



ARTIFICIAL INTELLIGENCE AND INTELLECTUAL PROPERTY RIGHTS- HOW FAR WILL IT GO

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Abstract

The concept of artificial intelligence, which for a while appeared to be a far-off fantasy, has recently emerged from the realm of science fiction films and into our everyday lives. This trend has been gaining steam over the recent years, which has resulted in numerous advancements across virtually all industries. There is not a single industry that will be immune to the impact of artificial intelligence, and the field of intellectual property rights is not an exception to this rule. Artificial intelligence will have a dual effect in the area of intellectual property rights. On the one hand, AI will appear to be beneficial in the aspects of patent and patent search functions, precise and timely data analysis, offering a way to sort out ideas and inventions and offering the inventors with a framework on patents already prevailing that are related to his idea, among several other things. On the other hand, AI might also be used to steal intellectual property from other people. The research paper will go into depth about the influence that artificial intelligence has had upon intellectual property rights and the benefits and drawbacks of artificial intelligence when it comes to invention and

creativity in Ip rights, and it will also deal with the potential future uses of ai in IPR.

Key Words: Artificial Intelligence (AI), Intellectual Property Rights (IPR), Patent Law, Copyright Law, Trademarks,

What is Artificial Intelligence?

To understand the interrelation between Artificial Intelligence (AI) and intellectual property rights (IPR), let us first start with the understanding of Artificial Intelligence. Artificial intelligence refers to the incorporation of human brain intelligence into machines that can carry out jobs just like ours. The biggest question which gave rise to artificial intelligence was Can machine think? In hunt of this question artificial intelligence was born.

It is the capacity of the digitized system or computer-driven robot to carry out functions often performed by conscious species. The phrase is widely used in reference to the effort to create artificial intelligence (AI) systems that possess human-like cognitive abilities like the capacity for reasoning, meaning-finding, generalisation, and experience-based learning¹. When a machine imitates "intellectual" operations that people typically identify with some other human brains, such as "Learning" and "Problem Solving," the phrase "Artificial Intelligence" is used. Vendors have been rushing to showcase how their goods and services use AI as the buzz surrounding AI has grown. Frequently, what they mean by AI is just one element of AI, like machine learning².

¹ B.J. Copeland, "Artificial Intelligence"
(*Encyclopaedia Britannica*)
<<https://www.britannica.com/technology/artifi>

cial-intelligence> accessed September 08,
2022

² Burns E, Laskowski N and Tucci L, "What Is
Artificial Intelligence (AI)?"



Evolution of Artificial Intelligence:

Although the term artificial intelligence (AI) was first used in 1956, it is now more widely used because of larger data quantities, advanced systems, and advancements in storage and computing. In the 1950s, early AI study has investigated issues including representational approaches as well as decision making. The US Department of Defence became interested in this field of study mostly in 1960s and started teaching systems how to simulate core human cognition. City map - based efforts, for instance, were accomplished in the 1970s by the Defence Advanced Research Projects Agency (DARPA)³. And then in 2003, years prior Siri, Alexa, or Cortana were well-known, DARPA built intelligent personal assistants.

The present advancement in Ai systems isn't really that dangerous or very smart - despite the fact that Hollywood movies and science fiction books portray AI as human-like robots that take over the globe. However, AI has developed to offer a wide range of unique advantages across all industries. For instances of artificial intelligence in use today in fields like healthcare, retail, and more.

The rise of AI started with six primary design goals, which are as follows:

1. Train computer programmes to think logically so they may carry out complex mental activities such as playing chess,

proving mathematical theorems, and other similar activities.

2. In order for machines to interface with the actual world in the same way that humans do, knowledge representation was required. Machines needed to be able to recognise objects, people, and languages. The programming language known as Lisp was created specifically for this application.
3. Train computers to think like humans and find their way around the globe we live in. With this, it would be possible for machines to navigate themselves and move around autonomously.
4. Make it possible for computers to interpret simple language so they are able to grasp language as well as interactions and the context in which people speak.
5. Teach computers to view the world in the same ways that people do, including through touch, feeling, vision, hearing, and taste.
6. intelligence in the general sense, which included aspects such as interpersonal skills, intuition, and creative ability⁴.

All of these objectives will lay the groundwork for the construction of a computer with human abilities. The realisation of their concept required an investment of many millions of dollars. Nevertheless, within a short period of time, the United States government became aware that it lacked the powerful processing technologies necessary to implement AI. In the late 1980s, the funding were removed,

(*SearchEnterpriseAI*, February 23, 2022)
<<https://www.techtarget.com/searchenterpriseai/definition/AI-Artificial-Intelligence>>
accessed September 10, 2022

³ "Defense Advanced Research Projects Agency"
(*DARPA RSS*) <<https://www.darpa.mil/>>
accessed September 13, 2022

⁴Manandhar S, "Evolution of Ai" (*Leapfrog Technology*, August 27, 2019)
<<https://www.lftechnology.com/blog/ai/ai-evolution/>> accessed September 13, 2022



and the voyage came to its first stop at that point.

The requirement for a vast computational power and an extremely large volume of data slowed down progress during the 1980s.

The 21st century, on the other hand, brought the idea back to life in a hurry, demonstrating Moore's law in the process. A.I. has been made possible in the present setting as a result of the massive processing capacity that is contained within today's tiny silicon, which has also enabled the development of more effective techniques.

