INTELLECTUAL PROPERTY LAW
10th November 2025



Idorenyin Ekpenyong[1]

Patenting Artificial Intelligence (AI) Innovations in Nigeria: Navigating Legal Uncertainties in the New Technology Era

1. Introduction:

Artificial Intelligence (AI) is transforming the global innovation landscape, driving breakthroughs in industries ranging from healthcare and finance to agriculture and creative design. Yet, as AI systems increasingly generate novel ideas, products, and processes, one question continues to challenge legal systems worldwide, *who owns an AI-created invention?* In Nigeria, this question is particularly pressing, given the country's rising technology ecosystem and the gradual evolution of its intellectual property (IP) framework.[2]

The *Patents and Designs Act*,[3] which governs patent protection in Nigeria, was enacted decades before the emergence of AI-driven inventions. Consequently, the law offers little guidance on critical issues such as inventorship, originality, and the patentability of machine-generated works. This legal gap creates uncertainty for innovators, startups, and policymakers seeking to balance technological progress with adequate IP protection.

As AI becomes a central driver of innovation and economic growth, Nigeria must confront these grey areas and align its patent framework with global best practices. This article explores the challenges of patenting AI-generated inventions in Nigeria, by addressing some illustrative IP questions: who owns an AI-created invention? What

---

1 **Idorenyin Ekpenyong, Associate, Intellectual Property and Technology Department, S.P.A. Ajibade & Co., Lagos, Nigeria.**

2 Logan Kugler, 'Who Owns AI's Output'? available at: <https://cacm.acm.org/news/who-owns-ais-output/> accessed on November 9th, 2025.

3 See, *Patent and Designs Act* Cap P2 Laws of the Federation of Nigeria 2004.

level of technical effect is required for patentability?[4] Can an AI model be patented, or is it simply a mathematical method? Does copyright provide enough protection for AI models and algorithms?

2. AI-generated inventions:

These are inventions created autonomously by AI systems, without direct human input in the inventive process. The AI system independently conceives and develops the invention. An example of this is the DABUS system, which has been credited with creating inventions in various fields.[5] These inventions span various fields, such as technology, medicine, and engineering. AI uses powerful algorithms to analyze vast amounts of data, identify patterns, and generate innovative solutions that humans might be unable to conceive.

In essence, AI-generated inventions are the result of AI systems autonomously creating new ideas, products, or processes, often surpassing human capabilities in terms of speed and complexity. Depending on the levels of capability and sophistication, the development of AI systems can be categorized into several stages. However, three key stages are particularly noteworthy for this current review: Narrow AI, Artificial General Intelligence (AGI), and Artificial Superintelligence (ASI).[6]

2.1 Narrow AI

Narrow AI, also known as Weak AI, is designed to perform specific tasks or solve particular problems. These AI systems are highly specialized and excel in their designated areas but lack general intelligence. Examples may include ChatGPT, Google Assistant, self-driving car software, virtual assistants, recommendation algorithms, and image recognition systems.

2.2 Artificial General Intelligence (AGI)

AGI, also known as Strong AI, is an improvement on Narrow AI systems. AGI would have human-level cognitive flexibility capable of performing *any* intellectual task undertaken by humans. It could learn from minimal data, understand context deeply,

---

4 WIPO Conversation IP and Frontier Technologies 'AI Inventions' available at: <https://www.wipo.int/export/sites/www/about-ip/en/frontier_technologies/pdf/wipo-ai-inventions-factsheet.pdf> assessed on 8th November 2025.

5 Dr. Malte Kollner, Dr. Laura Fe 'AI-generated inventions and AI-assisted inventions' available at: <https://profwurzer.com/diplex/docs/ai-generated-inventions-and-patents/> assessed on November 8th, 2025.

6 Shashank Kinra, 'AI-Generated Inventions: Redefining the Boundaries of Patents' available at: <https://www.linkedin.com/pulse/ai-generated-inventions-redefining-boundaries-patents>- accessed on November 8, 2025.

and even exhibit traits like creativity, common sense, and emotional understanding. Unlike narrow AI, which excels in specific tasks, AGI can understand, learn, and apply knowledge in diverse areas, making it a powerful tool for innovation. As AGI systems advance, they have the potential to independently generate inventions that could surpass human ingenuity.

