AN EXAMINATION OF THE LEGITIMACY OF COPYRIGHT OWNERSHIP BY ARTIFICIAL INTELLIGENCE ON A GLOBAL SCALE

By Ominini Felix.[1]

Abstract

The ever-evolving technological advancements have given rise to the field of Artificial Intelligence (AI). AI allows machines to perform tasks that were once reserved exclusively for human creativity, challenging conventional paradigms of creativity and authorship. The concept of artificial intelligence can be traced back to Alan Turing in 1950, with the term "artificial intelligence" coined by John McCarthy during a conference in Dartmouth in 1956. It is becoming increasingly clear that AI generative tools can replicate human creativity and generate original works which has posed legal challenges, particularly in the realm of copyright ownership. Copyright laws across the globe mandate that human authorship is a crucial aspect of obtaining copyright protection. At first, copyright ownership for AI-generated works was not a contentious issue, as the computer program was seen as a mere tool for human creativity. However, the increasing autonomy of modern AI, enabling independent creative decision-making, challenges the traditional notions of copyright ownership. This raises a pertinent legal question: can non-human entities, particularly AI generative tools, assert legitimate copyright ownership over the works they produce? Opponents argue that AI entities, being non-human, are incapable of being legitimate owners of copyright. Contrarily, proponents of AI copyright ownership assert that advanced algorithms and systems, despite being inanimate, should be recognized as legitimate creators. This dilemma calls for a resolution to ascertain the legitimacy of AI copyright ownership, setting the stage for a proposed general legal framework to regulate the field of Artificial Intelligence.

Keywords: A.I generative tools, Copyright Ownership, Authorship.

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1.0 Introduction

In today's digital age, technology is advancing at an unprecedented rate, and it's no surprise that artificial intelligence (AI) is becoming increasingly integrated into our daily lives. AI-driven virtual assistants like Siri and generative AI tools such as Open AI's ChatGpt and Google's Bard are continually learning from their interactions with human beings, steadily expanding their capabilities into realms once reserved exclusively for human creativity.

With the continuous advancements in the field of AI, a pertinent legal question arises: Can non-human entities, particularly AI generative tools, assert legitimate copyright ownership over the works they produce?

This research focuses specifically on AI generative tools and their legitimacy of copyright ownership from a global perspective taking into consideration the various approaches taken by legal systems around the world in response to this burgeoning issue.

It seeks to answer the question of whether AI generative tools can legitimately stake a claim to copyright, shedding light on the way forward in this dynamic field of legal scholarship and practice.

1.1 Background on Artificial Intelligence

Artificial intelligence (AI) is a field of computer science that focuses on creating computer systems and software that can perform tasks, such as learning from data, reasoning, problem-solving, understanding natural language, recognizing patterns, and making decisions that typically require human intelligence.[2] This concept can be traced to Alan Turing, a computer scientist, who in 1950 developed the Turing Test to determine a machine's ability to demonstrate human-like intelligence. According to the test, a machine can be considered as thinking like a human if a human judge cannot differentiate between the machine and another human.[3]

The phrase 'artificial intelligence' was first used by Mr John McCarthy during a conference in Dartmouth in 1956 [4] to describe the field of creating intelligent machines through science and engineering.[5]

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[2] Techopedia, 'Artificial Intelligence' <https://www.techopedia.com/topic/87/artificial-intelligence >accessed on 18 September, 2023.
[3] GeeksforGeeks, 'Turing Test in Artificial Intelligence' <https://www.geeksforgeeks.org/turing-test-artificial-intelligence/>accessed on 19 September 2023.
[4] Prof. A. Lakshminath & Dr. MukundSarda, 'Digital Resolution and Artificial Intelligence- Challenges to Legal Education and Legal Research', (2011-2012) 2 *Chanakaya National Law University Patna Law Journal* 5.
[5] John McCarthy, 'What is Artificial Intelligence?' (2007) <http://www-formal.stanford.edu/jmc/whatisai.pdf> accessed 18 September 2023.

AI machines, through the field of machine learning, can function and make decisions with little human intervention.[6] This enables the computer to learn from data input, evolve, and make future decisions that may either be directed or independent. In the realm of art, music, and literary works, machine learning algorithms learn from the input of programmers to produce a fresh piece of work. These algorithms make their own decisions during the process to define the outcome.

