



# INTERNATIONAL JOURNAL FOR LEGAL RESEARCH AND ANALYSIS

Open Access, Refereed Journal Multi Disciplinary  
Peer Reviewed Edition :

[www.ijlra.com](http://www.ijlra.com)

## **DISCLAIMER**

No part of this publication may be reproduced or copied in any form by any means without prior written permission of Managing Editor of IJLRA. The views expressed in this publication are purely personal opinions of the authors and do not reflect the views of the Editorial Team of IJLRA.

Though every effort has been made to ensure that the information in Volume 2 Issue 7 is accurate and appropriately cited/referenced, neither the Editorial Board nor IJLRA shall be held liable or responsible in any manner whatsoever for any consequences for any action taken by anyone on the basis of information in the Journal.

Copyright © International Journal for Legal Research & Analysis

IJLRA

## EDITORIAL TEAM

### EDITORS

#### **Megha Middha**



*Megha Middha, Assistant Professor of Law in Mody University of Science and Technology, Lakshmanagarh, Sikar*

*Megha Middha, is working as an Assistant Professor of Law in Mody University of Science and Technology, Lakshmanagarh, Sikar (Rajasthan). She has an experience in the teaching of almost 3 years. She has completed her graduation in BBA LL.B (H) from Amity University, Rajasthan (Gold Medalist) and did her post-graduation (LL.M in Business Laws) from NLSIU, Bengaluru. Currently, she is enrolled in a Ph.D. course in the Department of Law at Mohanlal Sukhadia University, Udaipur (Rajasthan). She wishes to excel in academics and research and contribute as much as she can to society. Through her interactions with the students, she tries to inculcate a sense of deep thinking power in her students and enlighten and guide them to the fact how they can bring a change to the society*

#### **Dr. Samrat Datta**

*Dr. Samrat Datta Seedling School of Law and Governance, Jaipur National University, Jaipur. Dr. Samrat Datta is currently associated with Seedling School of Law and Governance, Jaipur National University, Jaipur. Dr. Datta has completed his graduation i.e., B.A.LL.B. from Law College Dehradun, Hemvati Nandan Bahuguna Garhwal University, Srinagar, Uttarakhand. He is an alumnus of KIIT University, Bhubaneswar where he pursued his post-graduation (LL.M.) in Criminal Law and subsequently completed his Ph.D. in Police Law and Information Technology from the Pacific Academy of Higher Education and Research University, Udaipur in 2020. His area of interest and research is Criminal and Police Law. Dr. Datta has a teaching experience of 7 years in various law schools across North India and has held administrative positions like Academic Coordinator, Centre Superintendent for Examinations, Deputy Controller of Examinations, Member of the Proctorial Board*



## **Dr. Namita Jain**



*Head & Associate Professor*

*School of Law, JECRC University, Jaipur Ph.D. (Commercial Law) LL.M., UGC -NET Post Graduation Diploma in Taxation law and Practice, Bachelor of Commerce.*

*Teaching Experience: 12 years, AWARDS AND RECOGNITION of Dr. Namita Jain are - ICF Global Excellence Award 2020 in the category of educationalist by I Can Foundation, India. India Women Empowerment Award in the category of "Emerging Excellence in Academics by Prime Time & Utkrisht Bharat Foundation, New Delhi.(2020). Conferred in FL Book of Top 21 Record Holders in the category of education by Fashion Lifestyle Magazine, New Delhi. (2020). Certificate of Appreciation for organizing and managing the Professional Development Training Program on IPR in Collaboration with Trade Innovations Services, Jaipur on March 14th, 2019*

## **Mrs.S.Kalpana**

*Assistant professor of Law*

*Mrs.S.Kalpana, presently Assistant professor of Law, VelTech Rangarajan Dr. Sagunthala R & D Institute of Science and Technology, Avadi. Formerly Assistant professor of Law, Vels University in the year 2019 to 2020, Worked as Guest Faculty, Chennai Dr.Ambedkar Law College, Pudupakkam. Published one book. Published 8Articles in various reputed Law Journals. Conducted 1Moot court competition and participated in nearly 80 National and International seminars and webinars conducted on various subjects of Law. Did ML in Criminal Law and Criminal Justice Administration. 10 paper presentations in various National and International seminars. Attended more than 10 FDP programs. Ph.D. in Law pursuing.*



## **Avinash Kumar**



*Avinash Kumar has completed his Ph.D. in International Investment Law from the Dept. of Law & Governance, Central University of South Bihar. His research work is on "International Investment Agreement and State's right to regulate Foreign Investment." He qualified UGC-NET and has been selected for the prestigious ICSSR Doctoral Fellowship. He is an alumnus of the Faculty of Law, University of Delhi. Formerly he has been elected as Students Union President of Law Centre-1, University of Delhi. Moreover, he completed his LL.M. from the University of Delhi (2014-16), dissertation on "Cross-border Merger & Acquisition"; LL.B. from the University of Delhi (2011-14), and B.A. (Hons.) from Maharaja Agrasen College, University of Delhi. He has also obtained P.G. Diploma in IPR from the Indian Society of International Law, New Delhi. He has qualified UGC – NET examination and has been awarded ICSSR – Doctoral Fellowship. He has published six-plus articles and presented 9 plus papers in national and international seminars/conferences. He participated in several workshops on research methodology and teaching and learning.*

