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A Legal Study of Intellectual Property Law and Artificial Intelligence

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Abstract

These days, artificial intelligence systems are becoming increasingly popular in the quickly developing sector of technology. With the gradual integration of increasingly sophisticated technology, it won't be long before these systems start coming up with incredible ideas all by themselves, totally unreliant on human input. This raises significant questions about intellectual property rights (IPR) since, among other things, it calls into question accepted notions of concepts like patents and copyrights and raises concerns about how these creations should be controlled. This study intends to provide light on the expanding bounds of Robotics and intangible property rights, as well as the unavoidable challenges that accompany them, from a global viewpoint. It also seeks to provide suggestions that go beyond intellectual/Intangible property rights (IPR) and addresses questions of criminal responsibility for contented produced by such technology.

Keywords: *Artificial Intelligence, Copyright Law, Intellectual Property Law, Patent Law, Rights*

Prologue

‘Artificial Intelligence (AI) systems’ are growing rapidly these days due to the integration of increasingly sophisticated software. In addition to doing basic computations, AI-enabled systems can now produce poetry, artwork, and other complex creative works. The phrase "more sophisticated forms of software being incorporated into them" describes how AI systems get smarter when more complex and sophisticated software components are integrated into them. You mentioned that AI-enabled systems may now create complex creative works, such as poetry and artwork, going beyond basic tasks like maths. This raises the question of whether such works, or any other type of work produced by a recognized human source and covered by IP laws, may receive any form of preferential treatment under intellectual property (IP) restrictions.

The writers of this work aim to simplify several more intricate topics that are revealed by this study. The article begins with an explanation of the theory of artificial intelligence (AI). After that, intellectual property is discussed, with a focus on copyrights/ exclusive rights laws and artificial intelligence. The paper then highlights the connection between patent/ exclusive laws and AI systems and digs more into the more controversial facets of the copyright dispute around AI solutions. At the end of the report, recommendations are made about these issues.

Artificial Intelligence (AI)

PCs ('Computer') are now clever enough to make judgments for themselves when paired with human brains. The ability of a computer system to make judgments on its own is referred to as artificial intelligence. The phrase "artificial intelligence" was originally used in a 1956 meeting by systems analyst Mr. John McCarthy. He explained that the idea was a computer program that evaluates data and produces a response that is comparable to what a reasonable person would do in the same circumstance. Artificial intelligence (AI) has advanced as a result of our fascination with and reliance on technology, allowing them to accomplish tasks that need human-level inventiveness.

But it was no longer clear if the machine's output was the result of its own intelligence or of commands and algorithms. Sir Alan Turing developed the "Turing test" to solve the problem. Test subjects were asked to have text-only conversations with either a human or a machine in order to determine if they believed they had spoken with a human or a machine. Turing defined intelligence as the ability of an artificial intelligence (AI) computer to produce responses that are identical to those of a human. Although it was only compatible with specific speech machines and exam types, this test was effective for a few years. Artificial intelligence (AI) has been divided into three groups by the World Intellectual Property Organization (WIPO): perception systems, expert systems, and natural language systems.

Computer programs designed to handle problems in particular areas of competence are called expert systems. These devices are capable of a wide range of tasks, such as determining the geological conditions, recommending a therapy plan, and recognizing health problems. Essentially, they are computer programs that, within their specific area of expertise, render decisions or provide recommendations predicated on specialized knowledge. The term "indeterminate legal status of works created with the aid of computers" describes a situation in which it is unclear who is entitled to copyright and other legal protections for artistic creations made with computers. Many governments have indicated that there isn't a clear legal framework for these kinds of activities by failing to take a hard stance on the matter technology that enables computers to see and hear external stimuli. These systems can be used by professionals such as word context specialists and topologists, who have various goals and viewpoints when utilizing this technology. It seems to be highlighting how flexible these kinds of systems are to other contexts or fields. In fact, the debate over copyright for AI-generated works has endured, raising concerns about legal rights and intellectual property. National courts continue to debate and present differing views on the matter despite the 1956 copyright denial setting a precedent.