It is becoming increasingly clear that AI generative tools can replicate human creativity and generate original works. At first, copyright ownership for AI-generated works was not a contentious issue, as the computer program was seen as a mere tool for human creativity. However, the increased autonomy of modern AI means that it can now make creative decisions independently, which raises important questions about who truly owns the rights to these works.[7]

1.2 The Scope of Copyright Ownership/Authorship

Copyright is one of the major aspects of intellectual property (IP) rights, providing legal protection to creators of literary and artistic works.[8] This protection safeguards their creative efforts by prohibiting unauthorized use or duplication of their work.

Copyright embraces a wide variety of works, both published and unpublished such as literary or textual works of all kinds, pictorial, graphical, sculptural works, musical, dramatic, and choreographed works, sound recordings, computer programs, and various other digitized works.[9]

1.2.1. The Criteria for Eligibility

For a work to be eligible for copyright, it must meet two key requirements: originality and fixation.[10] Fixation requires that the work is stored in a tangible format that can be perceived, reproduced, or communicated.[11] Therefore, the work should be accessible by someone other than the creator.

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[6] Flatiron School, 'Deep Learning vs. Machine Learning' <https://flatironschool.com/blog/deep-learning-vs-machine-learning/ > accessed on 19 September 2023.
[7] Andres Guadamuz. 'Artificial Intelligence and Copyright' WIPO Magazine <https://www.wipo.int/wipo_magazine/en/2017/05/article_0003.html#box> accessed on 19 September, 2023.
[8] WIPO 'Copyright',< https://www.wipo.int/copyright/en/ >accessed on 21 September, 2023
[9] Mitchell Zimmerman, 'The Basics of Copyright Law' Fenwick & West LLP <https://assets.fenwick.com/legacy/FenwickDocuments/2015-03-17-Copyright-Basics.pdf > accessed on 21 September, 2023. This list is not exhaustive and can vary depending on the copyright laws of individual countries. In Nigeria, the Nigerian Copyright Act, 2022 outlines the works eligible for copyright under Section 2(1) of the Act.
[10] Copyright Alliance, 'Requirements for Copyright Protection'< https://copyrightalliance.org/education/copyright-law-explained/copyright-basics/requirements-for-copyright-protection/ >accessed on 22 September, 2023.
[11] Bitlaw, 'Obtaining Copyright Protection' <https://www.bitlaw.com/copyright/obtaining.html >accessed on 22 September 2023.

To satisfy the originality criterion, the work must be inherently unique, and not a copy of someone else's. It's important to emphasize that "originality" does not refer to an idea or thought's originality but the tangible work itself. In essence, a mere idea or thought alone cannot be protected by copyright. Section 8 of the Copyright Act 1987 provides for the protection of derivative works.[12] Thus, while the expectation is for each work to be unique, drawing inspiration from existing works does not automatically deny a copyright.

1.2.2. The Role of Human Creativity

The owner of a copyright has both moral and economic rights[13], which typically encompass exclusive rights to reproduce, distribute, display, publicly perform, and create derivate works based on the original.[14]

Copyright legislation across the globe mandates that human authorship is a crucial aspect of obtaining copyright protection.[15] This underscores the significance of human creativity in the development of original works.

For instance, only a qualified person can be granted copyright in Nigeria i.e. an individual who is a citizen or who is domiciled in Nigeria or an incorporated entity registered under Nigerian law.[16] Although the Nigerian Copyright Act does not specifically mention AI-generated works, it can be deduced that only humans are capable of owning copyright over a work. Therefore, if a machine produces a work in Nigeria, the human inventor or programmer will hold the copyright in the work. Under U.S. law, the U.S. Copyright Office makes it a requirement for the author of a work to be human before such work is deemed copyrightable.[17]

Also, U.K. legislation provides for the copyright protection of computer-generated works under the Copyright, Designs, and Patents Act 1988. It provides that the author of a computer-generated work shall be taken to be the person who made arrangements necessary for the creation of the work.[18] Thus, if an AI-generative tool, such as ChatGpt, possesses the capability to produce creative content, it is not considered

