Whether AI Can Own IP

Running Title: Whether AI Can Own IP

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Introduction

The rise of Artificial Intelligence in various fields has altered our lives forever. This includes education, transportation, and space exploration. AI is becoming more prevalent in various fields such as creativity and innovation as well. Its role in protecting intellectual property rights has been widely acknowledged. However, there is a distinction between works created by humans and those created by AI. AI has raised various issues in terms of intellectual property rights. Each discipline aims to replicate a specific aspect of human cognition. For instance, computer vision aims to develop a system that can detect objects insight. Since the 1970s, the use of computer programs has been widely used in the creation and reproduction of copyrighted works. Before, these programs were similar to stationery that required humans to use them to generate works.

AI, over many years of advancement and improvement, has developed to a phase of complete independence, for example, to a phase of dynamic without the requirement for any human intercession. As well as working on complex errands, this independence has additionally added to development in AI innovation's job from superficial manifestations to makers of Intellectual Property. This developing job of AI in the field of Intellectual Property has, lately, been featured in the "WIPO Conversation on Intellectual Property (IP) and Artificial Intelligence (AI)". AI does not have a standard definition; however, it can be summarised as "A collection of different kinds of technology and algorithms that are pooled into a machine for carrying out human-like functions." Various forms of AI, including machine learning, natural language processing, and predictive analytics.

Copyright is a fundamental piece of licensed innovation privileges. It is a lawful right conceded to the maker of a unique work, permitting him/her restrictive privileges for its utilization and appropriation. The reasoning also legitimization behind this was the idea that the creator is an originator converged with Locke's financial hypothesis of possessive independence. Generally, for an award of copyright, a satisfaction of two fundamental elements is required. Right off the bat, the work ought to be in an unmistakable structure, and, it ought to be unique. Copyright is practised for the most part for abstract and creative works. Since one of the contemporary spaces of AI's relevance is the creation of artistic works, the investigation of copyright considering AIs becomes applicable. A patent can be understood as the exclusive right over an invention. This 'invention' has been understood to cover any product or process, which provides to users a novel way of performing a specific action, including that which offers a new solution to an existing technical problem. The holder of such a right is entitled by law to exclude others from making, selling, or even using the patented invention for a limited term. Therefore, it can be said that the right guaranteed in such an instance Legitimizes the creation of a monopoly for the benefit of the original inventor. As established previously, AI-enabled systems are equipped to perform functions and even create inventions, which ordinarily results as an outcome of the application of human cognition.

AI has the potential to generate massive amounts of work in a short time frame. In the case of AI-generated work, the author is not bound by any human intervention. In most cases, the work would have been created anyway using AI. The question of authorship has perplexed governments all around the world. There are three broad possibilities when it comes to authorship. The first is that work should be recognized as AI-generated, and work should be considered public domain. Copyright protection encourages authors to create more creative works by using their skills and judgment. If the AI is recognized as an author, then the work of AI would be regarded as the same as that of humans. If AI-generated works are not copyrighted, then it follows that human creativity is more superior to machine creativity. Putting both on the same pedestal is likely to kill human creativity. Since AI is the author of AI-generated work, there are many issues that arise when it comes to handling such work.

In a case where an AI has been developed and is not a human being, its liability may be limited. However, in most cases, it can be easily erased. The concept of this rule states that works created by AI should not be based on the author's personality. This means that if AI does not have personality, then it should not be allowed to create work based on it.

AI will also have legal obligations. More cases of patent infringement involving AI are likely to emerge. Instead of a machine, it is likely that a human operator would be the one to sue for patent infringement. Although the law provides little advice on addressing AI-related issues, there are some key considerationsthat need to be considered before an AI system is considered patent infringement. When AI learns how to develop new concepts using its own neural network, it