2.3 Artificial Superintelligence (ASI)

ASI refers to a level of artificial intelligence that surpasses human intelligence in every possible aspect intellectually, creatively, and even emotionally.

Whereas Artificial General Intelligence (AGI) would be as intelligent and versatile as a human being, ASI would go far beyond, possessing reasoning and problem-solving abilities that no human could match leading to breakthroughs in fields such as quantum computing, biotechnology, and space exploration. Superintelligence might process and analyze vast amounts of data at unprecedented speeds, allowing it to identify patterns and trends that humans might miss, thereby accelerating the pace of innovation.

As we move toward a future where Artificial General Intelligence (AGI) may be able to develop truly novel solutions and groundbreaking inventions and as we inch closer to the era of Artificial Superintelligence (ASI) the question of how to patent AI-generated inventions grows increasingly complex and fascinating.[7]

3. Who owns an AI-created invention?

AI systems such as DABUS (Device for the Autonomous Bootstrapping of Unified Sentience) have ignited a global legal conversation. DABUS, developed by Dr Stephen Thaler, autonomously generated novel ideas, including a food container design and a flashing light device. When Dr. Thaler filed patent applications naming DABUS as the inventor, patent offices across major jurisdictions, including the United States, the European Union, and the United Kingdom, rejected the applications, insisting that only a human could be an inventor under existing laws.[8]

However, the South African Patent Office took a bold step in 2021 by granting a patent listing DABUS as the inventor, marking the first official recognition of an AI system as an inventor. This unprecedented move sparked global debate on whether AI should be

---

7 *Ibid*.

8 Maya Medieros, 'Ownership of IP Rights in AI Creations' available at: <https://bartalk.org/article/features/2022>- accessed on November 9th, 2025.

capable of holding inventorship status or whether ownership should remain solely with the human creator, programmer, or user of the AI.

Determining ownership of AI-generated inventions is a great challenge for patent law, this is because the legislation for patent law attributes ownership to a human inventor. For instance, section 2 of the *Patents & Designs Act*[9] provides that, '*the right to a patent in respect of any invention is vested in the statutory inventor, that is the person whether or not he is the true inventor is the first to file or claim a foreign priority for a patent application in respect of that invention.'*

The deliberate use of the term "person" and the pronoun "he" strongly implies that the legislature contemplated a natural person, that is, a human being as the subject capable of inventorship and ownership. Nigerian law, like most common law jurisdictions, interprets "person" in this context to mean an individual with legal personality, capable of holding rights and obligations.

As AI-generated inventions are not considered real human inventions, this complicates the claims of ownership. It was suggested that potential solutions would be recognising the AI system/developer as the owner, attributing ownership to the programmer or user of the AI system or creating a new legal entity to hold ownership rights.

Therefore, under Nigerian law as presently framed, AI systems cannot be recognized as inventors, since they lack legal personality, cannot file or claim priority, and cannot exercise rights or discharge obligations under the Act. Any invention generated by AI would thus be attributed to the human who developed, programmed, or utilized the AI system, aligning with the statutory inventor doctrine enshrined in section 2 of the *Patent & Designs Act*.[10]

4. <u>What level of technical effect is required for patentability?</u>

Under patent law, an invention must satisfy certain core criteria to qualify for protection: novelty, inventive step (non-obviousness), and industrial applicability.[11] However, when it comes to computer-implemented inventions (CIIs) or AI-related innovations, there's an additional threshold often referred to as the "technical effect" or "technical contribution" requirement.

A technical effect refers to physical or functional impact that goes beyond the mere execution of a computer program. In other words, the invention must solve a technical

9 The *Patent and Designs Act*, Cap P2 LFN 2004.
10 *Ibid*.
11 Section 1(1) *Patents and Designs Act* Cap P2 LFN 2004.

problem in a novel and non-obvious way, rather than simply performing a business, mathematical, or mental process more efficiently on a computer.