Artificial intelligence is beginning to permeate sectors like healthcare thanks to the creation of state-of-the-art equipment that could significantly help in the identification of major ailments in people. Among the most well-known medical technologies is IBM Watson. In the field of business, artificial intelligence is also making great progress by training robotics to automate repetitive and routine tasks that eventually become too difficult for humans to perform. These robotics perform the following tasks and offer the greatest customer service by utilizing patterns and logarithms that are integrated into their system. Artificial intelligence has created a wealth of options for those employed in the education sector. Instructional strategies and research methodologies are enhanced by artificial intelligence. It acts as a tutor for students as

well, providing extra support and guidance to help them stay on track. Artificial intelligence has widespread application in the legal, business, and financial domains. People will eventually benefit from its capacity to collect and interpret data, spot trends, and provide directions by having less work to do.

Lastly, in order for natural language software to understand word meanings, a dictionary database is required. The way the algorithm gives a semantic analysis while accounting for different textual and grammatical contexts is noteworthy. People began to request security for the outcomes as these AI systems were employed more regularly. However, these prospects were severely disappointed when the copyright of a literary work was rejected in 1956. Nonetheless, because of its importance to the intellectual property (IP) area, which includes copyrights and patents, the issue remained and even reached national courts.

Historical Background

During World War II, computer scientist Alan Turing sought to decode the “Enigma Code,” employed by German forces for encrypted communication. The Bombe machine, created to decipher Enigma signals, was invented by him and his team. The Enigma and Bombe machines facilitated the advancement of machine learning.

Alan Turing posited that a machine is deemed intelligent if it can converse with people without their identifying it as a machine. The term “artificial intelligence” was first utilized during the 1956 Dartmouth Conference, organized by computer scientist John McCarthy. Subsequent to the Conference, this subject garnered attention, leading to extensive research being undertaken.

In 1951, the Ferranti Mark machine was created, employing an algorithm to achieve proficiency in the game of checkers. The General Problem Solver algorithm was created by Newell and Simon to address mathematical problems. John McCarthy created the programming language LISP, which significantly influenced machine learning. The late 1960s witnessed significant focus on advancing machine learning for robotics and machine vision. The inaugural intelligent humanoid robot was created in Japan in 1972. From the mid-1970s to the mid-1990s, funding for artificial intelligence research was constrained. These periods are thus referred to as “AI Winters.” Artificial intelligence reemerged as a prominent field of study in the late 1990s. Financial resources were allocated for its research. Corporations and governments commenced the application of machine learning methodologies in specific industries. The present generation employs artificial intelligence in nearly all domains, and the forthcoming AI Generation will perpetuate this trend. This generation may face specific issues arising from the widespread implementation of artificial intelligence technologies. Inconsistencies between artificial intelligence and intellectual property rights are inevitable.

Copyright and Artificial Intelligence

Copyright constitutes a vital component of intellectual property rights. The originator of an original work possesses the exclusive legal right to utilize and distribute it. A copyright can be granted only when two conditions are met. The product must be tangible and distinctive. Locke’s economic theory of possessive individualism was used by the author, who is portrayed as an inventor, to support and elucidate this claim. Most literary and artistic works are protected by copyright laws. The contemporary application of AI encompasses the generation of literary compositions, rendering the examination of copyright in relation to AI essential.

The understanding of this study paper's objective can be achieved by assessing the subsequent evaluations and instances:

- ❖ The question in this instance was whether or not an image may be protected by copyright. The case was relevant because it discussed the distinction between manual and creative

labour. The Court discussed whether copyright might apply to a product that is generated by a machine. The Court limited their protection by ruling that solely mechanical employment is inherently not creative. As a result, it would be challenging to grant copyright for works produced by AI systems under such stringent guidelines.

- ❖ This case carried on the legal question that was raised in the previous one. In this instance, the Court distinguished clearly between artificial and human effort. Justice Holmes explained ‘the uniqueness of the human personality and said that copyright protection requires it in his majority ruling’. “Something irreducible, which is one man's alone,” the Court declared emphatically, meant that nothing that was not the product of human creativity belonged in the legal system.
- ❖ The courts’ views on copyrights became more lenient after this decision. By ruling that a work of art can only be considered unique if it cannot be replicated in any other creative work of a similar kind, the Court lowered the bar for originality. It went so far as to say that an author might take credit for accidental or unintentional deviations. Hence, this decision offered some solace to those asserting copyrights for such works, even in cases where the work was generated by AIs employing particular programming and algorithms. There is now some clarity about the protection of AI systems thanks to these three verdicts. However, the deficiency a defined stance affects potential right holders.