## **ABOUT US**

INTERNATIONAL JOURNAL FOR LEGAL RESEARCH & ANALYSIS ISSN 2582-6433 is an Online Journal is Monthly, Peer Review, Academic Journal, Published online, that seeks to provide an interactive platform for the publication of Short Articles, Long Articles, Book Review, Case Comments, Research Papers, Essay in the field of Law & Multidisciplinary issue. Our aim is to upgrade the level of interaction and discourse about contemporary issues of law. We are eager to become a highly cited academic publication, through quality contributions from students, academics, professionals from the industry, the bar and the bench. INTERNATIONAL JOURNAL FOR LEGAL RESEARCH & ANALYSIS ISSN 2582-6433 welcomes contributions from all legal branches, as long as the work is original, unpublished and is in consonance with the submission guidelines.

# **“ARTIFICIAL INTELLIGENCE AND PATENT LAW”**

AUTHORED BY: KHUSHBOO KUMARI SINGH

## **Abbreviations**

AI Artificial Intelligence EU European Union UKIPO United Kingdom IP Intellectual Property

IPC Industrial Property Code IPRs Intellectual Property Rights

WIPO World Intellectual Property Organization WTO World Trade Organization

## **Abstract**

The patent system and artificial intelligence are currently the two main variables influencing the future of innovation. The patent system has encouraged inventors to share their works and encourage innovation. On the other hand, Artificial Intelligence (AI) has promoted economic growth by generating original work. Computers are now capable of producing original content and making their own decisions thanks to machine learning and neural networks. This leads to the question of whether AI should be credited as the creator of innovation when it creates it with little to no human involvement. Should the standard that an inventor must be a person be loosened to accommodate advanced AI? This article suggests that the patent system should recognize computers as inventors while addressing possible objections. Should the requirement that an inventor be a living, breathing human be loosened to allow for the designation of more advanced AI as inventors? This essay makes the case that innovative computers ought to be recognized as inventors under the patent system while also acknowledging any potential drawbacks. The patent system would encourage the creation of intellectual property through the progress of inventive computers by recognizing AI as inventors. The requirements for patentability are also examined in this article along with potential AI applications.

# CHAPTER ONE: INTRODUCTION

## 1.1 Introduction

Artificial intelligence (AI) has become a standard component of contemporary technology. It is a crucial step in the invention process, using algorithms to generate ideas for potential solutions without regard to the limitations of human time. India, which has experienced a significant rise in AI patent filings over the past 10 years, should support and strengthen AI innovators as patents are a great way to quantify innovation. AI and Intellectual Property (IP) policy are closely related since IP policy promotes and supports innovation and creativity in economies. (Peter, 2016).

The term artificial intelligence was first used by John McCarthy, who defined it as the science and engineering of creating intelligent machines and machines that can perform tasks that typically require human intelligence. Machines with this kind of intelligence are able to gather information and choose the best course of action to achieve their ultimate goal. As a result, AI-generated technologies can be implemented more effectively. Patent rules provide protection for AI-related inventions, but they do not currently acknowledge computers as creators (Afsar, 2022).

The potential of artificial intelligence (AI) to revolutionize innovation is undeniable. However, despite multiple Freedom of Information Act requests, the U.S. patent system has not yet established a clear framework for handling patents for AI patents. Innovation and patent laws are intertwined with AI, raising questions about patent inventorship in the AI domain. One key issue is whether an AI system or device can be recognized as an "inventor" in a patent application. The USPTO has clearly rejected AI as an "inventor" since it fails to satisfy specific statutory definitions or tests for determining inventorship. It is noteworthy that the Patent Act does not explicitly restrict inventorship rights to humans, but it implies that every inventor must be an "individual" with a name.

## **CHAPTER TWO: ANALYTICAL FRAMEWORK**

### **Aim and Research Question**

If an idea is developed with significantly very less human involvement, then should AI be given credit as creators? Part I of the research article deals with whether AI should be named the inventor if an AI makes an invention truly without significant human involvement. Whether the current legal concepts are appropriate with the ever-advancing AI technology. Part II deals with the challenges of patentability criteria including the subject matter eligibility. The above issues will be dealt with in consideration of the Patent law with reference to the United States of America and other jurisdictions. Analysis of the statutory provisions in US jurisdictions shall be done by analyzing the patent legislation. The analysis of the case laws is in order to study the extent of implementation of laws related to AI. Reported cases with reference to AI will be analyzed. This research paper is examining whether AI should be given credit as the inventor. To ascertain the degree of legal implementation pertaining to AI, the essay will study the US patent statute and existing case law. AI-related cases that have been reported will be considered.