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is not liable for patent infringement, but an AI-powered machine cannot becontrolled. Its manager or controllercouldbeheld accountable for its actions. This concept is problematic since it assumes that people can still predict when their actions will violate the law. It is difficult to predict when an AI chatbot will violate another's patent. Having no idea how or why it will act when it gets involved in decision-making makes it hard to explain its actions.
There are people who are held accountable for the damages caused by AI-related activities. This includes the location of the AI manager or controller. For judges, this may be an issue with the legal approach in addressing AI's behaviour. If AI processing occurs in a black box, it may make it difficult to prove that it has violated a patent. Establishing that an AI decision-making system infringes a patent is complex. This burden typically applies to claimants who may have to spend a significant amount of time and money in order to determine if the AI violated their patent. The black box is often the only place where a claimant can identify the process of deciding. If the neural network is dispersed over multiple clouds or servers, the location of the infringement may be difficult to determine. Due to the complexity of the issues involved, many inventors may be reluctant to disclose their secrets to outside parties. This could affect the viability of a claim.
Thus, determining whether AI shall be granted IP for its creation and whether AI can infringe another IP are treacherous question, for which we tried obtaining views from practicing advocates, AI programmers and tech experts.

AI And IP – The Current Situation
The Tussle between AI and IPR is eternal, and there seems to be a suitable conclusion. Granting IPR rights to a machine will evolve the AI industry but create threats in the IPR industry. To create a balance, it is essential to give IPR rights to humans and not machines. Machines can be used as a source to help humans and not wholly overshadow them. Giving a Patent to a machine is an abstract idea. Moreover, any application that lacks an inventive concept thereby makes the invention ineligible to be patented.

An AI-enabled machine is a primary machine and hot human, and hence that could not own or transfer any legal rights. A patent application can only be filed by an inventor, who is a person.
If an AI-generated work is not attributed to a human, it cannot fall under the ambit of copyright-ability and hence is open to the public domain for use. The term authorship has been used in a narrow sense restricting only two legal personalities. Still, many scholars have debated on giving a broader understanding of the word authorship. As per professor Ryan Abbott, giving authorship to nonhuman authors would expand artificial intelligence and benefit the nation. Nonhuman authors are not legal persons, hence not bound by the court of law. There is a need to work upon the nature of artificial intelligence as a juristic person So that a machine can be held liable. Works produced by AI are not literal work, but a visualization of a report there for it does not fall under the characteristics of copyright.

Moreover, the creative aspect of any work generates from a human mind, and the credit is owed to the innovative team and not the algorithm. AI can help in excelling trademark by assisting agencies to figure out any similarities and clashes. It can help choose from a vast database and reduce human work.

Methodology
The research consists of both doctrinal and empirical methodology. Based upon the secondary data collected from journal articles, books, newspapers, blogs etc. based upon the literature review of secondary sources by employing questionnaire tool consisting of both open ended and close ended questions and via interview method primary data has been collected. Sample size is 20. Sample includes stakeholders such as practicing lawyers specialising in the field of technology, engineering professors specialising in machine learning and artificial intelligence programming, experts in cloud computing, cyber security.

Interpretation Of Responses
First question addressed to the stakeholders was to gauge their understanding of the concept of Artificial Intelligence.In this question, the common understanding amongst the interviewees was that an AI is a intelligent system which is displayed by non-human entities, especially machines. Here, a key aspect to note was that the legal experts stressed more on the fact that AI is autonomous and independent of human intervention whereas the tech experts stressed that AI is mimicking human intelligence by a machine. Both these views are correct in their own right, but the essential feature of an AI is having human like intelligence, which cannot be achieved through absolute autonomy as there needs to be a certain stimulus to facilitate the AI in its understanding.
The second question focused on the Intellectual Property Understanding among the stakeholders. In this question, all the answers steered towards the understanding of IP as something which is a result of one’s intellectual ability and creativity, which is unique, the lawyers provided a much deeper understanding by one response extending IP to the concept of protection under the IPR principles. The understanding seems to be absolutely correct in our eyes and leave no room for comment.