Copyright Protection and Artificial Intelligence

‘The National Commission on New Technological Uses of Copyrighted Works (CONTU)’, expressed questions about the feasibility of developing an artificial intelligence that could produce autonomous works in 1974, according to the statement. It is implied by the term “theoretical and not practical” that the idea of artificial intelligence creating original content was at the time more of a theoretical possibility than a practical reality. When the issue was revisited in 1986, the Office of Technology Assessment (OTA) offered a different analysis from CONTU and associates regarding the state of artificial intelligence and its implications for intellectual property. Artificial intelligences ought to be acknowledged as valid copyrighted works, according to the OTA. The debate concerning artificial intelligence (AI) and creativity is still in its early stages. Supporters of one side underline how computers cannot perfectly replicate human creativity, while opponents emphasize how AI can redefine creativity. AI’s ability to generate creative ideas and artistic outcomes is challenging the concept of creativity, prompting a re-examination of what it means for a machine to be creative. Concerns concerning the unique characteristics of creativity that may be unique to the human experience are raised by the continuing debate, which explores the nuanced relationship between artificial intelligence and human creativity.

Lovelace contends that robots are not genuinely creative because they obey laws; this point is frequently brought up when talking about AI creativity. She argues that true creativity necessitates spontaneity, something that computers and other technologies may find challenging to achieve with their strict schedules. Some counter this, though, by drawing comparisons between writers and machines and highlighting the ways in which they process previously published works and draw inspiration from established ideas, much like artificial intelligence.

Lovelace argued that because computers were rule-bound, they were inherently lacking of actual creativity, which is why her theory emphasizes the significance of unpredictability in true creativity. Those who disagree with this perspective, on the other hand, liken writers to machines and point out that both need a similar process for drawing inspiration from previously published works. This analogy raises intriguing questions about the nature of creativity, challenging accepted definitions and advocating for a more inclusive understanding that considers contributions from both artificial and human sources. The evolving discussion on AI

creativity reflects the dynamic exploration of the boundaries and potential at the intersection of technology and human creativity.

Establishing entitlement to copyrights for artificial intelligence (AI) innovations continues to be problematic, notwithstanding legislative acknowledgment of such rights. Unless its creator is awarded legal personality on its behalf, an AI lacks the legal personhood as a rights holder that is now required by law.

However, a dilemma emerges over the ramifications of acquiring the AI system, specifically pertaining to the legitimate ownership of copyright-whether it belongs to the purchaser or the author. The verdict benefits the creator in places like England and New Zealand, where legal fiction grants copyright to the programmer for works produced by AI. The legal basis for computer-generated works-those without a human creator, such as AI-generated content stems from an extension of the copyright definition.

Still, the first question remains unanswered. Another issue is that the existing strategy cannot address AIs' criminal responsibility. Nobody could have predicted the miracles that artificial intelligence (AI) would do when it was first developed, and it wouldn't be out of the question to anticipate that these miracles would eventually grow to the point where AIs are recognized as unique beings. Then, a pertinent question regarding the potential criminal liability of an AI will arise. The creator will be held responsible even though he lacked the *mensura* or *actusreus* for the act if the current viewpoint is upheld. As such, the way AIs are now treated by IP law has many shortcomings. The author offers some recommendations for potential fixes to close these gaps in the study's latter section.

Patent Laws and Artificial Intelligence

Artificial intelligence and patent law are becoming increasingly interrelated in the modern technology landscape. Artificial intelligence (AI) has been widely utilized to automate repetitive operations, hence reducing human labor, as demonstrated in the previous portion of it paper. At first, AI-enabled devices seem to function similarly to effortless calculators and comparable tools. Nonetheless, it functions in a significantly more complex manner. The ability of contemporary AI-enabled systems to perform tasks based on their extensive insights promotes the possibility of creative advancements.