[12] United States Copyright Office, 'Copyright in Derivative Works and Compilations' <https://www.copyright.gov/circs/circ14.pdf >accessed on 24 September, 2023. A derivative work is a work based on or derived from one or more already existing works.
[13] WIPO 'Copyright' (n 7)
[14] Copyright Alliance, 'Copyright Exclusive Rights'< https://copyrightalliance.org/education/copyright-law-explained/copyright-owners-rights/copyright-exclusive-rights/> accessed on 21 September, 2021.
[15] Oluwafunmilayo Mayowa, 'Nigeria: Who Owns The Copyright In An AI Invention?' (2020) <https://www.mondaq.com/Nigeria/Intellectual-Property/881214/Who-Owns-The-Copyright-In-%20An-AI-Invention >accessed 24 September, 2023.
[16] Nigerian Copyright Act, 2022 S.5
[17] Compendium of U.S. Copyright Offices Practices (3rd edn, 2021) ch 302 para 4
[18] S 9(3) Copyright, Designs and Patent Act, 1988

the author of the resulting work. Instead, authorship is attributed to the human entity or entities who configured and guided the AI in its creative endeavours.

1.2.3. The Emergence of AI-Generated Works

While the current global perspective emphasizes the significance of human authorship in copyright ownership, it's essential to recognize the evolving landscape of AI's creative capabilities. As AI's creative autonomy advances, so does the debate about its rightful place in the copyright framework. Some assert that AI remains a tool that amplifies human creativity, while others argue that its capacity for autonomous creation warrants a re-evaluation of copyright norms.

Having examined the fundamental principles governing copyright ownership and authorship, it's imperative to delve into differing viewpoints and debates regarding AI-generated content.

1.3 The Case for AI Copyright Ownership.

There is a growing discussion about recognizing AI-generative tools as eligible copyright holders. In 2019, the European Commission published a report titled "Intellectual Property Rights for the Development of Artificial Intelligence Technologies", which included recommendations for the European Union's approach to copyright ownership and exceptions. One of the recommendations was to consider the creation of a new legal status for "AI-generated works" that would allow for the attribution of copyright to a non-natural person entity. This proposal would provide clarity on the ownership of AI-generated works and potentially facilitate the commercialization of these works.[19]

Supporters of AI copyright ownership argue that advanced algorithms and systems, despite being inanimate, should be recognized as legitimate creators. They suggest viewing these AI entities as artificial persons with the capacity to hold rights, similar to how non-legal entity abstractions like companies can hold certain rights.[20] This perspective asserts that AI should be granted copyright ownership due to its capacity to independently generate original works, particularly through machine learning algorithms.

As aforementioned, machine learning algorithms can learn patterns and relationships within the data, allowing them to generate new content based on their acquired knowledge. For example, in natural language processing (NLP)[21], machine learning models like GPT-3 can understand and autonomously generate

[19] Alesia Zhuk, 'Navigating the legal landscape of AI copyright: a comparative analysis of EU, US, and Chinese approaches' < https://link.springer.com/content/pdf/10.1007/s43681-023-00299-0.pdf?pdf=button > accessed on 5 October 2023.
[20] Nonso Anyasi & Solomon Oho, 'Copyright Ownership of AI-Generated Content in Nigeria' *NBA Lagos Bar Journal* (2022) 2 (1). 48
[21] Natural language processing is a function of artificial intelligence that focuses on the communication aspect of programming, specifically between computers and humans.

natural human language text.[22] The creativity of these algorithms is often compared to how humans are influenced by their exposure to various forms of creative expression.[23]

An illustration of AI's creative capabilities can be found in the case of Edmond de Belamy, the first-ever original artwork created using artificial intelligence[24], particularly Generative Adversarial Networks (GANs), a machine learning system. This artwork was generated by a two-part process involving the Generator and the Discriminator[25]. The AI system was fed a dataset containing 15,000 portraits spanning from the 14th century to the 20th century.[26]

The creation of Edmond de Belamy and similar AI-generated works highlights the potential for AI to produce unique and innovative content, providing compelling grounds for considering AI's right to copyright ownership.

Furthermore, Simon Colton, a Professor of Computational Creativity and inventor of "The Painting Fool", an AI software capable of producing original artworks, suggests that artificial intelligence should be recognized as the author of its creations.[27] He proposes that:

> If artificial intelligence is not the material owner of the fruit of its work, then it will never be more than a tool, a means of production, that software is taken seriously as a creative entity is the ultimate goal of computer creativity.[28]

Professor Ryan Abbott and Colin Davies have independently argued that computers should be recognized as legal authors and inventors under relevant IP law.[29] Notably, Professor Ryan, who holds the record for submitting the world's first-ever patent application for an invention autonomously created by artificial intelligence, strongly believes that treating nonhumans as inventors would stimulate the development of creative computers and provide incentives for the generation of new intellectual property.