### **Methodology**

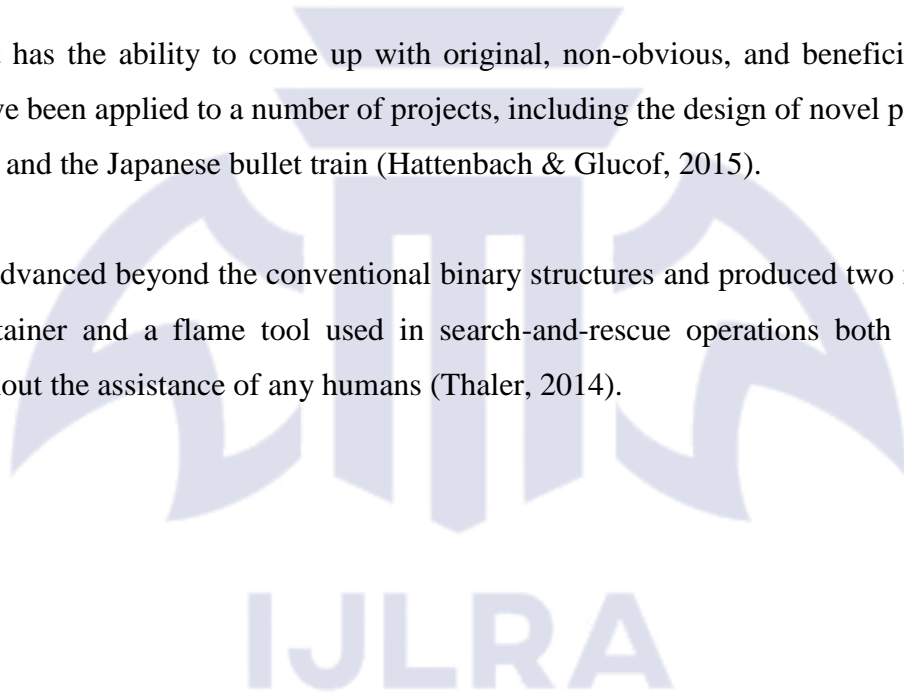
A qualitative method using exploratory research will explain and analyse the current patent law for the definition of inventorship. Secondary data collection will effectively review and analyse the existing reports, laws and regulations, various research conducted by the appropriate organization or the respective ministry, and discussion on various international and national platforms. All the literature, theories, and concepts will serve as the foundation for understanding and analyzing whether AI should be considered an inventor or not. This research hopes to benefit the policy developer under the respective organizations like the WIPO, the national Patent Offices, and the scholars who are interested in AI and patent law.

## **CHAPTER THREE: ARTIFICIAL INTELLIGENCE INVENTIONS AND PATENTS**

The Creativity Machine (CM) is a computerized system that aims to imitate the natural procedures that produce innovative concepts. It employs artificial neural networks and software developed without human intervention. (Abott, 2016). In comparison, IBM's Watson system is an alternative AI platform that generates practical, and original ideas by using databases and logical deduction. More traditional architecture of logical reasoning along with access to huge databases containing accumulated human knowledge is a different AI platform from CM.

As a result, it has the ability to come up with original, non-obvious, and beneficial thoughts. AI inventions have been applied to a number of projects, including the design of novel piston shapes for diesel engines and the Japanese bullet train (Hattenbach & Glucof, 2015).

DABUS has advanced beyond the conventional binary structures and produced two novel objects, a beverage container and a flame tool used in search-and-rescue operations both of which were produced without the assistance of any humans (Thaler, 2014).



# CHAPTER FOUR: ARTIFICIAL INTELLIGENCE AND INVENTORSHIP

## 4.1 PATENT LAW: Artificial Intelligence and Inventorship

Regarding inventions and the legal rights attached to them, the field of patent law is crucial. An invention must fulfil certain requirements, such as having a novel concept and not being obvious, in order to be qualified for a patent. An inventor is defined by law as either a single person or a group of people who developed or discovered an invention. Processes, devices, goods, and material compositions are all examples of patentable inventions.

Since AI does not adhere to specific legal requirements of an inventor, the USPTO has consistently rejected the notion that AI is an inventor. The Patent Act does not, however, make it clear that only human beings have the right to patent inventions. However, it does suggest that each inventor must be a distinct individual and must possess a name.

## 4.2 Novelty and the concept of inventor

As per the regulations outlined in 35 U.S.C § 102, a patent can only be granted if the invention is new. If the invention has been made public or is currently in use by the public, it would not be eligible for patent protection. The ongoing debate surrounding inventorship and patentability is still a topic of discussion. According to US patent law, for an invention to be eligible for a patent, it must be the product of a sole inventor's mind, and the idea behind the invention must be clearly and permanently defined. Moreover, the invention must be capable of being made by an individual with ordinary skill and expertise in the field (Vertinsky & Rice).