In the 1950s, early AI research looked into issues including symbolic approaches and problem solving. The US Department of Defence became interested in this line of work in the 1960s and started teaching computers how to simulate fundamental human reasoning. Street mapping efforts, for instance, were accomplished in the 1970s by the Defence Advanced Research Projects Agency (DARPA)⁵. And in 2003, years before Siri, Alexa, or Cortana were well-known, DARPA built intelligent personal assistants. This early work set the path for the formal reasoning and automation we see in computers today, including decision support systems and smart search engines that can be created to complement and enhance human abilities.

The current advancement of AI technologies isn't that dangerous - or quite that smart - despite the fact that Hollywood movies and science fiction books portray AI as human-like robots that take over the world. Instead,

AI has developed to offer a wide range of specialised advantages across all industries. For instances of artificial intelligence in use today in fields like healthcare, retail, and more, keep reading.

The Role of Artificial Intelligence in today's World:

A strong need exists across all sectors for artificial intelligence capabilities, such as systems that may be put to work in areas such as automation, learning, legal help, danger alerting, and research. The following are examples of specific applications of AI in industry:

1. Medical Attention:

Applications of artificial intelligence can deliver individualised readings of X-rays and medicine. The role of a personal health assistant can be analogous to that of a life coach because they can remind people to take medication, go to the gym, or eat better foods.

2. Retail:

AI enables consumers to go shopping virtually, receive personalised suggestions, and have conversations with sales associates about the many products they can buy. The technologies used for managing inventory and site layout will also see improvements thanks to AI⁶.

⁵ "Defense Advanced Research Projects Agency" (DARPA RSS) <<https://www.darpa.mil/>> accessed September 15, 2022

⁶ Goodnight J, "Artificial Intelligence (AI): What It Is and Why It Matters" (SAS) <https://www.sas.com/en_us/insights/analytic/s/what-is-artificial-intelligence.html> accessed September 16, 2022



3. Manufacturing:

Using recurrent networks, a specific sort of deep learning network employed with sequence data, Manufacturing AI is able to assess industrial data as it streams from networked equipment in order to estimate projected load and demand.

4. Banking:

Artificial intelligence in the banking industry improves the speed, precision, and overall efficacy of human labour. AI approaches can be used in financial institutions to determine whether transactions have a high probability of being fraudulent, to implement credit scoring that is both quick and accurate, and to automate data administration chores that require a significant amount of manual labour⁷.

Future of Artificial Intelligence:

The development and research on AI has still been going on, as well as the operations that the AI will be capable of performing in the coming years are beyond anyone's imagination. At the moment, artificial intelligence has indeed been capable of carrying out tasks that involve human intelligence, and this ability will continue to expand in the future. However, when it comes to addressing the perks, we must not neglect that inevitably it is a machine and for a machine, and there are incidences in which the machine has gotten outside the regulation

of the developer and began performing tasks by itself⁸. This is something that must be kept in mind whenever we discuss the benefits. Now, these activities can either be helpful or harmful; however, it becomes impossible to govern the AI machine or software if it begins doing tasks by itself and extends further than the hands of the programmer.

Even though a lot of work has been accomplished inside the domain of artificial intelligence, there are still numerous questions that have not been satisfactorily answered. However, there is reason to be hopeful that these questions will be answered in the not too-distant future, at which point we will have a clear direction indicating the magnitude to which AI can perform in people's lives as well as in inventions.

On a far larger scale, artificial intelligence is positioned to have a significant impact on topics such as climate change and ecological challenges. In an ideal world, cities will grow less crowded, less polluting, and in general more amenable to human habitation thanks, in part, to the proliferation of advanced sensors". Once you are able to make a prediction about something, you can dictate certain regulations and procedures," Nahrstedt says. For example, sensors installed on vehicles that convey information about the current state of congestion might help detect prospective issues and optimise the flow of vehicles⁹. She states that "this is by no means polished at this point in time." "It's still in the very early stages. But in a few

⁷ ibid

⁸ Shabbir Jahanzaib and Anwer Tarique, "Artificial Intelligence and its Role in Near Future" (2015), 14(8) Journal of Latex Class Files <<https://arxiv.org/pdf/1804.01396.pdf>> accessed September 17, 2022

⁹ Thomas M, "The Future of AI: How Artificial Intelligence Will Change the World" (*Built In*) <<https://builtin.com/artificial-intelligence/artificial-intelligence-future>> accessed September 17, 2022



of years from now, it will play a pretty significant role."

Relation of Intellectual Property with Artificial Intelligence:

The global copyright sector acknowledges that AI tools are software-based and that they are subject to all the usual IP and software issues that arise when creating an application. Although divergent thinking and creativity remain intrinsically human pursuits, it is obvious that machines have become highly skilled and that "programmes are not only text...they also work." Basic legal issues arise when AI programs — and, maybe more troublingly, their innovations — are given statutory rights. Increased digitalization has effects outside of the IP industry.

The recognition and assessment of documents is a crucial component where automation has already started reducing the need for human participation, which has historically been a useful training ground for AI solutions. In law firms, patent offices, and occasionally even legal tribunals, administrative tasks are among the most time-consuming, challenging, and destructive. Traditionally, these tasks have been supported by paper documents, arduous searches, or complicated judgement processes, where a single input error could put significant sums of money at risk.