Examples of recognised technical effects include:

i. Improved computer processing speed or memory efficiency;

ii. Enhanced image or signal processing;

iii. Optimised data encryption or compression methods;

iv. Control of a physical process (e.g., in robotics, manufacturing, or communication systems);

v. Improved functioning of a computer itself, not just the application running on it.

In other ways, if an AI or software invention merely automates a human task or produces an abstract result (such as predicting trends, classifying data, or generating text), it may not meet the technical effect threshold.

This concept is particularly important because many AI or software-based inventions are abstract or mathematical in nature, and patent systems do not generally protect mere ideas, algorithms, or mathematical methods unless they produce a tangible technical outcome.

In Nigeria the *Patents & Designs Act* does not expressly define "technical effect" or set out distinct rules for computer-implemented inventions. However, the Act limits patentable inventions to "any new invention that results from inventive activity and is capable of industrial application"[12]

By inference, a technical effect would be demonstrated if an invention can be applied in industry, that is, it produces a concrete, practical outcome or solves a technical problem. In practice, the Nigerian Industrial Property Office (NIPO) would likely draw guidance from international standards (especially the European Patent Office (EPO) or World Intellectual Property Organization (WIPO) frameworks) in evaluating AI-related patents.

5. Competing Perspectives

As the debate over AI inventorship deepens, legal scholars, policymakers, and technologists have taken varying positions on how to treat inventions created by artificial intelligence. While some insist that only humans can truly invent, others argue that AI's growing autonomy demands legal recognition. These divergent views have

[12] *Ibid*.

given rise to several competing perspectives on who should own or be credited for an AI-generated invention.[13]

5.1 The Human-Inventor Doctrine

Proponents of the traditional approach argue that inventorship requires human mental conception, the creative spark that machines lack. Under this view, AI is merely a tool, no different from a microscope or computer-aided design software. The rightful inventor remains the human who uses or programs the AI.

5.2 The AI-Inventor Proposition

Others contend that as AI systems become increasingly autonomous, capable of learning, adapting, and generating novel ideas without direct human intervention, it is disingenuous to deny their inventive contributions. While AI itself cannot hold property rights, the ownership could vest in the AI's creator, owner, or operator by virtue of their control or investment in developing the AI system.

5.3 The Hybrid or Shared Model

A more progressive approach envisions shared or derivative inventorship, where both human and machine contributions are recognised. This model would allow patents to acknowledge AI involvement while still assigning legal rights to human stakeholders, ensuring accountability and alignment with existing IP frameworks.

6. Can an AI model be patented, or is it simply a mathematical method?

Under the existing Patent framework, AI-generated inventions cannot be patented. The Act does not recognise artificial intelligence as an inventor or legal person capable of owning rights.

Section 2[14] of the Act provides that:

> *the right to a patent in respect of an invention is vested in the statutory inventor, that is, the person, whether or not he is the true inventor, who is the first to file or claim a foreign priority for a patent application in respect of that invention.*

The critical term here is "person", which has consistently been interpreted in Nigerian jurisprudence to refer to a natural person a human being unless expressly stated otherwise. AI systems, lacking legal personality, cannot file patent applications, hold rights, or transfer ownership.

---

[13] Einfolge Technologies, 'Who owns the patent when AI creates new inventions?' available at: <https://www.einfolge.com/blog/Who-owns> accessed, November 9th, 2025.

[14] The *Patents and Designs Act* Cap P2 LFN 2004.

Furthermore, patent protection in Nigeria is premised on human intellectual effort, meaning the inventive step or conception must originate from human creativity. While AI may assist or contribute to the inventive process (for example, by analysing data or generating design variations), the invention is still attributed to the human who directed or used the AI.

Therefore, if an invention is produced autonomously by an AI system without substantial human input, it would not meet the inventorship requirement under Nigerian law and would likely be ineligible for patent protection. Until the *Patents & Designs Act* is amended to recognize non-human inventors or AI-assisted inventorship, ownership of patentable inventions will continue to rest solely with humans, either the programmer, user, or employer who deploys the AI system.