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[22] This is achieved through processing a vast compilation of text data, enabling the model to learn and understand the nuances of human language.
[23] The Scholarly Kitchen (n 19)
[24]Eileen Kinsella, 'The First AI-Generated Portrait Ever Sold at Auction Shatters Expectations, Fetching $432,500--43 Times Its Estimate' *ArtNet* (25 October, 2018) < https://news.artnet.com/market/first-ever-artificial-intelligence-portrait-painting-sells-at-christies-1379902 > accessed on 4 October 2023.
[25] ibid. The Generator's role is to generate new images based on the dataset, while the Discriminator's task is to discern the difference between the human-made images and those produced by the Generator. The ultimate objective is to deceive the Discriminator into perceiving the newly generated images as real-life portraits.
[26] (n 21)
[27] Simon Colton and others, 'The Painting Fool Sees! New Projects with the Automated Painter' (An International Conference on Computational Creativity (ICCC) held at Utah, US in July 2015) 189-196.
[28] (n 18)
[29] See Ryan Abbott, "I Think, Therefore I Invent: Creative Computers and the Future of Patent Law", 57 B.C. L. REV. 1079 (2016); C R. Davis, An Evolutionary Step in Intellectual Property Rights—Artificial Intelligence and Intellectual Property, 27 Computer L. & Security Rev. 601 (2011).

Recognizing that computers can be inventors will achieve more than addressing an academic concern; it will provide certainty to businesses, fairness to research, and promote the progress of science.[30]

1.4 The Case Against AI Copyright Ownership

While proponents of AI copyright ownership argue that AI be recognized as creators with the same rights as human creators, including copyright ownership, opponents assert that AI systems are non-human entities, merely tools used by humans, and therefore cannot be considered legitimate creators nor hold rights within the human-centric copyright framework. This was illustrated in *Burrow-Giles Lithographic Co. v Sarony*[31] where the camera used to capture the image of writer Oscar Wilde by photographer Napoleon Sarony was considered by the court as a tool that aided the "author" in creating "an original work of art".

In its landmark *Infopaq*[32] decision, the Court of Justice of the European Union (CJEU) established that for copyright to subsist in a work, it must be original and manifest the "author's own intellectual creation." Thus, an original work must reflect the author's personality, which means that a human author is necessary for a copyrighted work to exist.[33]

Additionally, in the '*Monkey Selfie Case*'[34] it was debated whether the monkey could legitimately assert copyright ownership over the photograph it took, and if so, who would be the rightful copyright holder: the monkey, David Slater (the owner of the camera), or the public domain. The case raised questions about whether non-human entities, like animals or AI systems, can be considered legitimate creators and copyright holders. Ultimately, the U.S. Court of Appeals for the Ninth Circuit ruled that a non-human entity, in this case, a monkey, cannot have a standing in a copyright infringement case. This decision implies that copyright law, as it stands, is centred on human authors and does not extend to non-human entities, including AI systems.

Copyright protection laws require the ability to receive economic benefits from the work produced. In addition, moral rights, which protect credit and reputation, are beyond the comprehension of AI systems.[35]

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[30] ibid Ryan Abbott
[31] 111 U.S. 53 (1884).
[32] *Infopaq International A/S v Danske Dagbaldes Forening (2009)* C-5/08 ECR I-6569
[33] (n 6)
[34] *Naruto v Slater, (9th Circuit 2018) No. 16-15469.* The Monkey Selfie is one of a series of photographs (the "Monkey Selfies") that Naruto, a six-year old crested macque monkey, made using a camera left unattended by defendant David John Slater ("Slater"). The Monkey Selfies resulted from a series of purposeful and voluntary actions by Naruto, unaided by Slater, resulting in original works of authorship not by Slater, but by Naruto.
[35] Atif Aziz, 'Artificial Intelligence Produced Original Work: A New Approach to Copyright Protection and Ownership' European Journal of Artificial Intelligence and Machine Learning (2023) < https://www.ej-ai.org/index.php/ejai/article/view/15/18 > accessed on 6 October 2023.

As a result, only human authors, such as the user or the programmer of the AI, can hold these rights if vested in an AI-generated work.

1.4.1 The User

The belief that copyright ownership should be attributed to the user is based on the idea that AI is a tool utilized to express the user's creativity[36]. The user is the one who has transformed the creative work into a valuable form, rather than just an abstract idea. Allocating ownership rights to the user is fair because they have fulfilled the requirement of fixing the work in a tangible medium.