With the rise of automation, businesses and organisations will indeed be able to address a number of significant challenges, such as a lack of employees and a tight budget, as well as improve job accuracy and reliability,

minimise risks, and increase market competition. The world's first digital court has heard its maiden case in 2017, using AI to prepare decisions and facial and audio recognition to digitally assemble trial recordings¹⁰. Furthermore, as studies indicate that litigation predicting has already attained a high level of accuracy, it is anticipated that AI will soon be in charge of making decisions autonomously in instances. UCL computer programmers even developed an algorithm that examined 584 English language statistics, analysed the information, and reached its own court judgment¹¹. In 79 percent of the situations examined, the AI verdict matched the court verdict exactly. How attorneys communicate with their clients must be significantly impacted by the idea that IP lawsuits could be easily mechanised.

Protection of Artificial Intelligence under Intellectual Property Rights:

The preservation of intellectual property rights is becoming increasingly vital in light of recent developments in machine learning and technology. The development of technology in the latter part of the twentieth century, along with the emergence of the internet as a worldwide medium of communication, has resulted in an ongoing need for IPR compliance. As a direct response to the emergence of game-changing technical developments and the implementation of intellectual property rights safeguards, the "World Intellectual Property

¹⁰ Changqing Shi, Tania Sourdin and Bin Li, "The Smart Court – A New Pathway to Justice in China?" (2021) 12(1) International Journal for Court Administration <<https://doi.org/10.36745/ijca.367>> accessed September 18, 2022

¹¹ See C. JOHNSTON, "Artificial Intelligence judge", University College London computer scientists, <https://is.gd/article_law_UCL_AI_judge> accessed September 19, 2022



Organization (WIPO)" has developed and ratified a number of international treaties.

Artificial intelligence (AI) and robots have been the product of sci - fi for a significant amount of time, however they have recently become a reality in which mankind should make peace. IDC, a company that specialises in market analysis, forecasts that the artificial intelligence industry will more than triple from its current value of \$ 8 billion in 2016 to more than \$ 47 billion by the year 2020¹².

It is anticipated that the field of artificial intelligence would see tremendous expansion as a result of the convergence of vast amounts of data, the simple availability of processing capability, and the introduction of low-priced technology. Even if every artificial intelligence is different in how it is implemented, we cannot deny that the development of current AI presents a number of issues in terms of intellectual property that might arise in the future. In point of fact, artificial intelligences have a propensity to take part in the development of content since they reproduce aspects of human intelligence. In addition, the majority of AI technologies undergo a learning phase wherein they create their own internal decision-making procedures and principles through a combination of practise and the utilisation of feedback in order to improve their actions in the future. In addition, AI systems are frequently utilised in the process of analysing vast volumes of data with the goal of discovering data patterns.

¹² "Intellectual Property Rights in an Age of Electronics and Information" (1986), U.S. OFFICE OF TECHNOLOGICAL ASSESSMENT), <<https://www.princeton.edu/~ota/disk2/1986/8610/8610.pdf>> accessed September 20, 2022

1. AI and Copyright:

The traditional interpretation of copyright law does not recognise works produced by AI. It protects an individual's original works to the fullest extent possible. In the seminal Monkey-Selfie copyright case, which was heard by the US Copyright Office, the agency stated that in order for a work to be secured by copyright law, it must have been created by a human individual. As a result of this verdict, the copyright of compositions that have been created by AI has indeed been called into doubt.

On the other hand, the laws of the United Kingdom are entirely distinct. Whenever a work is produced by a machine, the authorship of the work is deemed to belong to the person who operated the machine that produced the work, according to a provision within UK Copyright Act¹³. In a similar vein, we are able to entertain the possibility that the developer of the AI-generated work is the one who initially set up the fundamental configurations.

In connection with any piece of literary, dramatic, symphonic, or artistic work that is created by a computer, Section 2 (d) of the Copyright Act from 1957¹⁴ defines the author as "the one who allows the work to be generated." This definition applies to works that are computer-generated.

When artificial intelligence (AI) is significantly more advanced and entirely fully automated, and when it additionally has

¹³ "Artificial Intelligence Poses a Greater Risk to IP than Humans" (Dec. 31, 2015), TECHCRUNCH, <<https://techcrunch.com/2015/12/31/artificial-intelligence-poses-a-greater-risk-to-ip-than-humans-do/>> accessed September 21, 2022

¹⁴ copyright act 1957



the liberty to make its own choices it will become even more challenging to predict with absolute conviction who will be responsible for making the arrangements essential for the work to be produced. At this time, only human writers of artistic work are eligible to receive financial compensation under copyright law. Despite this, there are academicians who believe that non-human authors should be afforded copyright protections. They suggest that the notion of ownership of words should be broadened such that it takes into account "human and non-human writers." The originality of a composition that was generated by AI is still up for debate.