In the United States, the Patent and Trademark Office (USPTO) have taken a pragmatic step towards addressing the growing intersection between AI and patent law. In its notice published in the Federal Register, titled *"Inventorship Guidance for AI-Assisted Inventions"* (February 2024), the USPTO clarified that AI-assisted inventions are not automatically unpatentable on the basis of improper inventorship, provided that one or more natural persons have made a significant contribution to the conception of the invention.[15]

This means that where AI systems are used as tools to aid human inventors, for instance, by analysing data, generating design alternatives, or suggesting potential solutions, the resulting invention may still be eligible for patent protection, as long as a human can be identified as having made an inventive contribution. Put differently, the human element remains indispensable to the claim of inventorship.

By adopting this interpretive position, the USPTO effectively bridges the gap between rigid human-only inventorship rules and the realities of machine-assisted innovation. It signals that the key determinant is not whether AI was involved, but the extent of human contribution to the inventive concept. This development may serve as a useful model for other jurisdictions, including Nigeria, as they begin to consider how to regulate and recognize the role of AI in creative and inventive processes.

[15] Regina Penti, et al 'Can AI Inventions Be Patented?' The USPTO Speaks' available at: <https://www.ropesgray.com/en/insights/alerts/2024/02/can-ai-inventions-be-patented-the-uspto-speaks> accessed on November 9th, 2025.

7. Does copyright provide enough protection for AI models and algorithms?

The *Copyright Act*,[16] in its current form, does not provide explicit or adequate protection for AI models and algorithms. While the Act modernised aspects of Nigeria's copyright regime, aligning it more closely with international standards, it remains fundamentally designed to protect human creativity and expression, not machine-generated works or underlying computational models.

7.1 Copyright Protects Expression, Not Ideas or Algorithms

Under section 2 of the Copyright Act,[17] copyright protection extends to "original works of authorship" such as literary, musical, artistic, cinematographic works, sound recordings, broadcasts, audio visuals. Importantly, copyright protects the expression of ideas, not the ideas, methods, or systems themselves.

An AI algorithm, which is essentially a set of mathematical instructions or computational procedures would be considered an idea, process, or method of operation, which is not copyrightable under section 3[18] and established international copyright principles (mirroring Article 2 of the Berne Convention).[19]

However, the source code or object code implementing that algorithm (if expressed in a programming language) can attract copyright protection as a computer program, provided it is original and created by a human author.

7.2 The Requirement of Human Authorship

Like patent law, Nigerian copyright law is anthropocentric. It assumes that authorship originates from a human mind. Section 108[20] defines an "author" as "the person who creates a work," which presupposes human creativity and volition.

AI systems, being non-human entities without legal personality, cannot be authors or owners under Nigerian law. Consequently, AI-generated works without human creative input may fall outside the protection of the Copyright Act.

8. Conclusion:

The rise of artificial intelligence poses significant challenges for Nigeria's Intellectual Property framework. The current *Patents and Designs Act* remain human-centered, so

16 Nigeria *Copyright Act*, 2022.
17 *Ibid.*
18 *Ibid*.
19 Berne Convention for the Protection of Literary and Artistic Works (Paris Text 1971).
20 *Ibid*.

AI-generated inventions without meaningful human input are ineligible for patent protection.

Similarly, Nigeria's copyright law protects only human-created works, leaving fully autonomous AI outputs in a legal grey zone. Global developments, such as the USPTO's guidance on AI-assisted inventions, demonstrate that legal systems can adapt to balance technological progress with human inventorship.

For Nigeria, these developments offer valuable insights into potential reforms including clarifying inventorship, recognising AI-assisted contributions, and aligning the patent and copyright frameworks with emerging technological realities.

Modernising IP laws is essential to encourage innovation and ensure that creators, users, and developers of AI technologies can operate with legal clarity. Addressing these legal grey areas is not just a matter of statutory interpretation; it is essential for fostering a vibrant, competitive, and future-ready technology ecosystem.

For further information on this article and the area of law,
please contact **Idorenyin Ekpenyong**
at S. P. A. Ajibade & Co., Lagos by
Telephone (+234 814 594 2221; +234.811 890 3060; +234.806 437 3384)
Mobile (+2347038229780)
Email: iekpenyong@spaajibade.com
www.spaajibade.com