

**Critical analysis on the patentability of an Artificial Intelligence in Indian patent law**

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*By Rohini Ram*

*From, Madurai bench of Chennai High  
Court*

“Artificial Intelligence will reach human levels by around 2029, follow that out further to say by 2045 and we will have multiplied the intelligence- the human biological machine intelligence of our civilization- a billion – fold” - Ray Kurzweil, an American inventor

### **Introduction**

One cannot emphasize enough that the influence of AI on the daily lives of people While anyone can get into an endless discourse on the benefits and rapid growth of this technology, progress in AI has grown tremendous potential for benefitting mankind by improving efficiency and

savings in production, commerce, transport, medical care, rescue, education, and farming as well as social governance with more sophisticated forms of software being incorporated in the AI systems, the Intellectual Property sector is the most important sector where AI could have a prominent and profound effect for advancement and innovation, the idea of the intelligent machines has always been a part of science myths and fictions but the development of AI in the recent decades has certainly turned the fictional science into the real science, and impossible to possible formula in many ways as we are living in an era where computers are not mere number crunching buddies but are now performing those tasks which even an ordinary prudent man won't be it an Apple's Siri or IBM' Watson or Microsoft's Cortana, the concept of AI enabled system are peaking the interest of investor and scientist in this corporate world

According to the world economic forum, the estimated global revenue from AI system is expected around 47 billions<sup>1</sup> by 2020 so no doubt that AI has

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<sup>1</sup> [www.information-age.com/revenue-ai-system-top-47-billion-2020](http://www.information-age.com/revenue-ai-system-top-47-billion-2020)

created ripples in the context of patentability so with this rapid growth even machines are producing and being pro active in creative and novel works independently without humans Intelligence, which leading to the ultimate question of the status of the human inventor in the patent system, this paper tries to explain about the concept of AI and the intricacies pertaining with the recognition of the AI enabled system under various situations, about the interlink between AI and IPR eventually the issues and challenges in the patentability of the AI with Indian legal frameworks

### **Definition of Artificial Intelligence**

It is impossible and nowhere a concrete definition of AI can be provided , into the glimpse of its origination this concept had been introduced by an English mathematician Alan Turing in a 1950 paper and the term ‘ Artificial Intelligence ‘ was coined by the American computer scientist John McCarthy the conference in 1956. So as per McCarthy, “ AI means science and engineering of making intelligent machines especially intelligent computer programs “ but it doesn’t provide a definite statement of AI rather it explains the goal of AI, which is to develop machines that behave as though they were intelligent. Intelligence means the cognitive ability of a human

beings such as learning, problem solving, reasoning and coping up with the daily events so as a whole it is an ideal intelligent machines which is flexible , rational agent, that perceives its environment and takes actions according to the situation

Hence, the AI produced can be categorized into two types that are (I) weak or narrow AI – where the human is still in control of the output produced and (II) strong AI – where the AI formed is expected to possess innovative thinking and logical reasoning at its own calibre while humans retain predominant control over the narrow AI, in advanced power of AI it can run autonomously and is capable of producing creative results for instance, the military defense robot of Russia “ Ivan" is an example of strong AI as it may run autonomously in the future without any interventions

### **Artificial Intelligence enabled inventions with reference to IP concept**

The IP world is the most reliable and ever needy market where AI have a profound effect as it create a remarkable creativity and knowledge which can be a subject matter of intellectual property in the perspective of creativity because now even AI machines can able to pre-perform from simple calculations to a variable range of works like painting, storytelling, music, road mapping, movie

animations, and virtual assistance etc., which replaces the human creativities and efficiency despite being a creative works done by the machine still it raises some major challenges that whether or not such AI inventions can be afforded protection or special status under IP laws like any other form of IP produced by an identifiable human beings and could a electronic machine can have the status of a legal person or natural person in terms of IP protection, it remains unanswered as to whom , would get the exclusive rights if all the innovative or novel contributions were the work of a AI system ? Would the future novel inventions of the AI machine could be given to the machines ? Though the issues and queries are in consideration the use of the AI enabled system became inevitable and increased day by day and became everyone's part of day to day life