2. AI and Patent:

In the current tech landscape, the relationship among patent rights and AI is becoming increasingly intimate. As was seen in the preceding section of this work, artificial intelligence has been widely utilized to facilitate the performance of fundamental functions and, more specifically, to decrease the amount of work performed by humans. At first sight, it may appear that AI-enabled devices function in exactly the same way that calculators and other technologies that are conceptually comparable do. On the other hand, how technology functions is substantially more complicated than it used to be. Computers that are equipped with AI are now able to carry out tasks that centre on their own major insights, which may give them the ability to build anything. This is a significant technological breakthrough; but, it also presents novel and difficult legal

difficulties, most particularly in the area of patents act¹⁵.

Patent protection in artificial intelligence (AI) technologies and systems comes with some limitations. The majority of the time, an AI system will attempt to mimic a human activity. For example, the Microsoft Inner Eye program is an artificial intelligence (AI) system that assists physicians in more rapidly personalising treatment for cancer patients. It achieves this objective by evaluating the neurological scans of people and utilising machine learning techniques to differentiate between malignant bone and cartilage growths and healthy bone and cartilage. This assignment had previously been finished by the oncologist, and it consisted of hand-drawing contours on 3D photos¹⁶. If a statement of claim for this operation that is executed by the machine is submitted, it would be rejected since one of the key elements of patentability, which is detailing how well the innovation works, is also not achieved in this scenario.

Innovation and creative thought are essential to the process of social integration. Patents are one component of the legal system that governs intellectual property, which has long been the primary mechanism for protecting creative endeavours. Despite the fact that patent law is still deeply anchored in the industrial revolution, it has been able to adapt to following revolutions, such as computing, to a greater extent, albeit not without encountering some challenges. The world is currently on the cusp of a change that has never been seen before, one whose repercussions, in particular for patent law, are

¹⁵ Rashmi, R., & Sneha, "Artificial Intelligence: IPR, Liability and Ethical Issues" (2017), Int'l. In-House Counsel J., 11

¹⁶ *ibid*



so far off that the extent of their effect is still unknown. We are now living in the era of AI.

3. AI and Trademark:

A company's identity and brand can be helped to stand out from other goods and services on the market with the assistance of trademarks. The transparency and openness of the methods in the field of artificial intelligence contribute to the enhancement of the brand's reputation. Businesses are able to use their brand names in the process of marketing AI technology. In addition, it's possible that they're marketing extremely advanced AI systems by exploiting trademarks.

For example, Google Deep Mind has also purchased the rights to use the trademark "AlphaGo," while IBM has applied for the rights to use the brand "Watson." If the components that comprise a trademark are also used as identifiers in the information system, businesses need to take extra precautions to ensure that their trademarks do not lose their distinctive quality. Moreover, registration with a trademark term that is widespread and indicative of AI will also be more difficult than registering phrases that are fictitious and have no meaning. As a consequence of this, some trademarks have greater authority than others.

Contemporary legal scenario of Artificial Intelligence in World:

At this time, there is no particular regulation that regulates the part that Artificial Intelligence (AI) plays in its own innovations. Nevertheless, over the course of time, there have been several developments in the law concerning the subject at hand. The United States of America recognises humans as the rightful owners of copyright. The scenario in the U.s is likewise a difficult one to navigate at the moment. Not too long ago, the US Patent and Trademark Office (USPTO) decided not to grant an invention petition that involved Ai - based (AI) systems and their creators¹⁷.

The artificial intelligence system known as DABUS, which was developed by Stephen Thaler and stands for "device for the automated bootstrapping of unified sentence," has a lengthy history in a variety of legal systems. Additionally, several of them are still active. The United States and the European Union both continue to hold the same position on this issue. The position of inventor has been denied to Machine Intelligence (AI) systems by a number of patent courts on many occasions. But as of only a short while ago, South Africa is the first jurisdiction in the world to issue patent status to DABUS¹⁸. Despite this, there continue to be heated debates going on all around the world between various experts over the decision. Nevertheless, this demonstrates the capability of Ai

¹⁷ Tyler Sonnemaker, "Artificial Intelligence" (*Encyclopædia Britannica*, April 30, 2022) <<https://www.britannica.com/technology/artificial-intelligence>> accessed October 1, 2022

¹⁸ Inventa, "Dabus: The 'Natural Person' Problem" (*Inventa*, September 27, 2021)

<<https://inventa.com/en/news/article/681/dabus-the-natural-person-problem>> accessed October 1, 2022



technologies and the integration of those systems with IP rights (IP). Recently, even the courts in Australia have come to the conclusion that Ai Technology (AI) is worthy of performing the role of a "inventor."

Apart from these nations, we have witnessed Japan being highly concerned in the functioning of the Machine Intelligence (AI) technologies and their prospective future. This is obvious from the document titled "AI Strategy 2019 AI for Everyone- Individuals, Businesses, Regions, and Governments (2019)". Although a number of nations and patent offices are beginning to take notice of the progress being made in Ai - based (AI) systems, the vast bulk of them haven't been successful in changing the current trajectory of events.

1. The United States of America:

There are two primary categories of developments in the field of AI. The newly developed and improved forms of AI technology will come first. The widely accepted AI methodologies will come in second. The artificial intelligence application or process needs to be original and opaque, and it can't be relied on an abstract idea. An artificial intelligence application or programme that performs a task that was previously carried out by humans using an original and novel method is eligible for a patent.

