<sup>65</sup> said that a computer-generated work cannot be protected by copyright because it was not made by a human.

AI is revolutionizing creativity by serving as a supplementary and highly varied tool in multiple industries, pushing the boundaries of what can be created while expanding our comprehension of creativity. AI is a product of human intellect and therefore considered a human pursuit, despite its emerging creative features. Though it is increasingly demonstrating imaginative traits, researchers claim that it does not possess the intricate connection between abstract thinking, imaginative flair, and organized recollection that are the hallmarks of creativity.<sup>66</sup>

The rapid integration of AI in our daily routines is gradually revolutionizing and supporting creative procedures, while concurrently challenging our

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<sup>63</sup> (1991) 499 U.S. 340 with the Supreme Court of the United States holding that to qualify for copyright protection, a work must be original to the author, and original means only that the work was independently created by the author and that it possesses at least some minimal degree of creativity.

<sup>64</sup> *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co.*, 499 U.S. 340, 346. The Supreme Court of the United States relied on its earlier reasoning in the Trade-Mark Cases, 100 U.S. 82, 94 where in disqualifying an application submitted for trade mark protection, held that "The trade-mark recognized by the common law is generally the growth of a considerable period of use, rather than a sudden invention. It is often the result of accident rather than design, and when under the act of Congress, it is sought to establish it by registration, neither originality, invention, discovery, science, nor art is in any way essential to the right conferred by that act. If we should endeavor to classify it under the head of writings of authors, the objections are equally strong. In this, as in regard to inventions, originality is required. And while the word writings may be liberally construed, as it has been, to include original designs for engravings, prints, &c., it is only such as are original, and are founded in the creative powers of the mind."

<sup>65</sup> [2012] FCAFC 16 (2 March 2012)

<sup>66</sup> M. Anna, 'How AI is Radically Changing our Definition of Human Creativity', <<https://www.wired.co.uk/article/artificial-intelligence-creativity>> accessed 25 May, 2023

concept of 'creative thinking'. Undoubtedly, nations worldwide must remain abreast of the latest trends in innovation and assess whether revisions to their existing intellectual property laws are necessary.

## **6.0 AI AND COPYRIGHT IN NIGERIA**

The Copyright Act 2022 was enacted on April 6, 2022, and signed into law by the president on March 17, 2023. The Copyright Act 2022 makes provisions for the regulation, protection, and administration of copyright, replaces the Copyright Act, Cap C28, Laws of the Federation of Nigeria (LFN), 2004.

The AI industry in Nigeria is not safeguarded by the Copyright Act 2022. Under the Copyright Act, creative works that are expressed in written, audio, or other forms are protected, including those that serve as guides or blueprints for software development.<sup>67</sup> Much like how IP Laws in the U.S. operate, the Copyright Act in Nigeria designates humans as the sole creators of creative works or content, and not machines or software programs.<sup>68</sup>

Given the foregoing, different individuals and organizations are presently utilizing AI programs and software in their day-to-day activities. Various industries produce creative expressions including music, paintings, literature, news, health-related content, and legal paperwork that are presumed to be subject to copyright protection based on the Copyright Act of 2022.<sup>69</sup> This emphasizes the necessity for intellectual property (IP) regulations to encompass and incorporate creations made by machines and software programs, in order to qualify for legal safeguard under the appropriate laws. In various nations worldwide, measures have been implemented to tackle this issue and modify their legislation for safeguarding AI-produced content and/or creative works. A case in point would be the US Patent and Trademark office (USPTO) that solicited opinions from both intellectual property and

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<sup>67</sup> Nonso Anyasi and Solomon Oho, 'Copyright Ownership Of AI-Generated Content in Nigeria' (n.19) p.22

<sup>68</sup> *ibid*

<sup>69</sup> A comprehensive list of Nigerian-owned and Nigerian-based AI companies which produce works which can qualify or IP protection <<https://futurolology.life/29-most-innovative-nigeria-based-artificial-intelligencecompanies/>> accessed 25 May , 2023.

technology professionals and the general public to ascertain if there is a necessity for the establishment of novel forms of IP legislation.<sup>70</sup>

The Nigerian Government has recently established the National Centre for Artificial Intelligence and Robotics (NCAIR) as a means of advancing the research and development of emerging technologies in areas important to the country. The center seeks to cultivate an environment of innovation, while concentrating on promoting Nigeria's national interests.<sup>71</sup> This implies that Nigeria aims to leverage the advantages offered by AI to propel advancements in technology and society. This indicates that the nation has a strong desire to progress in this aspect, yet lacks adequate legal advancements in the same area. Therefore, it is crucial to establish an adaptable set of laws that can effectively approach this type of technological progress and promote the achievement of NCAIR's goals.