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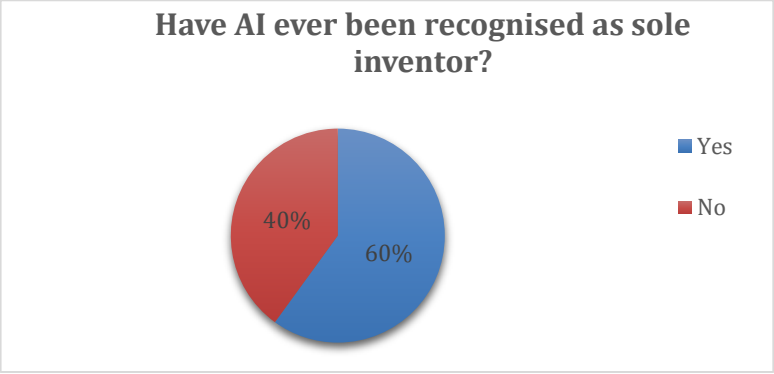
A contemporary question which has been widely discussed with respect to Artificial Intelligence and Intellectual Property interface is "whether Artificial Intelligence created works independently created by AI, be protected under the current IP regime? The answer to this question was in affirmative. This affirmative question raises another question that is "if in India there is requisite law in place to protect AI created works?"

If yes, who should be the author of such work: AI, the programmer(s) that developed the AI, the company that employed the programmers to develop the AI, or any other person? Please specify the reason for your answer.

There were two responses that reflected authorship should be granted either to the developer of the AI machine or the employer under whose employment the machine was created. When considering the developer as the author, the stance regarding ownership shifts to the employer. If the AI machine was created under the "work for hire" title, then the employer has to seek a NOC for filing for IP protection.
If no, for example lack on the part of AI to hold and enforce the rights, inability to assign liability to AI, or any other reason.

The other two responses reflected that the present regime does not contemplate (or even imagine) works created by AI. While works created by AI can be made to fit or accommodated within the present regime/structure; it would be wiser and more balanced to draft new legislation or amend the law after careful thought and due consideration. It would be best to create a *sui generis* system to protect the AI 'authored'/ created works. IP rights are awarded to incentivize human creators, granting them to AI will be in direct conflict with this premise. Additionally, an AI may go on to create/author works that are not originally intended (or imagined) by the creator of AI. Awarding IP rights over such works under the present regime seems to be contrary to the theories of IP.

The nation lacks IP framework with regard to AI and the other experts were not aware of the same. We too agree that there are no specific mentions of the same and it is now the need of the hour in the IP Regime to clarify the country's stand on a technology which does not seem to slow down anytime soon.
Third question which needs attention as per the above responses is if AI ever been recognised as sole inventor?



Here, there seemed to be a 60-40 divide amongst the interviewees, and most seem to believe that AI has been recognised as an inventor. The understanding is correct with respect to the current scenario in South Africa as DABUS and AI was recently given the title of an inventor, though this is the only case so far regarding the same. In authors' opinion granting an AI the status of an inventor is not a prudent, primarily because there aren't many rights that an AI can enjoy after granting the status and there isn't any major difference in the AI's functioning because of that. This further boils down to the conversation that since AI does not have a consciousness it is incapable of enjoying the rights that are provided. The step taken by the South African authorities seems to be a token act without proper reasoning behind the step.

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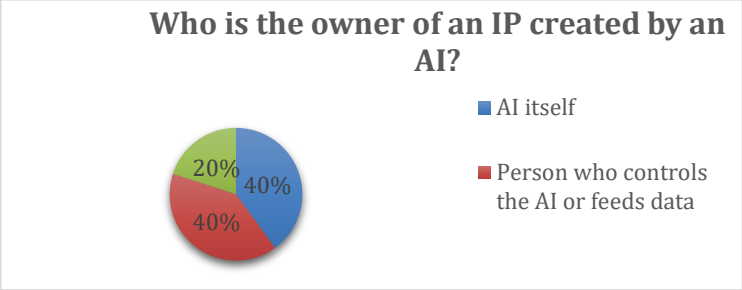
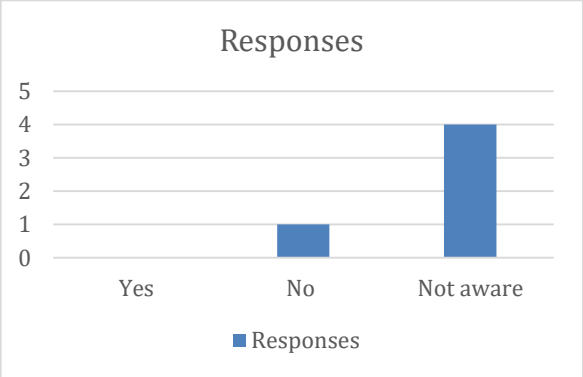
If we affirm to the fact that AI created works should be IP protected then the question is Who is the owner of an IP created by an AI?