2. United Kingdom:

You can apply for a patent in the UK either through the European Patent Office or the UK Intellectual Property Office. According to article 52(2) of the European Patent Convention, objects such as computer networks and mathematical calculations are listed among the things that do not constitute invention (EPC). But if they "contribute to

the technical aspect of an innovation, i.e. assist in producing a desired functionality that meets a technological goal," then they are patentable. Considering an AI system that uses an automated mechanism to assess physiological data to deliver medical diagnostics

3. China:

China's goal is to take the lead in artificial intelligence worldwide by the year 2030. In China, the percentage of patents that include the terms "artificial intelligence" or "supervised learning" has increased at a far faster rate than in other countries. China has beaten the United States in terms of both its financial resources and its research and development capabilities. In order for artificial intelligence software to be eligible for patent protection, it needs to be submitted in the form of "medium plus computer programme technique" claims and equipment assertions that specify a component that is carried out by a computer algorithm. China has been successful in erecting a more robust framework for the protection of artificial intelligence. Despite this, there are still some grey areas regarding ownership, which is especially problematic in cases when there are several stakeholders.

4. Japan:

The Japan Patent Office provides a somewhat patent-friendly environment for those who are interested in securing patent protection for AI-related inventions. Artificial intelligence (AI) and the Web of Things, both of which are related to inventions, are examples of business-related innovations. The approval rates for business-related findings are approximately 70%, which is virtually the same as the permission



percentage for patentability across all of the other technical fields.

Artificial Intelligence- A threat to human:

If we focus on what is actually achievable with AI right now, the following are some of the possible serious ramifications of AI that we should think about and plan for:

1. Replacing the job humans do:

The workplace as well as the types of labour that humans conduct will undergo significant transformations as a result of the rise of AI. Because AI technology will make some occupations obsolete, people will have to learn to adapt to changing circumstances and discover different pursuits that will give them with the same emotional and social benefits that their previous jobs did.

2. Implications for politics, the law, and society:

Following Bostrom's advice, rather than refraining from trying to pursue innovations in artificial intelligence, "We ought to be concentrating on placing ourselves in the most advantageous position possible to ensure that when everything finally clicks into position, we will have completed all of our assignments. We have created scaled AI control approaches, given careful consideration to issues pertaining to morals and governments, etc¹⁹. After that, continue moving forward, and at that point, ideally arrive to a very positive conclusion regarding that." As artificial intelligence (AI) continues to advance, there is the potential for enormous unfavourable repercussions if our

governmental and economic organizations do not take the effort necessary now to formulate laws, regulations, and obligations.

3. Terrorism facilitated by artificial intelligence:

In contrast to just being worried about a race to develop nuclear weapons, we will need to keep an eye on the race to develop autonomous weapons around the world.

4. Social deception and bias in AI:

As of right now, AI still faces the possibility of being prejudiced by the humans that design it. If there exists bias within data sets that the AI is taught upon, then the behaviour of the AI will be influenced by that bias²⁰. Artificial intelligence can, in the wrong hands, be used for mass manipulation and to propagate deception, as was the case during the presidential election in the United States in 2016.

5. Surveillance by artificial intelligence:

Although the abilities of artificial intelligence to recognise faces have brought us many benefits, such as the ability to unlock phones and enter buildings without using keys, it has also ushered in what most other civil liberties organisations believe to be a shocking level of vigilance of the wider population. The use of facial recognition technology by the police and the government in China and other nations constitutes an invasion of the public's right to privacy²¹. According to Bostrom's explanation, the capability of artificial intelligence to oversee the widespread data systems using surveillance data, cameras, and

¹⁹ Marr B, "Is Artificial Intelligence (AI) a Threat to Humans?" (Forbes, October 12, 2022) <[https://www.forbes.com/sites/bernardmarr/2020/03/02/is-artificial-intelligence-ai-a-threat-](https://www.forbes.com/sites/bernardmarr/2020/03/02/is-artificial-intelligence-ai-a-threat-to-humans/?sh=619bb77b205d)

[to-humans/?sh=619bb77b205d](https://www.forbes.com/sites/bernardmarr/2020/03/02/is-artificial-intelligence-ai-a-threat-to-humans/?sh=619bb77b205d)> accessed October 30, 2022

²⁰ ibid

²¹ ibid



analysing social network communication has a significant potential both for positive and negative applications.

6. Deepfakes:

Deepfakes are videos created using artificial intelligence technologies that appear to be of real people but are not. These may be used without the consent of an individual to distribute fake news, generate porn in a person's appearance who isn't actually performing in it, and a variety of other activities that not only harm a person's image but also their ability to make a living. Because technological advancements are steadily improving, there is a greater likelihood that people will be misled by them.

AI generated works and Controversies related to it:

Siemens just published a case study that serves as a decent introduction to the subject. Since a human creator couldn't be recognised for a patent application, Siemens developed a revolutionary car suspension but decided against trying to patent it²². The human engineers involved basically claimed that the design was produced by an AI and that neither of them had contributed anything to make themselves eligible to claim inventorship. Some nations place greater emphasis on accurate inventorship than others, however in the US, listing oneself as an inventor inadvertently is against the law, and not identifying all innovators in good conscience can result in the invalidation or

unenforceability of a patent. According to traditional knowledge, an innovation cannot be patented without an inventor.