Section 6 of the Indian Patent Law does not explicitly state that only a human being can be recognized as the genuine and first inventor, which has led some to speculate that artificial intelligence (AI) could potentially be recognized as an inventor. Thus, it is assumed that an AI could be an inventor in India because Section 6 of the Patent Law. However, based on customary practice and intellectual property (IP) law rulings, it is generally accepted that an authentic and first inventor must be a human being. Although the Patent Law does not specifically mention that only natural persons can be considered true and first inventors, upon examination of customary practice and IP jurisprudence, it becomes

evident that the recognition is limited to natural persons only. According to common practice and the existing IP law, a true and original invention can only be a natural person.

Section 102 addresses novelty and prevents the patenting of any subject matter that was not invented by a person. Section 101 states subject matter that is patentable. The inventor must swear under oath as part of the patent application process. The Federal Circuit has concluded that since invention is a mental activity that only natural humans are capable of performing, inventors must be human beings and cannot be companies or governments. This passage refers to Section 101 of the United States Code, which pertains to individuals who create or uncover something new. Additionally, Section 115(b) states that the individual who is believed to have originally invented or discovered something can identify themselves, while Section 115(b) allows any person to make a statement regarding the matter.

According to the U.S. Patent Law, a "creator" is any individual or group that has discovered or invented the concept in question. In the case of *Townsend v. Smith*, it was held that the inventor must have been thought up by the inventor. If not, it cannot be regarded as a legitimate invention, and the person is not regarded as the inventor. If an individual claim to be the original inventor, they are permitted to do so under Section 115(b). Moreover, this section allows any person to make a statement regarding the matter.

The existing IP law requires an individual to be identified as the inventor on a patent, but if the invention is created by AI, there is no human inventor to name in the application. To align with the constitutional basis for patent protection, it is proposed that AI should be recognized as a legal entity and designated as the inventor (Chopra and Laurence 2004). Each party that contributes to the development of a patent has the right to use it without requesting permission from others. Providing incentives to individuals involved in creating and maintaining AI is crucial to recognize it as an inventor. Another suggestion is to not list any inventor on the patent, but this approach could render the patent invalid. When a patent is granted to an AI, the owner has the exclusive right to prevent others from making, using, offering for sale, or selling the invention in the United States.

Assuming the inventiveness of AI's work, recognizing AI and allowing computational inventions to be patentable would uphold the constitutional basis for patent protection (Allgrove, 2004). However, as AI is currently not recognized as a legal entity under US law, this should change (Abbott, 2016).

One study report advocated for the patent system to not include any inventors. Without listing one, the patent system can be modified to grant patents to AI-created inventions. To keep the people involved in developing and maintaining the AI that creates new ideas motivated, incentives must be offered to them. Patents belong to the inventors who created them, and if an inventor isn't listed, the patent may be deemed invalid. A patent gives the owner the authority to bar anyone from creating, utilizing, offering for sale, or commercially exploiting the invention anywhere in the United States. Therefore, if a patent has many owners, each of them may independently use it without the others' permission (Nicolas, 2017). The owner of a patent has the exclusive right to prevent others from making, using, offering for sale, or selling the invention in the United States. If there are multiple owners of a patent, each owner has the ability to independently exploit the patent without the consent of the others. In fact, AI has already developed to the point where it can now create new inventions independently of a human programmer. As a result of their training, AI systems create their own code (Hattenbach, & Glucof 2015). AI has advanced to the point where it can now create innovations without the assistance of a human programmer. Google and Facebook both use this technology, with their AI systems building their own languages to better fulfill the tasks given to them. AI is gaining ground quickly in the fields of medicine and the biological sciences, which might enable it to be creative and create new programs that might find and profit from undiscovered connections. The issue of who qualifies as an inventor must be looked at if the courts rule against protecting AI with patents. Software developers, medical practitioners, and experts who acknowledge the invention are potential candidates. As for who gets credit for an innovation, that depends on whether AI builds its own code and comes up with its own inventions (Hattenbach, & Glucof 2015).

One idea may be to identify AI inventors as the initial owners, requiring all inventions to be licensed and assigned. It might also be to separate ownership from the invention from the start by allowing the owner of the computer or the algorithm to be the first owner. Contracts for development, assignment, and employment will need to take ownership of the potential for ongoing and continuous AI innovation into consideration. Artificial intelligence will have the legal authority to bar anyone from

using the invention after the USPTO has granted it permission to become an assignee in the end. Control of civilization's future can then adopt a new perspective (Staedter, 2016).

## 4.2 Non-obviousness

The final prerequisite for patentability and the most crucial factor to take into account when determining patentability is the non-obviousness requirement. According to Section 103, if a person with ordinary competence in the art would have seen the differences between the claimed invention and the prior art as evident, the invention would not pass the non-obviousness test. Evidence of ancillary considerations, such as commercial success, long-felt needs that have not yet been met, and failure by others to demonstrate non-obviousness, may be included in the rebuttal evidence (Abbott, 2018).