### **Impact of AI under Indian scenario**

In India, there is no specific protection or enforcement mechanisms for the concept of AI but still the judicial system and other government organizations are trying to recognize upon the legal status and importance of AI enabled system but it is to noteworthy that the changes and regulations in the existing IP laws in accordance with the AI system

inventions would end up with the lot of complexity and perplexity , the ministry of industry and commerce in India had recently constituted an 18 member task force<sup>2</sup>, comprising of experts, academics, researchers and industry leaders along with the active participation of government bodies such as NITIAayog, ministry of EIT, UIDAI titled this force as “ Task force on AI for India's Economic Transformation” to explore possibilities to leverage AI for the development across various fields in India. According to the Indian patent law of 1970 AI related inventions is not a single invention but a combination of several ones because it can be a computational one or a mathematical pattern or an algorithm under section 3 (k) of Patent Act of 1970 it states a absolute ban on the patentability of algorithms and computer programs per se unless it produces some technical contribution which will be difficult to establish in an AI related inventions, with this restrictions which is already being placed in the parent Act of patent , on 2016 the office of controller General of Patents, Designs, and Trademarks issued a revised set of guidelines for the examination of Computer Related Inventions ( CRI Guidelines) with the introduction of the concept “ Technical advancement “ under section 2 (1)(ja) of the Act<sup>3</sup>.

<sup>2</sup> <http://dipp.nic.in/sites/default/files/report-of-Task-Force> -

<sup>3</sup> [sflc.in/quick-cri-guidelines-india](http://sflc.in/quick-cri-guidelines-india)

In order to claim IP protection for an AI enabled system the key points are : (I) description of hardware (computer system, server, sensor along with AI algorithm in the patent), (II) working methods or process of device which uses AI, (III) refrain from focusing directly on programming codes, so to get a sole AI enabled system to patented in India is like asking for a jet at a car shop

### Challenges in patentability of an AI system

#### (A) Inventorship to AI system

The inventor is the true owner of the patent rights and if the inventor is not disclosed then the patent may held unenforceable so here comes the issue that an AI machine which generates some independent creatives can it be 'an inventor' in terms of law and could it hold the right of patent?, as per section 6(a) of Indian patent act of 1970 allows the patent application by any person claiming to be the true and first inventor of the invention likewise under international perspective in US patent law, inventor is defined as an individual who invented or discovered the subject matter of the invention. In the case of *Diamond v. Chakraborty*<sup>4</sup>, which expanded the subject matter criteria for patents in USA, the court

observed that 'anything under the sun that is made by man is patentable' the reason for such an approach was to make sure that invention remain under the control of that individual who has actually conceived it so most of the countries in their existing patent system rewards and recognize only a natural person or a legal person for AI generated inventions, recently the European Patent Office (EUIPO) refused 2 patent applications that listed AI as the inventor on the application by mentioning that applications "don't meet the requirement of the European Patent Convention that an inventor designated in the application has to be a human being, not a machine" even if the initial conception by the natural person is enough to get patented as "inventor" for the an AI machine but over the years, the initial concept has been so tremendously modified by the AI through its own learning and reasoning so as develop a new concept which could be a perplexed situation in the light of enforcement

#### (B) Ownership of patent rights to an AI system

Another issues arises in the patenting of AI enabled machines were the ownership right, in the view of

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<sup>4</sup> 447 U.S. ( 1980 )

property rights, ownership always vest with the person or an individual who can be made the subject matters of legal rights and duties so the right to property whether it is tangle property or intangible property always vest with the natural person suppose if we assume that an inventive AI is eligible for patent then with whom the right of patent vest absolutely ? Without doubt it is incapable of holding the rights simply because it is neither a legal entity nor have the capability to exercise the rights autonomously so it is obvious to say that the ownership of the right must be vested in a human entity or the inventor of the AI machine. According to the Patent attorney Jeremy Smith “At present scenario, the law sees AI as a tool not an IP owner”<sup>5</sup> but as the things stand so, an AI entity can only ever be a joint-inventor as without humans intervention on the trained data and algorithms, it would churn out rubbish like a thousand monkeys, another example of such invention are US ‘815’ was generated by the “creativity machine” developed by Stephen Thaler. But The AI used to generate the claimed inventions were not listed as an inventor or a co-inventor on the patents instead the

inventors identified in the patent applications were the “human developers” of the machine<sup>6</sup>