The lesson to be learned from this instance is that Siemens does have clever AI that is functionally filling in for employees and carrying out duties that once qualified a human as an innovator²³. Siemens, however, was unable to protect their innovation the same way they could have if it had been created by any of their human employees since the law in most countries interprets human behaviour and machine activity differently. The maintenance of patent rights is the issue with AI-generated inventions that has the greatest commercial relevance. It also raises the issue of who or what would be labelled as the owner of an AI-generated invention as well as who or what would be named as a creator on a patent application.

The assertion that artificial intelligence (AI) is capable of invention is still met with some scepticism, but significantly fewer in number than even it was only a few short years ago. On the other hand, the assertion that AI is producing work that would ordinarily be eligible for protection under copyright laws without the presence of a person who meets the conventional criteria for the role of author is not contentious. This is because there is a relatively low threshold for creating something that can be granted copyright. If you take a picture of this website using your smartphone, you will be credited as the photographer for the picture. So would be

²² Siemens, "Re; Draft Issues Paper on Intellectual Property Policy and Artificial Intelligence", <https://www.wipo.int/export/sites/www/about-ip/en/artificial_intelligence/call_for_comments/pdf/org_siemens.pdf> accessed October 02, 2022

²³ 37 CFR 1.56 Duty to disclose information material to patentability ("No patent will be granted on an

application in connection with which fraud on the Office was practiced or attempted or the duty of disclosure was violated through bad faith or intentional misconduct.")



tough to argue that an AI is incapable of carrying out that kind of action, considering that even a monkey is capable of doing it.

The copyright law does not care if the picture you took with your smartphone is going to be the next Mona Lisa or if it will be something that only Clearview's AI will ever see. It does not care about the quality of the work. Both of these works will continue to be safeguarded by copyright well after your passing. To come up with an idea that can be patented is a lot more difficult than having an idea that can be protected by copyright. In order for an invention to be eligible for a patent, it must meet the following criteria: 1) it must be new, meaning that no one in the history of humanity has ever disclosed it; 2) it must be non-obvious to a competent professional, who basically represents an ordinary researcher in your field; and 3) it must be useful.

A few years ago, there was no precedent set in legal precedent regarding AI-generated innovations. However, whether by statute or case law, the concept of a non-human creator was only something that had been discussed in the context of company inventorship. Although there were certain jurisdictions that demanded a creator to be a natural person, other jurisdictions did not have such a requirement²⁴.

It is an intriguing question that whether corporation could be considered an inventor; this is especially true when taking into consideration legal concepts that imply a corporation is greater than the sum of its various agents, a theory that endorses

criminal liability explicitly for companies; however, regardless of the answer to this question, it raises a very distinct set of concerns than AI inventorship does. Firms are run by human beings, and if companies were not required to include innovators on patentability, such inventors would just not receive the credit they are due, and in some cases, they would not earn cash incentives either. But this does not apply to AI that generates inventions; there is no actual creator for whom credit is being withheld. Allowing someone to include themselves on a patent application for an AI-generated innovation would, on the other hand, limit transparency and make it possible for someone to receive fraudulent credit for the invention.

Some of the major AI controversies are:

1. Tesla Humanoid:

The humanoid robot was one of the many announcements that were made at the Tesla AI Day 2021, and it was the one that a lot of people found particularly interesting. During the event, the announcement of the news was made by a human dressed in a white bodysuit and wearing a shiny mask. This was a creative way to introduce the information. This humanoid robot, which would be capable of doing repetitive duties and would be given the name Optimus, would be five feet eight inches tall and weigh 125 pounds. It is anticipated that the first prototype will be delivered the following year. The technology that Tesla already has developed for automated machines and SLV software will be utilised by this robot²⁵. The availability of

²⁴ Univ. of Utah v. Max-Planck-Gesellschaft zur Forderung der Wissenschaften e.V. 734 F.3d 1315 (Fed. Cir. 2013)

²⁵ Goled S, "Major AI Controversies of 2021" (*Analytics India Magazine*, November 26, 2021) <<https://analyticsindiamag.com/major->



the necessary technological capabilities to construct a humanoid robot is the primary source of controversy, and at best, progress in this direction has been confined to the conceptual level. Over the course of the last few years, a troubling pattern has been observable across the board in the robotics business. Many forward-thinking businesses were forced to close their doors.

2. Uber Facial Recognition:

A few months ago, the UK-based App Drivers and Courier's Union (ADCU) and Workers Info Exchange (WIE) petitioned Microsoft to halt the sale of Face Detection API to Uber. Their request was denied. According to the unions, Transport for London has suspended the licences of at least seven distinct drivers as a result of incorrect face recognition, and in a few instances, they have even revoked the licences of some of the drivers entirely. However, a spokeswoman for the corporation insisted that certain authentication is essential in order to prevent any instances of suspicious transactions. The representative also stated that there was human assessment associated with the decision to withdraw the drivers.

3. Facebook AI Mislabels:

The artificial intelligence on Facebook caused a ruckus whenever it incorrectly identified a video depicting black guys as a video about primitives. A video that was posted by the Daily Mail captured an interaction that took place between a white man and a bunch of black males who'd been celebrating a birthday. The men were all present at the party²⁶. After one

completes watching the film, the AI displays a message asking if they'd like to keep watching 'videos about primitives.' Facebook quickly removed the feature that made subject recommendations once the incident was discovered, and the company issued an apology for the error.