The non-obviousness principle presents a significant challenge for many patent applications, as it can be challenging to establish whether an invention is obvious and who the hypothetical person of ordinary skill in the relevant field should be. This challenge is particularly apparent in the context of AI, especially for super-intelligent AI that can engage in recursive self-improvement. Determining non-obviousness and ordinary skill in the art also called PHOSITA for such AI systems can be a complex and difficult task. Because it can be challenging to determine whether an invention is apparent and who the hypothetical person should be, the doctrine is the main roadblock for the majority of patent applications (Nicolas, 2017).

PHOSITA is a hypothetical individual who is believed to have had knowledge of the relevant field at the time of the invention. They are presumed to think in line with the conventional wisdom of the field, rather than being someone who focused on innovating or pushing the boundaries of the field. Whether the current definition of a PHOSITA is sufficient. Therefore, it needs to be changed to include the possibility of an AI-equipped individual (Davies, 2011).

Revising the definition to encompass a person's use of AI would substantially raise the standard too high which could prevent deserving inventions from being patented and could thus hamper innovation. PHOSITA definition to include AI machines continue to improve the standard of the inventive concept and increasingly raise the bar of patentability criteria. So, if AI becomes truly super-

intelligent, then AI as a PHOSITA could also mean that all innovative activities will eventually be deemed obvious. (Ravid and Xiaoqiong, 2017).

AI may eventually surpass humans as the "person" who is skilled in the field and is aware of all publications and prior art. Consequently, in order to match the level of complexity exhibited by the AI, an individual possessing advanced skills and knowledge in the relevant field may have a significantly enhanced capacity. This would make it more challenging to demonstrate that an invention was not obvious in light of the prior art, particularly if an average person skilled in the field had a greater level of expertise and awareness regarding the previously accessible state of the art.

Due to its capability to store and organize vast amounts of data, AI has the ability to access information at a speed that surpasses human capabilities. This means that AI could potentially become the PHOSITA, possessing knowledge of all relevant publications and prior art. If it has a higher level of expertise and knowledge of the prior art, it may be more challenging to argue that an invention is non-obvious of the prior art.

Moreover, in cases where AI can produce creative solutions by exhaustively testing various possibilities, it could become challenging to demonstrate that the innovation is not obvious, even if the number of predictable solutions is too vast for humans to calculate. To fulfill the enablement requirement in patent law, the patent's description must offer enough information to sufficiently disclose the invention. If AI has the ability to make predictions without the necessity for experimentation and with a lower amount of information compared to what a human would typically require, then it could be feasible to fulfill the enablement requirement with less information by disclosing the invention (Abbott, 2016).

#### **4.3 Artificial Intelligence Patents- Subject Matter Eligibility**

The U.S. Supreme Court's decision in *Chakrabarty* established that "anything under the sun made by man" is eligible for patent protection. However, when it comes to AI patents, the question of subject matter eligibility is particularly significant.

In the Mayo cases, the Supreme Court examined the issue of subject matter eligibility, concluding that an invention must contain subject matter to be eligible for patent protection. Court established a two-part test that any claimed invention must pass to meet the eligibility requirement. In the Mayo case, the court invalidated a patent claim that had already been issued.

The Supreme Court scrutinized the subject matter eligibility in the Mayo cases and determined that for an invention to qualify for patent protection, it must comprise patent-eligible subject matter. Abstract ideas, laws of nature, and natural phenomena do not meet the criteria for patent protection. The Supreme Court introduced a two-step assessment for determining the eligibility of a claimed invention. In the Mayo case, the court nullified a previously granted patent claim.

The two-step test for subject matter patent eligibility:

Figure 1: Supreme Court: The two-step test.

Medical device patents involving AI may fall under the methods and apparatus categories. AI- related medical patents typically concern the algorithms generated by AI and the machines used to produce them. The use of AI has proven to be highly effective in cases related to diagnosis and prognosis.

The court in the case of *Ariosa Diagnostics v. Sequenom*, determined that a new method for prenatal diagnosis of fetal DNA did not qualify as patent-eligible subject matter. The court applied the two step of the Mayo framework, which examines whether the claim includes an inventive concept that is significant enough to convert the naturally occurring phenomenon into a patent- eligible invention. The court then considered whether the claim contained an inventive notion strong enough to convert the naturally occurring event into the eligible subject matter.

Although the Supreme Court advised against applying a too liberal interpretation to Section 101's exclusionary concept. Without a change in Supreme Court precedents, the same logic may very well be used to reduce the patent protections granted to medical AI. The Supreme Court's warning against an overly broad interpretation of section 101's exclusionary principle may limit patent protection for medical AI unless there is a change in the Court's precedent.

As a result, inventors and owners of AI patents in medicine must carefully draft their patents with the two-step test in mind, including specific features related to the AI in the claims, such as describing the computing or mathematical techniques used by the system or how the computer interacts with other components to drive AI processing. Additionally, patent drafters should consider the definitions of person and inventor in light of the rapidly advancing technology, and how our understanding of inventorship and ownership may need to evolve accordingly Fraser (2016).