The concept of originality of the work further reinforces the position that the user is entitled to the ownership of copyright associated with the output of an AI generative tool. For example, when generating an essay using an AI generative tool like ChatGpt, it is the user who inputs the information and directs the AI to create the work. This is considered an original work because the user selected the words and directed the AI on how the work should be created.

Even if the user was not directly involved in the creative process, it is still appropriate to allocate ownership rights when considering the "work for hire"[37] concept. Just as in the case of someone who is employed to write a paper for their employer, the ownership rights will belong to the employer, even though the employee did not literally write the work. Similarly, the user can be said to employ the program from the programmer, but the creative effort is vested in the user.[38]

While it is true that the programmer developed the program, the ownership right vested in the programmer will most likely be that of the program itself. However, some argue that the programmer can own the copyright in the work since they developed the program that generated the work.[39]

1.4.2 The Programmer

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[36] Ibid

[37] Circular 30, 'Works Made for Hire' < https://www.copyright.gov/circs/circ30.pdf > accessed on October 7 2023. Whether a work is made for hire is determined by facts in existence at the time the work is created. There are two situations in which a work made for hire is produced: (1) when the work is created by an employee as part of the employee's regular duties and (2) when a certain type of work is created as a result of an express written agreement between the creator and a party specially ordering or commissioning the work. When a work is produced under these conditions, the employer or the party ordering or commissioning the work is considered the author and copyright owner

[38] Pamela Samuelson, 'Allocating Ownership Rights in Computer-Generated Works' *University of Pittsburgh Law Review* [1985] (47) 1202-1204

[39] Tuomas Sorjamaa, 'I, Author – Authorship and Copyright in the Age of Artificial Intelligence' < https://helda.helsinki.fi/server/api/core/bitstreams/dbe060f9-ee57-4d40-96b2-89d31d5ebc4a/content > accessed on 7 October 2023.

The view that copyright ownership in an AI-generated work vests in the programmer is based on the premise that they are responsible for creating the program producing the work.[40] Developing such a program involves a significant amount of intellectual effort and creativity. Without the programmer, the work could not exist. For example, if ChatGpt generates an essay, it is only possible because of the programmer's code. If such an essay receives recognition, it would be fair to attribute partial credit to the programmer who developed the program. As Bridy suggests, the programmer is "the author of the author of the works."[41]

The programmer produces the crucial algorithm and makes creative choices in selecting the model, preparing the parameter, choosing and apportioning data, and determining and double-checking additional steps such as observing and adapting the algorithm after it has become operative.[42] In *Nova Productions Ltd v Mazooma Games Ltd*[43], the court affirmed that the programmer who "devised the appearance of the various elements of the game and the rules and logic by which each frame is generated and [who] wrote the relevant program" was the author of the works.

Supporters of this view argue that the user's contribution to an AI-generated work, such as typing a single word, is insignificant compared to the programmer's written algorithms. Therefore, they contend that granting copyright ownership to the programmer is a fair recognition of their creative endeavours and serves as an incentive for them to produce new cultural products.[44]

1.5 Global Perspectives on AI Copyright Ownership

The issue of copyright ownership in works generated by AI machines has been considered under various legal systems. This section examines AI copyright ownership in the United Kingdom, Australia, and Nigerian legal frameworks.

1.5.1 The United Kingdom

[40] (n 36)
[41] Annemarie Bridy, 'Coding Creativity: Copyright and the Intelligent Author' (2012) Stanford Technology Law Review 5
[42] *Nova Productions v Mazooma Games* [2007] EWCA Civ. 219.
[43] Bonadio, E. and McDonagh, L. ORCID: 0000-0003-2085-5404 (2020). 'Artificial Intelligence as Producer and Consumer of Copyright Works: Evaluating the Consequences of Algorithmic Creativity'. Intellectual Property Quarterly, 2, pp. 112-137.
[44] ibid

With the advancements in AI, the U.K. and European Union (EU), in 2017, put forward many legislative initiatives and proposals to address and consider the impact of artificial intelligence. These proposals covered questions of liability, legal personality, and other ethical and legal issues, including in the context of data processing.[45]

To further understand how AI and IP rights can co-exist, the Intellectual Property Office (UK IPO) launched a call for views, which ran from 7 September – 30 November 2020. Most respondents agreed that AI cannot own the copyright in a design because it lacks legal personality.[46]