4. The Ethics Team for Google AI:

According to reports, Google found Timnit Gebru's work to be objectionable, and the company asked Gebru to either retract the paper or eliminate her name from the list of co - authors. This came just after controversial firing of Timnit Gebru from Google for an unreleased research study on the moral considerations posed by recent advancements in artificial intelligence and linguistic models. It was claimed that Gebru's former co-worker at Google, Margaret Mitchell, was gathering evidence against what she believed to be an unlawful termination of Gebru's position. Mitchell was terminated from his position at Google for violating the company's security policy.

Existing IP Difficulties and Problems:

AI-driven innovations that combine AI ethics, data protection, and security must be incorporated into current IP norms, such as patent and copyright laws. AI technology patentability should also be determined by the IP policy. The idea that AI can produce is widely accepted. Shared inventorship is another thing to take into account. Is it realistic for AI to collaborate with a person during an apprenticeship?

In technology, AI is spreading more and more. The disclosure of the inventor's use of

ai-controversies-of-2021/> accessed October 03, 2022

²⁶ ibid



AI software is simply reasonable²⁷. Traditional applications clearly show how proprietorship and innovation differ. The claimant affirms ownership of the innovation. It's uncertain who owns inventions involving AI. Intellectual Property (IP) Protection is concerned with who owns the rights to creations based on AI. A person appears, does a creative action, and invents something. The invention belongs to either the inventor or the person's employer. When artificial intelligence (AI) is utilised to develop a unique product, the individual who uses the technology is also its inventor and proprietor. Simple ownership of a device in some way disqualifies a person from ownership. the question of whether a computer can submit a provisional patent application for a human-free AI discovery. Would a machine be in the public realm if it couldn't file for a patent?

Some of the most time-consuming and hazardous components of the profession are the IP management procedures. Legal firms and company IP divisions handle thousands of unique pieces of IP information from tens of various jurisdictions at any particular time, in addition to dozens of different goods. This process has always been quite slow and difficult. Think about a single patent that a company has applied for security for across multiple countries. A chain of dealers who already are familiar with the specific procedures required to obtain security in specific countries would assist the firm.

Along the way, dozens of documents in numerous languages will be created, each with its own set of challenges and opportunities.

All of this information is now manually checked prior to getting entered into a platform for managing IP. This could subsequently cause a wide range of data processing issues. Add this to the total amount of patents. The likelihood of making an error is almost infinite.

Notwithstanding this, IP continues to be many firms' most valuable asset. A company may lose an asset worth millions of dollars by making a minor error when entering a renewal date. According to "The World Intellectual Property Organization (WIPO)," roughly 25% of patent data is false²⁸. The dangers are therefore clear. Additionally, the human labour required for data entry takes up a considerable amount of money and time. Legal teams and IP specialists would indeed be ready to focus on more important choices if this procedure could be automated. Accuracy and efficiency can be improved with AI, which itself is efficient at analysing massive volumes of data quickly and effectively. Additionally, this enables law firms and IP experts to take a more strategic position within the organisation by drawing conclusions from data to help define the future performance of the business whereas machines manage the more realistic facets of IP management²⁹.

²⁷ Chikhaoui, E., & Mehar, "Artificial intelligence (AI) collides with patent law" (2020), *Journal of Legal, Ethical and Regulatory Issues*, 23(2), 1- 10.

²⁸ "Final Report of the National Commission on New Technological Uses of Copyrighted Works, Washington, D.C." (ERIC, July 31, 1978) <<https://eric.ed.gov/?id=ED160122>> accessed October 31, 2022

²⁹ Mireille Bert-JaapKoops, "Bridging the Accountability Gap: Rights for New Entities in the Information Society?" (2010), 11 *MINN. J.L. SCI. & TECH.* 497, 549-50



By automating data input and ensuring that every single element of IP does have a unique identifier, connections from the multiple patent claims and agent networks may be simply sorted and searched on demand. An AI engine might therefore be used to identify the key information in correspondence, producing speedier and more useful results.

AI and IPR Issues:

Issue 1. Inventorship and Ownership of Patent:

The process of inventing new things has been significantly altered as a consequence of the rapid development of AI technologies and the rise in the processing capability of these devices. These technologies are rapidly being utilised in a wide variety of industries that are driven by invention as artificial intelligence (AI) becomes more effective at organizing the data, locating patterns, and predicting the future. The development of AI technologies has progressed to the point where they are now able to generate results with only a little amount of participation from a human. If these outputs were developed by a human creator, then they would be eligible for patent protection because of their innovative nature. This brings up a significant question regarding whether or whether, under the existing framework for patent law, an AI system may be considered to be the inventor. Our opinion is that the response to this question should be in the negative.

Issue 2. Adjustments Need to Be Made For The Analysis Of Obviousness In AI-Generated Inventions:

One of the requirements for an invention to be eligible for a patent is that it must either involve an innovative step or be non-obvious. The question that is asked in order to determine whether or not an invention is non-obvious is whether or not the innovation would be evident to a person who was knowledgeable in the particular art to which the innovation pertains. The current tests for obviousness, such as those used by the European Patent Office (EPO) and the courts in the United Kingdom (UK), are deeply embedded in the evaluation of human capabilities, such as their encouragement to seek certain routes, which is constrained by their skills to analyse a restricted number of options, consistency and anticipation of success, and other such factors³⁰. When it comes to the creative process, all of these fundamentals and ideas can become less significant if artificial intelligence is utilised.