Here, the understanding between the interviewees is divided. The two engineering professors share the view that AI shall be the owner of the IP, whereas a lawyer and the tech expert believe that the handler of the AI shall be the owner. Lastly, one lawyer elaborated that since AI is not a person thus cannot be an owner of IP, thus the handler shall be the owner. The authors do agree to the point that AI is not a person and thus cannot be the owner. Alternatively, the handler too does not have an absolute right to own the IP as assessing his/her intervention in creation of the IP is difficult, if he merely pressed a button and AI did all the work, he shall not be given ownership of the IP. Thus, there is no fix answer to the same and in our opinion, it shall be a case-to-case analysis, but only when the personhood of an AI is determined. Here, most responses agreed to the fact that AI developer, user of the AI or the person constructing the datasets for the AI can claim inventorship and only one uncertain about the same. The authors believe that a claim can be made without a doubt, but the sustenance of the claim shall lie in the fact of intervention the person has in the creation of the IP. A test needs to be formulated in order to ascertain how much intervention will be sufficient to claim the right of inventorship and only then a person's right could be ascertainedFurther if AI generated works are to be IP protected is it appropriate to access them on the basis of the standards applicable to human generated works or is there a need for the IP office (or other IP registration body) to amended its examination guidelines and procedures due to AI-related inventions or works?



Here, most of the interviewees were not aware of the state of change in examinations and one was certain that there had not been any change. Through the authors' research as well, we have concluded that there are no changes as of now specifically for AI related works though this might happen when there is an overhaul in the whole regime.
If inventorship is to be granted to AI generated inventions, should patent or copyright law allow AI to be identified as the sole or joint inventor?

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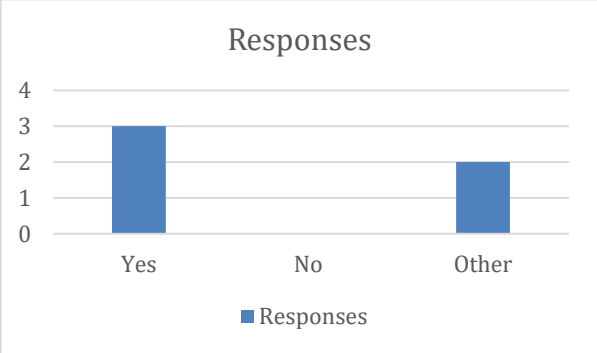

Here, all the lawyers do not seem to directly allow AI to be a joint inventor rather, they believe that first personhood shall be determined and only then the latter discussion shall take place also a view was held that AI still is not working equivalent to human intelligence, thus only when that happens the discussion shall resume. On the other hand, the others believe that AI should be identified as an inventor. The authors hold a view similar to the lawyers view that rights come in later after personhood is determined. Alternatively, AI systems still need some form of human intervention to get up and running, and their learnings are limited to the dataset used to program it, this makes their 'creativity' very limited, thus till the time this barrier is not breached AI shall not be given the status of an inventor.

Conclusion

AI is an inevitable part of life now, and it is imperative to accept that, and with that the technological advancement. The Intellectual Property regime shall be amended in order to be at par with the advancements of AI. Though whether AI can obtain IP remains a question of discussion wherein numerous jurisdictions have taken a conservative approach South Africa is becoming a leader in the opposing view. In the authors' perspective AI shall not be granted the right to own an IP primarily because it does not have the pre-requisite intention to obtain economic benefit through the exclusive right. AI also is not yet a person in the eyes of law, thus becomes extremely difficult to give right or assign liabilities to an entity which is not considered an artificial or juristic person. The IP regime has many bounds to leap in order to catch up to AI but with that it also needs to constantly update itself so that it never lags behind.

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