The U.K. position on AI copyright ownership, emphasizing human authorship before a copyright will subsist in a work, [47] remains unchanged. However, the IPO will continue to monitor the impact of existing protection as AI develops and welcomes any new evidence from stakeholders.[48]

1.5.2 Australia

In Australia, works are afforded copyright ownership where it is proved that a human author has contributed "independent intellectual effort". Thus, where a work is solely generated by an AI machine, copyright ownership would vest in the human author as AI currently does not have legal status.[49]

In the *Thaler v Commissioner* case[50], Stephen Thaler who invented the "Device for Autonomous Bootstrapping of Unified Sentience" (DABUS), an AI machine to generate new inventions, filed international and national patent applications naming the machine as the inventor. This challenged the traditional copyright position of human authorship and the practice that only humans can be named as inventors in a patent application. The Australian Patent Office refused to proceed with the application.

[45] Michael Butterworth, 'The ICO and Artificial Intelligence: The Role of Fairness in the GDPR Framework' *Computer Law & Security Review,* (2018), 257-268
[46] GOV.UK, 'Government Response to Call for Views on Artificial Intelligence and Intellectual Property' < https://www.gov.uk/government/consultations/artificial-intelligence-and-intellectual-property-call-for-views/government-response-to-call-for-views-on-artificial-intelligence-and-intellectual-property#ownershipauthorship > accessed on October 14 2023.
[47] (n 17)
[48] Maria-Elena Cacace, 'UK: ChatGPT—Can the AI Generated Content Output Be Protected by Copyright in the UK?'
[49] University of South Australia, 'Artificial Intelligence' < https://guides.library.unisa.edu.au/copyrightforcreatives > accessed on 15 October 2023. See S 32(1) (a) Copyright Act 1968. The use of the word "qualified person" establishes the importance of legal personhood.
[50] Thaler v Commissioner of Patents [2021] FCA 879.

Additionally, the Full Court of the Federal Court affirmed that "the origin of entitlement to the grant of patent lies in human endeavour".[51] The countries mentioned in the footnote also supported this decision.[52]

Undoubtedly, Australian Copyright law does not grant copyright to works generated solely by an AI.

1.5.3 Nigeria

The Nigerian Copyright Act, 2022 specifically mentions the works which would be eligible for copyright[53]. It does not make mention of software or AI machines nor does it account for the protection of these works. Copyright protection arguably only extends to the original documented expression of the software. The copyright protects the author and vests ownership rights in an individual who is a Nigerian citizen or a body corporate incorporated by or under Nigerian law[54] re-affirming the traditional notion of human authorship before copyright will subsist in a work.

1.6 Conclusion

From the examination of various jurisdictions, it is clear that, currently, an AI generative tool cannot assert legitimate copyright ownership over the works it produces because it lacks legal personhood. Copyright ownership would naturally flow to the person on whose behalf the AI was programmed or who made a substantial intellectual contribution to the work. Nevertheless, the dynamic nature of AI and its growing autonomy prompts consideration for updates in existing IP laws to recognize and grant certain rights to the AI for its role in generating the work. The question of AI copyright ownership will continue to evolve as AI technology advances. To address the ambiguities in this field, implementing a comprehensive legal framework specifically for the field of Artificial Intelligence could provide practical solutions to challenges related to the authorship of AI-generated works and the rightful ownership of these works.

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[51] IP Stars, Kingsley Egbuonu 'The Latest News on the DABUS Patent Case' <https://www.ipstars.com/NewsAndAnalysis/The-latest-news-on-the-DABUS-patent-case/Index/7366 > accessed on 15 October 2023.

[52]Ibid. In Germany, the German Patent Office refused to grant patent applications to DABUS. Similarly, Israel, New Zealand, South Korea and the United Kingdom, upheld the decision of the respective Patent Offices in each country, refusing to accept Thaler's patent applications.

[53] See S 2 Copyright Act, 2022. The Act provides that literary works, musical works, audiovisual works, sound recordings, and broadcasts will be eligible for copyright protection. With respect to literary, musical or artistic work, it provides that such a work will not be eligible for copyright where it has not been fixed in any medium of expression that it can be reproduced or perceived from. Also, some effort must have been expended on the work to give it an original character.

[54] Nigerian Copyright Act, 2022 S.5