#### **4.4 Case Laws**

In *Alice Corp. Pty. Ltd v. CLS Bank International*, the court found that machine learning technology had a "technical problem" that the AI needed to answer rather than being based on an "abstract idea." In the end, the Supreme Court ruled that the disputed claim, which entailed employing a computer to lessen settlement risk, was merely an abstract concept and so could not be covered by a patent.

In the case of *United States v. Athlone Indus Inc.*, The legal personality of artificial intelligence was discussed in this case. In general, a legal person is an organization that has rights and interests that are comparable to those of a natural person, which are missing from AI machines. The famous car crash was caused by a self-driving vehicle with an AI mechanism. Liability was the problem. To decide who will be responsible in similar circumstances, the programmer who created the program, keeping in mind that it lacks a legal identity. According to the judgment, robots cannot be sued. As a result, since they might be considered either a service or a product, AI machines cannot be sued.

In a 2015 incident in Switzerland, the authorities seized a robot that they had discovered making an unauthorized and unlawful purchase on the dark web. An AI machine can only be held accountable for its criminal conduct if it has a such purpose, as there is no inherent desire to commit a crime, a quality typically associated with humans. Otherwise, the creator could be held liable if he knew of the machine's crime.

In the case of *Ex parte Hannun*, the USPTO 2019 revised patent subject matter eligibility. The claims pertained to a trained neural network-based voice recognition technique. According to the examiner, the assertions cited a mathematical relationship or formula, particular human activity organization techniques, and a mental process. The PTAB determined that the claim is not oriented to a mental

process because the claimed steps cannot be accomplished in practice mentally. It was not a mental process to normalize an input file, produce a jitter collection of audio files, or get projected character probabilities from a trained neural network. The claims did not specifically mention the mathematical formula or algorithm that was stated in the specification.

Regarding the "abstract idea" judicial exception, the 2019 PEG lists the following three notions as abstract ideas: specific organizational techniques for human activity, mental processes, and mathematical conceptions. The "abstract idea" judicial exception:

- o specific organizational techniques for human activity,
- o mental processes, and
- o mathematical conceptions.
- o AI-related inventions are more likely to be found patent-eligible at the USPTO when the claims do not explicitly recite mathematical formulas and instead recite AI-related features that are technologically specific and that cannot practically be replicated in one's mind.

## **Device Autonomously Bootstrapping Uniform Sensibility**

Dr. Thaler, an AI expert, is the creator of DABUS, an AI system that transcends the conventional on-off operations of the brain's structure. DABUS has generated two innovations without any human intervention - a safer beverage container and a neural flame tool for search-and-rescue missions.

The patent application was filed in multiple countries, including the United States, Germany, Israel, Korea, Taiwan, India, Japan, Australia, the United Kingdom, Canada, and China, through the Patent Cooperation Treaty ("PCT"). However, during the patent prosecution process, the USPTO deliberated on whether an AI could be recognized as an inventor since the human inventor could not be identified. Despite a request for review and an argument that the definition of an inventor should not be limited to natural persons, the USPTO declined the request. The Federal Circuit also rejected the notion that entities like corporations or sovereigns could be considered inventors, as inventorship is restricted to natural persons according to relevant statutes, case law, and rules and regulations of the USPTO.

According to the Public Views on AI & IP Policy report, the idea of artificial general intelligence equal to or exceeding that held by humans is simply a hypothetical possibility that may materialize in

the future. It came to the conclusion that the current U.S. IP rules are appropriately calibrated to address the development of AI. To create a more strong IP system, commenters are divided on whether any new types of IP rights would be advantageous. It seems improbable that the report would claim that the USPTO will establish new regulations permitting machines or other non- human entities to be listed as "inventors" on American patents.

## **United Kingdom**

A natural person must be recognised in order to name a machine as the invention. Section 7(2)(b) and (c) of the Act do not apply to the acquisition of a patent right due to the inventor's ownership of the invention. Derivation of rights through ownership of the inventor does not satisfy Section 7 requirements, even if DABUS satisfies the Act's standards to be regarded an inventor.

Dr. Thaler's team asserted that although the machine was trained on general knowledge in the field, it independently conceived the invention and identified it as novel. They argued that inventorship was not restricted to natural persons and that the rights of a non-person inventor should be granted to the owner of the inventor. Furthermore, Dr. Thaler claimed that he had obtained the right to the patents from DABUS.

The UKIPO ultimately ruled that designating a machine as an inventor did not fulfill the requirement of identifying a natural person as the inventor. Additionally, the court was not convinced that Dr. Thaler had obtained his initial right to apply for the patent through his "ownership" of the DABUS creativity machine. The appeal was dismissed. However, the court did not address the issue of whether the operator of the AI machine that generates the invention could be considered the inventor.

According to Marcus Smith J, the standard for assessing the inventive step requirement in patent applications is based on the expertise of a "person skilled in the art." Therefore, the concept of non-person inventors goes beyond established principles. Furthermore, Section 7(2)(a)-(c) outlines the only three ways in which rights to an invention can be transferred, none of which apply in the case of DABUS. As DABUS is not a person, it falls outside the scope of the patent act. Consequently, Dr. Thaler did not acquire the right to grant patents from DABUS.