## **7.0 CONCLUSION**

The proliferation of AI-generated content is currently widespread and is expected to expand exponentially in the coming years.<sup>72</sup> Whether acknowledged or not, there will be some instances where artificial intelligence will supplant or complement certain forms of creative works that were previously performed by humans. The provisions of statutes are responsible for the establishment and implementation of laws that protect copyrights.<sup>73</sup> Despite this, there is a growing need for copyright laws in various regions to encompass the emerging field of artificial intelligence. Sometimes, the advancement of AI technology outpaces the ability of legislation to effectively regulate copyright laws.

The advancement of AI technology has led to the emergence of a self-learning system. To be precise, non-guided machine learning involves an AI system that is capable of self-learning from the given data. Similar to a child's gradual process of acquiring knowledge through observation, the AI system gains

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<sup>70</sup> S. Paul, 'Chinese Court Rules AI-Written Article is Protected by Copyright' (n.26)

<sup>71</sup> NITDA (2022) National Centre for Artificial Intelligence and Robotics <https://nitda.gov.ng/ncair/> accessed 25 May, 2023.

<sup>72</sup> R.D. Brown, 'Property Ownership and the Legal Personhood of Artificial Intelligence' (n.56)

<sup>73</sup> Atif Aziz, 'Artificial Intelligence Produced Original Work: A New Approach to Copyright Protection and Ownership' (n.33)

knowledge through the absorption and integration of data. In due time, much like how a child can develop into an impressionist painter and produce one-of-a-kind masterpieces, an AI technology has the potential to achieve the same feat. AI systems that are autonomous have the ability to learn on their own and generate ingenious and creative results without the need for human involvement.<sup>74</sup> The legal principles surrounding copyright underscore the significance of the initial creation in safeguarding its copyright. Put simply, an original work needs to have more than just replication and instead should include fresh or innovative ideas to be considered as truly unique. AI's aptitude for autonomous learning and producing imaginative and distinct content satisfies the criteria for copyright protection regarding originality. Therefore, it is crucial to ensure that the autonomous AI system's original creation is safeguarded by copyright laws.

Most countries, including Nigeria, provide copyright safeguard for creative works made by individuals. Certain legal systems fail to explicitly identify the creator, which consequently permits an artificial entity to assume ownership. Moreover, some governing bodies specifically grant ownership privileges to legal entities such as corporations. As AI continues to develop, it is inevitable that many countries will need to revise their current laws.

Due to the distinct challenge posed by the AI system to copyright laws, there is a need for a flexible definition of authorship and ownership. Developing a synthetic entity that consolidates all parties involved in the creation of AI-generated works could effectively solve the problem of ownership. A clever solution lies in combining elements to produce the AiLE, an artificial entity, which involves the collaboration of programmers, users, companies, and the AI system as its stakeholders. The present artificial personality framework of a company, which has the ability to possess assets, is comparable yet distinct from this.

By providing ownership rights to a hybrid entity such as AiLE, a positive move will be made towards recognizing the original makers of AI generated creations. The attribution of the copyrightable work extends to all individuals encompassed by the AiLE. The matter of responsibility will be dealt with, given that the aspect of human involvement is present in the ownership.

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<sup>74</sup>*ibid*

Moreover, this approach is in line with the fundamental economic and incentive principles of copyright law, as it harmonizes the interests of businesses, users, and developers who will all be encouraged by these fundamental tenets.

AI systems do not simply serve as another instrument for artists and performers to utilize. Intelligent systems with self-learning and self-driving capabilities have the ability to generate distinctive and innovative expressions, which makes them eligible for copyright protection. New and innovative laws are necessary as copyright is a statutory concept. New laws must be implemented in many jurisdictions to deal with and establish a new base for the copyright protection and ownership of artwork generated by artificial intelligence.