Issue 3. Authorship and Ownership of Copyright:

Technologies based on artificial intelligence are capable of independently creating works of literature and the arts. This capability elevates key policy concerns for the copyright system, that has been intimately correlated with the creative and artistic spirit and with respecting, rewarding, and encouraging the complexity of human creative thinking. This ability tends to raise these doubts as a direct result of the copyright system's close connection with the creative

³⁰ E.g. the current UK obviousness analysis derives from *Windsurfing v Tabur Marine* [1985] R.P.C. 59 Ca; it was restated in *Pozzoli* [2007] EWCA Civ 588 CA. The EPO applies the

problem-solution approach (see EPO, *Guidelines for Examination in the European Patent Office* (November 2019) G- VII at 5.1-5.4).



human spirit³¹. The policy positions that are ultimately established in connection to the allocation of copyright to works that have been created by AI will get to the core of the social mission for why the copyright system operates.

If AI-generated creations were ineligible for copyright protection, then the copyright system might be seen as a tool for inspiring and favouring the importance of human originality over machine creativity. This would be the case if AI-generated creations were exempted from qualifications for copyright protection³². If artificial intelligence-generated works were granted copyright protection, then the copyright system would be perceived as an instrument that favours the accessibility for consumers of the greatest number of artistic works and that places an equivalent worth on both human and machine creative thinking. This is because the copyright system favours the accessibility of artistic content.

Issue 4. Infringement And Exceptions:

An investigation into how the violation of different rights is evaluated in connection to each particular research or subject-matter, as well as whether ownership rights are involved at all in the context of particular AI implementations, would be beneficial to the conversation on whether AI must be regarded to encroach economic rights, for instance. This would help shed light on how the violation of different rights is determined.

Another crucial question to ask is whether or not whether or not it will ever really be feasible for AI systems to be "taught" copyright law and be skilled not to intrude, especially in light of the complicated copyright precepts that exist, including the idea-expression dichotomy³³, the chance of non-literal duplicating comprising violation of certain works, tests that function on a qualitative rather than quantitative grounds, different time periods of safeguard for various subject, etc.

Some other significant question to ask is whether or not new restrictions and exceptions should be created when it comes to limitations and exceptions, either in the perspective of creative AI usages, as well as in the perspective of already established sector-specific discussions: for instance, the necessity to enable the formation of or access to datasets for the AI to "learn" from may be acknowledged in the sense of conversations on limits and exceptions to allow digitalisation of archives and libraries³⁴. This can be done in the context of conversations on limitations and exceptions to allow. However, it is also of the utmost importance to discuss the significance to which previously established restrictions and exclusions may already be utilised in the context of particular AI deployments. One example of this would be the quotation exception that is found in article 10(1) of the Berne Convention.

³¹"We're Sorry..." (*Christies*)

<<https://www.christies.com/features/A-collaboration-between-two-artists-one-human-one-a-machine-9332-1.aspx>> accessed October 07, 2022

³² "Sunspring" (Therefore Films)

<<http://www.thereforefilms.com/sunspring.html>> accessed October 08, 2022

³³ TRIPS, art 9(2).

³⁴ (Limitations and exceptions)

<<https://www.wipo.int/copyright/en/limitations/>> accessed October 31, 2022

**Conclusion:**

The patentability of AI will have a significant impact on its progress, the economy, and society. Given the quick development of AI innovation, it is crucial that interested parties, including academics and patent experts, have discussions about how the patent system might encourage innovation. Additionally, adequate safeguards must be put in place to guarantee that negative social and moral repercussions are avoided.

To determine if the existing patent-eligible subject - particular requirement has a materially negative impact on AI or AI-driven breakthroughs, a comprehensive analysis must be conducted. If that is the scenario, stakeholders need to decide what regulations may have been changed in order to achieve the main objectives of patent law.

The prevailing debt laws do not provide for situations in which an AI violates a patent on its own. In such situations, it is necessary to specify who is to be made responsible and how responsibility will be assessed. All of these challenges need to be handled carefully.

The promotion of innovation, research, and technology would be one of the main objectives of patents. AI is developing quickly. Patent law in relation to AI must be flexible and aim to promote societal and economic welfare.

Even for those who do not explicitly deal with AI and IP, the subject nonetheless provides insightful information about IP law in general. For instance, we believe that copyright protects both the right of an author to be recognised and the capacity of a publisher to create revenue. We also believe that patents and copyright equally safeguard economic and ethical rights. Is there still a need for copyright if AI doesn't have rights

and there isn't a human author involved if we aren't worried about safeguarding writers in this situation? Do we still desire to use the same copyright application? Do we need laws that focus on people? When AI enters the scene, do the laws which presently govern individuals also change? When discussing AI-generated ideas, people tend to discuss various topics than when discussing classic IP issues like access to medications, the patent system as a whole or any other number of topics.

Given how quickly AI is developing at the moment, a framework for its operation, regulation and accountability is urgently needed. In a nutshell, AI is highly helpful when it is under the programmer's command, but the minute it begins to operate independently and without outside supervision, it may pose a danger to not only the realm of intellectual property rights but to everybody in general.