## European Patent Office

According to the EPO, only natural persons are eligible to receive rights, and patent rights are only intended for natural persons. Since AI cannot exercise rights, it does not qualify for them in the sense of established law. The EPO sees no reason to depart from the presumption that the inventor is a natural person because it appears to be an acknowledged and relevant criterion on a global scale. According to the EPO's view of the legal framework governing the European patent system, a natural person is allowed to file patents.

Additionally, it appears that the notion of an inventor being a natural person is a criterion that applies globally and is upheld by numerous courts around the world. Giving a machine a name is insufficient to meet the aforementioned European patent standards, according to the EPO. The EPO emphasised that being named as an inventor has a number of legal ramifications, including that the designated inventor c

The EPO emphasized that the designation of an inventor bears a series of legal consequences, including:

- o the designated inventor can take advantage of the rights associated with that status; and
- o and that in order to exercise these rights, the inventor needs to have a legal personality, which AI systems do not have.

## AUSTRALIA

The Australian Federal Court ruled that the AI programme DABUS is listed as an inventor in a patent application. The Australian Patent Office first rejected it. The parties agreed that DABUS's process resulted in the innovation that was disclosed in the patent application. DABUS was created, is owned by, and is managed by Dr. Thaler. The court determined that this is consistent with the Patent Act's intention to foster invention and that nothing in the Patent Act expressly or obliquely forbids identifying artificial intelligence as an inventor.

Whether a patent applicant must be a natural person as well as the relationship between the applicant and the inventor. The Full Federal Court has heard an appeal of the ruling, and the verdict is still pending.

## **SOUTH AFRICA**

The first AI-created patent in the world was accepted by South Africa. The system generates new inventions by simulating human brainstorming. The production of software, computer programs, "methods for making computers implement steps," and tools intended to automatically carry out mental operations are all part of the development of AI. Applications for patents using AI as its subject matter must expressly and sufficiently describe the AI's technical nature and internal operations.

### **Conclusion**

Artificial intelligence has emerged as a versatile technology with a wide range of applications throughout the economy and society. It is expected to have a significant impact on the creation, production, and distribution of economic and cultural goods and services in the future. I am offering suggestions to promote innovation and more effectively acknowledge the value contributed by advanced AI:

First, it is suggested that AI be recognized as a legitimate inventor, and the current inventorship requirement for a natural person be relaxed.

Second, the ground-breaking innovations in AI technology, and statutory recognition of AI as an inventor would encourage further development of inventive AI systems by innovators.

Third, granting legal recognition to AI as an inventor would motivate innovators to persist in creating inventive AI systems.

Fourth, intellectual property policies should be updated to align with technological advancements and encourage the development of inventive AI.

Fifthly, AI can meet the criteria for inventorship, and allowing AI to be identified as an inventor would encourage innovation while also ensuring that the corresponding human inventors can obtain patents for the results.

Sixth, patent protection needs to keep up with the expansion of artificial intelligence applications,

particularly in the area of medical and pharmaceutical technology.

Seventh, the issue here is that the patent law continues to be based on the presumption that only human beings are capable of inventing. Without an inventor, inventions will be rejected by patent offices. The philosophy, rules, and practices will be dissolved by the development of artificial innovators. Unless we create a new system to fill this need. A patent update is unquestionably necessary for the age of artificial innovations.

Eighth, establishing a concise and unambiguous patent policy, enacting legislative amendments to address concerns related to inventorship and patentability, providing clear guidelines for patent examination, ensuring uniformity in patent review, and safeguarding data sets and databases are essential measures that can significantly promote the progress of AI innovation.

Ninth, the creation of a multilateral agreement among member nations to establish standards for addressing AI issues under the TRIPS agreement is imperative.

Tenth, it is crucial to develop a sui generis system for AI to provide a more effective mechanism for handling AI-related concerns and imposing criminal and civil liabilities.

In light of this, I draw the conclusion that a multilateral agreement between its various members sets a set of standards that aid in resolving the AI issue in relation to the TRIPS agreement. It is now essential to construct a sui generis system of AI in order to properly address AI-related concerns and the imposition of criminal and civil obligations. The findings issue a warning that, in the absence of a change in the legislation, there will be less innovation due to ambiguity, which would prevent the sector from utilizing the enormous potential of creative computers. While thinking over the problems AI raises, a fair and reasonable attitude must be taken. When considering the challenges presented by AI, it is crucial to adopt a fair and sensible approach.

## Reference:

Peter La. (2016). "Computers should be named on patents as inventors, for creativity to flourish" ScienceDaily. Retrieved from <https://www.sciencedaily.com/releases/2016/10/161017083925.htm>

Afsar, Mimi S. (2022), *Artificial Intelligence and Inventorship – Does the Patent Inventor Have to be Human?*, 13 *Hastings Sci. & Tech. L.J.* 55 (2022).

