

The Rise of Artificial Intelligence in Intellectual Property Law: Patentability and Copyright Issues

Dhannjay Singh Pundir¹, Dr. Bindu Jindal², Dr. Pranav Ranga³, Vishant Saini³, Nikhil Mahajan⁴,
Kusha⁴, Kumari Samridhi Pandey⁴

¹*Ph.D Scholar, Department of Law, Maharishi Markandeshwa (Deemed to be University) Mullana-Ambala, Haryana, India, dhananjaysinghpundir2@gmail.com.*

²*Head & Dean, Department of Law, Maharishi Markandeshwa (Deemed to be University) Mullana-Ambala, Haryana, India*

³*Assistant Professor, Department of Law, Maharishi Markandeshwa (Deemed to be University) Mullana-Ambala, Haryana, India*

⁴*BA.LLB 10th Semester, Department of Law, Maharishi Markandeshwa (Deemed to be University) Mullana-Ambala, Haryana, India*

Abstract: The rise of Artificial Intelligence (AI) is transforming and posing important challenges in the field of Intellectual Property (IP) law regarding patentability and copyright. As AI systems increasingly produce inventions and creative works without human involvement, doubts arise on how suitable the present framework of intellectual property rights-invented to protect human-made innovations-is for such a confused state of AI. This paper develops its line of analysis around the AI implications for patent and copyright laws, checking out if current legal structures are such that they can address outputs from AI systems. While current laws in the patent regime recognize only a human inventor, an AI system can produce novel and non-obvious inventions. Should AI be viewed as an inventor, or would patent laws be transformed to recognize that AI is merely a tool in the invention process? The paper discusses various in-applicable case law and decisions such as the 2019 ruling of the USPTO that in certain inventions, the inventor could only be a human being, which manifests the fact that patentability frameworks remain unfit for AI-generated inventions. Moreover, in relation to copyright, it can be noted that the contingent works executed by AI challenge and suspend the necessity for human authorship. When AI generates such works on its way, the alternative arises and must be critically analysed who is to be considered the actual owner of copyright over the work? Current copyright frameworks in various jurisdictions, such as the U.S., do not extend protection to AI-generated works without incorporation of some human involvement in their creation. Possible suggestions of reform like placing authorship over X work under the AI's developer or user, or a New IP category addressing the input of AI in creation, formulations were discussed in the paper. Ultimately, innovations in both patent and copyright laws ought to grow in a balanced way that, while producing adequate protective layers over human creators, prepares itself to come into terms with rising AI creativity and invention. For maintaining justice and fairness, reform in legal constructs for tracking with AI-generated creations is inevitable.

Keywords: AI-generated content, authorship attribution, human intervention, originality, inventive step, ownership, legal personhood, fair use, derivative works, algorithm protection, data privacy, IP infringement.

1. Introduction

As the technology of AI progresses rapidly, industries are being transformed, new innovations born, and modes of creation, invention, and production revolutionized. From designing life-saving medical treatments, optimizing heavy industrial processes, and composing music, to generating visual art, AI is increasingly taking autonomous actions in generating new ideas and creating new works. While these developments welcome a stunning possibility, they also introduce deep questions about the applicability and fairness of classic intellectual property laws, which have been historically rooted in human creativity and invention. The general role of AI in creative and inventive processes challenges the existing legal frameworks, especially with respect to patentability and copyright. Patents are meant to protect inventions that are new, non-obvious, and useful. The invention must have a human inventor in most countries; the human inventor must demonstrate originality and ingenuity in technical problem-solving. However, as AI systems have grown in power and sophistication, they are becoming capable of solving problems by themselves and inventing new technologies without human guidance. This presents the crucial question: If an AI system other than a human generates an autonomous work that is patentable, who should be regarded as its inventor? Can AI be considered an inventor, considering it operates on basic algorithms and data patterns, or must the human creators and developers of AI systems retain the title of inventor? This debate reached a peak in 2019, when the U.S. Patent and Trademark Office rejected a patent application naming an AI system as inventor. The application was filed by the University of Sydney, claiming an intelligence system named DABUS created the design for a new food container and a new light-based signal. In the ruling delivered by the USPTO, it asserted that invention can only be ascribed to humans, subsequently reinforcing its stance that inventing could only be a feat of human activity. Similar decisions were rendered in Europe, where, in the UK, refusal was given by European patent office against names ascribed to AI.