This notable technological progress also presents intricate legal difficulties concerning patent legislation. This section of the study will first look at the idea of patents, then look into how they interact with AI systems, and then list the problems that arise from this interaction.

Available/Current Laws and Patents

A creation is referred to as an "invention"; it could be a process or a thing. It provides users with an innovative method to complete a task and may also present a new perspective on an outdated technical problem.

The term encompasses inventions for which exclusive rights could be granted by a patent. The holder of a patent has the temporary right to prevent third parties from creating, promoting, or using the innovation that is protected. The resulting monopoly is regarded as fair compensation for the original inventor. Artificial intelligence (AI) systems may perform tasks and generate concepts that are normally the product of human cognitive processes. The idea behind this is that the outputs produced by these machines might be eligible for patents, highlighting the evolving role artificial intelligence is playing in innovation and intellectual property.

According to US patent law, an "inventor" is a person or organization that came up with the idea or found the subject matter of the invention. This refutes the notion that the purpose of US legislation was to take innovations into account, particularly the possibility that non-human

entities could be the source of inventions. The integration of AI technologies into the creative process requires legal scrutiny. This paper highlights the European Union's initiative to promote countries to enlarge their nationwide legal systems to encompass copyright-protected works created by computers and other tools deemed as "own intellectual creation." In addition to acknowledging the creative output of these systems in poetry, artwork, and other artistic endeavours, it is essential to recognize robots and AI systems for their conceptual contributions and patent applications.

In decades, artificial intelligence (AI) systems might surpass human intelligence, according to the 'European Parliamentary Committee.' This may give rise to questions regarding how these AI systems manage and direct their own development if left unchecked. The robot inventor dichotomy hinders the patentability of AI programs. It draws attention to changes made in countries like India, where eligibility restrictions have been loosened to permit AI-generated software on conventional computers. The essay recognizes that there are now obstacles to be solved and that further study is required on related themes, but it also emphasizes the need for streamlined regulations to make it easier to patent AI technologies.

Nevertheless, as countries such as India have eased their strict regulations limiting patents to computer programs combined with innovative hardware, software produced by an AI-driven system functioning on conventional machines would demonstrate practical utility, potentially across various sectors, thus meeting the patentability requirements related to industrial application. In general, less must be said about current rules and practices in order to possibly allow patents for AI inventions. However, there are still a lot of obstacles and misconceptions about patentability and other subjects, necessitating more study.

The Way Forward

There is no refusing the daily advancement of artificial intelligence. Because companies like 'GE, IBM, Apple,' and others are developing powerful artificial intelligence (AI) technology, it is anticipated that the figure of potential "inventions" related to software solutions will increase. Lawmakers have a lot of leeway in establishing regulations that recognize these types of situations and provide the best possible legal protection. 'The author concurs with Stephen Hawking that the autonomy of AI could diminish the value of human creativity and intellect.' A cooperative approach to safeguarding patents for AI-created ideas may be advantageous. The government of rights and obligations pertaining to patents requires human taking part and cannot be performed exclusively by a machine. Moreover, some kind of anthropomorphic agent will need to be granted patent protection, as the chance of hundreds of AI-enabled networks being deployed is growing. In the event that the innovation fails or maybe breaks the law, holding the inventors criminally accountable, this agent must be identifiable. Remember that individual cannot prefer to subvert the goals of criminal laws, which inherently rely on human participation, in an attempt to make intellectual property laws more adaptable to changing technology improvements. Moreover, we are unable to completely depend on AI technology, which could lessen the importance of the human species.

Conclusion

Technology is advancing faster and faster every day. The human species works to make life better on a daily basis. As this age witnesses, human's dependence on machines is growing. They require machines to operate. Machines are starting to become a necessary component of life. Life in the modern world would be incomplete without reliance on technology. Artificial intelligence holds a special place among machines. Innovations that would not be achieved through independent human effort are made possible by these kinds of systems. Nowadays, it is advantageous in almost every sector. The current state of AIs and intellectual property rules

is problematic; whereas recognizing AI-generated work is a step in the right direction, the real problem is with how it is applied.

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