### ( C ) **Liability issues with the AI system**

As we have seen that the inventive AI requires only minimal assistance of human and it produces a unique product on its own in such cases, it might get duplicated or infringed the already existing patent then un that kind of situation who will be held responsible? Or upon whom an infringement action could be taken by the aggrieved patent holder as the legal system doesn’t recognize the non-human entity as an infringer since humans intervention is limited to exposing the machine to already existing knowledge and of course the owner of the AI enabled system can’t be held liable for the odd result which is independently derived by the AI machines by using machine learning and various algorithms and therefore tracing liability in terms of infringement done by the AI machine would prove really bring complications

### ( D ) **state of Art in inventive AI**

In simpler terms, prior art is any evidence that an invention was

<sup>5</sup> [Raconteur.net/legal/in-pr/ai-ip-rights/](https://Raconteur.net/legal/in-pr/ai-ip-rights/)

<sup>6</sup> [bereskinparr.com/doc/Inventorship-in-the-age-of-ai](https://bereskinparr.com/doc/Inventorship-in-the-age-of-ai)

already known or available in public in whole or in part, before the effective filing date of the patent application so to scrutinize the prior art of an specific inventive AI is complicated which could pose a serious challenge in what is relevant and what is not from view point of prior art as no one disagrees that the human intelligence and creativity can be supplanted by AI enabled machines therefore prior art related to inventive AI is a complex task and difficult one.

### **Suggestions – A Way forward**

Though the scope of patentability of an AI enabled system linked and crippled with lot of complex and complicated challenges to implement, In the era of automation and technology driven world, the dependency of entities and individuals on AI systems is increasing exponentially like self driven cars, robots, and fully automated machines which are being used in course of daily life<sup>7</sup> the primary objective behind these rapid growth and developments of AI are the demand for the automation and across a wide sector of industries which would have an enormous impact on the

economic growth and international competitiveness of a nation,

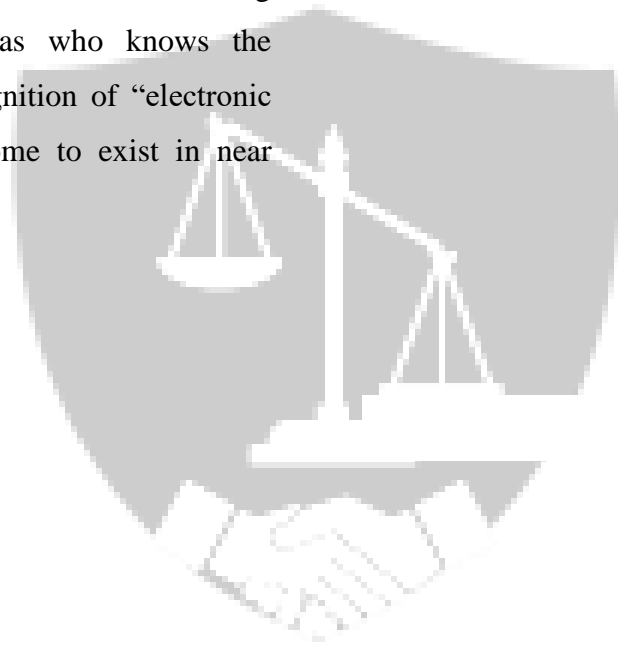
This wave of automation and tech driven by the AI is creating a huge gap between the current legal frameworks and the frameworks that is required to be brought into place to deal with the emerging AI system so it would be imperative that the nation's government, regulators undertake a necessary changes to the existing legal statutes for the recognition of such kind of AI and the research and development sector of the nations can try to formulate the ways and strategies to amend the existing IP laws in such a way according to the patentability of the AI enabled system and the judicial bodies can interpret and adjudicate the impact and imperative side s of the AI machines. One such recent noteworthy case law under which the Delhi high Court reiterated the importance and scope of patentability of AI enabled machines are Feria Allan v. UOI & others<sup>8</sup> held that “In today's digital world, when the most inventions are based on the computer programs, it would be retrograde to argue that all such inventions would not be patentable, innovation in the field of AI,

<sup>7</sup> Nishith Desai, The future is here- Artificial Intelligence and Robotics, available

At <http://www.nithidesai.com/filmadmin/user-upload/pdfs>

<sup>8</sup> [indiankanoon.org](http://indiankanoon.org)

block chain technologies would be based on computer programs, however the same would not become non-patentable inventions – simply for that reason" which is assigned in the traditional patent law thus it is imperative and a way forward to amend and renew with new provisions and rules with the existing patent laws in accordance with the fast moving technical phase as who knows the concept of recognition of "electronic person" might come to exist in near future.



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