I. Patentability of AI-Generated Inventions

A. Traditional Patent Requirements

Traditional patent law sets some rules that an invention has to follow to be eligible for coverage. Double check that the requirements set for the patent is a good one, getting an answer to: is UDRP domain relevant or not. Thus, the principled requirements include the following:

- **Novelty:** An invention must be considered to be new and not it has not been revealed or offered by the creator to the public before the application date. A brief description of the same can be found in publications, patents, or demonstrations. In that case, it won't be patented.
- **Non-Obviousness:** The new invention, which must be first of its kind and entail steps and techniques that are novel in the industry at that time, should lead to not obvious results. The requirement of non-obviousness is necessary and it is the breakthrough technological development that is substantial in relation to conventional idea not just minor improvements.
- **Utility:** The invention should have a real or practical utility. It must be applicable and at the very least engaged and if possible, the new technology should make things better, faster, or cheaper.
- **Enablement:** The patent claim should be disclosed in such a way as to enable any person skilled in the art to replicate the invention without undue experimentation. This is to say that the invention is sufficiently described to be understandable and its application to be fulfilled.
- **Human Inventor Requirement:** Historically, patent law usually requires that the inventor be a human being. This philosophy is a testament to the fact that innovation cannot take place without human creativity, intelligence, and final decisions.

B. Current Legal Framework and Challenges

As a matter of fact, both the current legal framework and the challenges regarding the patents have for long time perceived only human beings are deserving of the right and may thus be declared inventors and bear the intellectual property rights of their inventions. Making something new was something that seemed and seemed only to be a human activity and human thought was at the core of creativity however, as AI is becoming more involved in the invention process, we face significantly enormous adversity in applying those laws.

In the vast majority of jurisdictions, e.g., the United States and Europe, patent law requires that only human beings can be the makers of the inventions. For example, in 2019, the United States Patent and Trademark Office (PTO) initially declined to issue a patent when Dabus, an AI system, was mentioned as the inventor. It was stated that to be an inventor only a human is necessary. Therefore, the USPTO rejected DABUS' patent application for not satisfying the legal guidelines. Similarly, the European

Patent Office (EPO) and the UK Intellectual Property Office (UKIPO) have adhered to the view that patents can only be granted to human inventors.

This is a major problem now because AI systems have recently been able to produce on their own something that is novel, non-obvious, and useful, in many cases, with little or no human intervention. In the event of an AI generating some invention, who should be the inventor? Should the developer of the AI system, who was the user of the AI, or the AI itself be inventorship? The present system, of course, does not sufficiently take this into account as it was initially all about human inventions and creativity so the AI in question was not actually the inventor.

The main problem is to harmonize the quick improvement of AI technology with a law body that hasn't evolved to the required level to be compatible with these technologies yet. With the increment of AI's part in the creation of inventions, the current legal framework is becoming more and more obsolete and in the need of some reconstructions to adapt to the changing patterns of innovation.

C. Legal Implications and Potential Reforms

AI's development, concerning whichever brain gives whatever stage of development, has decidedly strange implications for patent law. Thus far, all inventions have essentially had the human mind ascribed as having produced them. Current patent laws all begin with the premise that inventors can only be humans; therefore, there can be no human-like counterpart in attributing an invention to AI systems. This brings two things into the sphere of contest—a fundamental waver in terms of ownership and rights. The real issue in every party is who will be granted patent rights in existence when AI plays a big incumbent role in the inventive process.