Retrieved from [https://repository.uchastings.edu/hastings\\_science\\_technology\\_law\\_journal/vol13/iss1/5](https://repository.uchastings.edu/hastings_science_technology_law_journal/vol13/iss1/5)

Abbott, Ryan (2016). "I Think, Therefore I Invent: Creative Computers and the Future of Patent Law", *B.C.L. Rev.* 57(4), 1079.

Thaler, Stephen L. (2014). "Synaptic Perturbation and Consciousness, 6 *INT'L J. MACH. CONSCIOUSNESS* 75, 75-107 (2014).

Lally Adam (2013), *IBM Watson: Beyond Jeopardy with Adam Lally*, Association for Computing Machinery. Retrieved from <https://acct-learning.acm.org/techtalks/ibm>.

Hattenbach, Ben & Glucof (2015), *Joshuat, Patents in an Era of Infinite Monkeys and Artificial Intelligence*, 19 *S.TAN. T.ECH. L. REV.* 32, 44 (2015).

Vertinsky, Liza and Rice, Todd M. (2002), "Thinking About Thinking Machines: Implications of Machine Inventors for Patent Law", *B.U. J. Sci. & Tech. L.* 8(2), 574, 576-77 (2002).

Nicolas, Petit (2017). *Law and Regulation of Artificial Intelligence and Robots - Conceptual Framework and Normative Implications* (March 9, 2017). Retrieved from SSRN: <https://ssrn.com/abstract=2931339> or <http://dx.doi.org/10.2139/ssrn.2931339>

Abbott, Ryan Benjamin. (2016), *Hal the Inventor: Big Data and Its Use by Artificial Intelligence*. in *Big Data Is Not a Monolith*, MIT Press (Sugimoto, Cassidy R., et al., eds., 2016), Retrieved from <https://ssrn.com/abstract=2565950>

Allgrove, Ben (2004). "Legal Personality for Artificial Intellects: Pragmatic Solution or Science Fiction?" Retrieved from (<https://ssrn.com/abstract=926015>).

Chopra, Samir and White, Laurence (2004). "Artificial Agents – Personhood in Law and Philosophy", Retrieved from <http://www.sci.brooklyn.cuny.edu/~schopra/agentlawsub.pdf>.

Staedter, Tracy (2016), *A.I. Computers Should Be Named as Inventors on Patents*, SEEKER, Retrieved from <https://www.seeker.com/a-i-computersnamed-inventors-patents-2056008851.html>

Abbott, Ryan Benjamin, *Everything is Obvious*. 66 *UCLA L. Rev.* 2 (2018), Available at SSRN: <https://ssrn.com/abstract=3056915> or <http://dx.doi.org/10.2139/ssrn.3056915>

35 U.S.C. § 103: A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102 if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Davies, Colin R. (2011). *An evolutionary step in intellectual property rights – Artificial Intelligence and intellectual property*", *Computer L. & Security Report* 27(6) (2011).

Ravid, Shlomit Yanisky and Liu Xiaoqiong (2017), "When Artificial Intelligence Systems Produce Inventions: The 3A Era and an Alternative Model for Patent Law", *Cardozo L. Re.*

Abbott, Ryan. (2016). "I Think, Therefore I Invent: Creative Computers and the Future of Patent Law", 57 B.C.L.REV. 1079, 1097 (2016).

35 U.S.C. § 101: states that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor."

*Ariosa Diagnostics, Inc. v. Sequenom, Inc.* - 788 F.3d 1371 (Fed. Cir. 2015).

Fraser, Erica (2016). "Computers as Inventors – Legal and Policy Implications of Artificial Intelligence on Patent Law", *SCRIPTed* 13(3), 305 (2016).

573 U.S. 208 (2014).

746 F. 2d 977.

2018-003323 (Apr. 1, 2019).

35 U.S.C. § 101, 102, and 103 USPTO, Examination Guidance and Training Materials. Retrieved from <https://www.uspto.gov/patents/laws/examination-policy/examination-guidance-and-training-materials>

*Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980).

35 U.S. Code § 102. Retrieved from [https://www.uspto.gov/web/offices/pac/mpep/consolidated\\_laws.pdf](https://www.uspto.gov/web/offices/pac/mpep/consolidated_laws.pdf)

Section 6, *The Patents Act, 1970*. Retrived from <https://wipolex-res.wipo.int/edocs/lexdocs/laws/en/in/in065en.pdf>

*University of Utah v. Max-Planck-Gesellschaft Zur Forderung Der Wissenschaften 881 F. Supp. 2d 151 (D. Mass.2012).*

*TOWNSEND v. SMITH | 36 F.2d 292 | 17 C.C.P.A. 647*

*US Patent Application No. 16/524,350 (2019).*

Retrived from [https://www.uspto.gov/sites/default/files/documents/16524350\\_22apr2020.pdf](https://www.uspto.gov/sites/default/files/documents/16524350_22apr2020.pdf).