One legal aspect considers attribution: when AI creates an invention autonomously, should the human developer of the AI, the one who operates it, or a corporate entity employing the AI system be acknowledged as the inventor? These uncertainties further compound the general patent filing process, more so where AI's contribution is significant but indirect. Then there is the question of ownership and rights, for if AI cannot be considered an inventor, patent rights might rest with some human being, thus overlooking the true nature of the contribution made by the AI. This negates protection of patent profits through some other means. The legal reforms that are being mooted to deal with the present conundrum include giving AI patent rights without shielding its inventorship against the human being who worked behind the curtain or creating a whole new category for AI, endowing the developers or users of such a system with patent rights. Some have suggested granting AI systems legal personhood in certain cases, though the suggestion is still largely controversial.

The most important lesson is the approach to take in ordering patent law system changes soon to accommodate AI-born innovation—such that it upholds equity, effectiveness, and compliance amidst technological advances.

II. Copyright Issues Surrounding AI-Generated Creative Works

A. Traditional Copyright Framework

Copyright law protects original works that humans create such as books, music, and art. To get protection, the work must come from human creativity. But when AI systems make creative works on their own, it makes us ask: Who should own these works?

B. Ownership and Authorship in the Age of AI

In places like the U.S. and EU, copyright laws aim to protect human authorship. But AI-generated works challenge this need for human authors. For example, AI can now make music, paintings, and written content without people involved. When AI creates these works, the usual idea of authorship doesn't fit well, and it's not clear who should have the copyright.

In 2019, the U.S. Copyright Office decided that works made by AI, without people involved, can't get copyright protection. This choice has started a debate about whether we should see AI as a tool, with the person using it as the author, or if we need new laws to deal with who owns works that AI creates.

C. The Role of Human Input and AI as a Tool

Some people think we should see AI as a tool that helps human creators. They believe the person who oversees or guides the creation of an AI-generated work should own it. But as AI systems get smarter on their own, this idea might not hold up. Take AI systems that make art or music by themselves, for example. Who should have the copyright? The person who made the AI? The person who uses it? Or someone else?

D. Potential Reforms and Legal Challenges

People have come up with different ideas to change copyright law to fit AI. Some say we should give copyright protection to AI-created works, but give ownership to the person or company that made or

used the AI system. Others think we need a whole new kind of protection for AI-created works separate from regular copyright law. Some people also want to change international agreements, like the Berne Convention, to include AI as a possible "author" in certain cases.

III. The Need for a New Legal Framework

The complexities and gaps in current IP law about AI have led many to believe that new legal frameworks are necessary to tackle the challenges AI-generated inventions and creative works present. Future reforms should focus on these key areas:

- **Revising Patent Law:** Legal experts propose that patent law should see AI as a tool and explain its part in the inventive process. Also, AI developers might get rights to patent AI-generated inventions if they can show how they helped develop the invention.
- **Updating Copyright Law:** Copyright laws might need to change to reflect how authorship has changed in the AI era. We should think about whether to recognize AI as a co-author or to create a new type of protection for AI-generated works.
- **Ethical Considerations:** When deciding on IP rights for AI-generated creations, we also need to think about the ethical issues. These include worries about a few big AI developers owning most of the intellectual property and how AI affects human creators and innovation.

2. Conclusion

Artificial Intelligence's emergence offers both pros and cons for intellectual property law. AI often plays a part or even creates inventions and artistic stuff on its own, which makes people wonder about who invents or writes things. Laws on patents and copyrights have a hard time catching up with tech improvements. Changes are a must to keep laws up-to-date in a world where AI calls the shots. If we think again about AI's job human creators, and IP rules, tackling the tricky stuff about AI-made new things and artworks will be smooth sailing later on.

References

1. European Patent Office, "Artificial Intelligence and Patent Law," 2021.
2. United States Copyright Office, "Compendium of U.S. Copyright Office Practices," 2019.
3. WIPO, "Artificial Intelligence and Intellectual Property," World Intellectual Property Organization, 2020.
4. S. R. McGinnis & M. L. Ruder, "Patentability of AI-Generated Inventions," *Journal of Intellectual Property Law*, 2020.
5. A. L. Johnson, "AI and Copyright: The Future of Authorship," *International Journal of IP Law*, 2021.