Artificial Intelligence & Intellectual Property Related Issues in India: Need for Proper Regulatory Framework

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Abstract - Intellectual Property Rights are the creation of the mind, including inventions, literary and artistic works and symbols, names and images used in trade. Artificial Intelligence (AI) is the blend of science and engineering, coming out with a creation of an intelligent machine that responds and tackles issues like humans. It is the ability of a computer system to settle on choices for itself. In Artificial Intelligence, a "heuristic" is a technique used to tackle problems faster than conventional methods. AI has been an innovation with guarantee for quite a long time. The ability to control huge volumes of data rapidly and proficiently, recognizing patterns and quickly analyzing the most optimal solution which can be applied to a huge number of everyday situations and can provide solutions to age old issues and challenges. Apart from GO to technology for organizations, AI powered robots, utility of AI to forecast electricity demands etc., Intellectual Property(IP) is just another market, where AI could have a deep effect. AI can be deployed to simplify day-to-day tasks and deliver increased insight from IP data. In today's scenario, technological advancement has led AI capable of producing poetry, works of art; develop inventions that have raised concerns about ownership because there is no human involvement. Otherwise, these works would have been recognized as IP created by a human being, but the question arises as to whether or not it deserves a special status in IP? Whether the results provided by the system are the products of its own intelligence or not? Any suggestions to questions like these would be the framing of proper and adequate regulations. As of now, no current law recognizes AI as a legal entity and there are no related laws in India. The government of India hopes to regulate AI soon. This paper discusses the scope of AI in IP related issues and the dispute resolution mechanism between the two different streams of inventions.

Keywords- Artificial Intelligence (AI), Intellectual Property (IP), Inventions.
I. INTRODUCTION

“Genie”, the word surely reminds of the movie, “Aladdin”, a mythological spirit of Arabian folklore, depicted traditionally, imprisoned within an oil lamp, & one who’s capable of granting wishes when summoned. Today’s scenario let us carry a genie all the time, at home, at workplace, while traveling, eating & even at the times we sleep. Yes, mobile phones, or to say computers. These computers, more or less have always been like genies, transforming our wishes of programmes into reality. However, getting a genie to your work is not so simple. Artificial intelligence is one such a genie, which is the next step in the historical development of the inventors’ tools. There is an invisible computer revolution underway. The revolution in the computerized invention. Computers are now designing products in ways that previously required human ingenuity, & thus, opens a new era that can be termed as “Era of Artificial Invention”. AI systems are rapidly evolving through the incorporation of sophisticated technologies & it is expected that in the near future they will create designs, various other artistic works or produce inventions without human intervention. This brings us to an interesting scenario where questions about Intellectual Property related to such creations arise. The application of AI to IP laws raises some of the following questions: Is it possible that AI creates works with no human intervention? To determine if the results provided by the system are the products of its own intelligence or if they should be attributed to the underlying algorithms & commands? In case of infringement by AI, who will be held responsible? Are Indian IP laws sufficient to address any of these soon-to-be-faced AI & IP problems or would a separate regulation be needed? This paper discusses India’s position in the field of AI, plausible problems that could arise in the future relating to the scope of IP in the context of AI, possible solutions to the problems, & also taking into account, the global perspectives.

II. UNDERSTANDING ARTIFICIAL INTELLIGENCE

When you hear the term Artificial intelligence for the first time, most people think of is “Robots”. The reason being big-budget movies & novels showing stories about human-like machines. To name a few, Iron Man, Avengers: Infinity wars, Interstellar, etc. Be that as it may, nothing could be further from reality. Despite the fact, characterizing AI in simplest terms is “the creation of intelligent machines that work & respond like people”. It is any machine that shows qualities related with the human personality, for e.g., learning & critical thinking. A machine that can undoubtedly copy & execute tasks ranging from the simplest to the most complex. Humanity has called itself Homo sapiens: “wise man.” The most famous example of a definition of human-centered AI is popularly known as the "Turing Test." In a seminal 1950 article, Alan

Turing asked if machines could think. He suggested an experiment called "Imitation Game".\(^2\) Turing proposed a version of the game in which the artificial intelligence machine takes the place of man. If the machine manages to convince the observer not only that she is human, but also that she is the player, then she has demonstrated intelligence.\(^3\) The inventor of the term AI, John McCarthy, has said that there is still "a solid definition of intelligence that does not depend on relating it to human intelligence."\(^4\) The most recent AI definitions prevent the link with humanity by focusing on thinking or acting rationally. Thinking rationally means that an AI system has goals and reasons to achieve these goals.\(^5\) Acting rationally is that AI systems work in a way that can be described as directed at an objective.

It is useful from the beginning to distinguish two classifications for AI: Narrow and General.\(^6\) Narrow AI (sometimes referred to as "weak") denotes the ability of a system to achieve a certain objective or set of stipulated objectives, in a way or using techniques that qualify as intelligent. The vast majority of AI systems in today's world are closer to this narrow and limited type.\(^7\) General (or "strong") AI is the ability to achieve an unlimited range of goals, and even set new goals independently, even in situations of uncertainty or vagueness. This encompasses many of the attributes we consider as intelligence in humans. In fact, general AI is what we see portrayed in robots and AI of popular culture. So far, the general AI that approaches the level of human capabilities does not exist and some have even cast doubt on whether it is possible.\(^8\) Examples of Artificial intelligence include smart assistants (like Siri & Alexa), disease mapping & prediction tools, drone robots, spam filters on email, etc.

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\(^3\) Yuval Harari has offered the interesting explanation that the form of Turing’s Imitation Game resulted in part from Turing’s own need to suppress his homosexuality, to fool society and the authorities into thinking he was something that he was not. The focus on gender and subterfuge in the first iteration of the test is, perhaps, not accidental. Yuval Harari, Homo Deus (London: Harvill Secker, 2016), 120.


\(^5\) Russell and Norvig, Artificial Intelligence, para. 1.1.


\(^7\) Ibid.

\(^8\) See Roger Penrose, The Emperor’s New Mind: Concerning Computers, Minds, and the Laws of Physics (oxford: oxford University Press, 1989). The number of sceptics may be shrinking. As wallach and Allen comment: “pessimists tend to get weeded out of the profession”, wendell wallach and Colin Allen, Moral Machines: Teaching Robots Right from Wrong (oxford: oxford University Press, 2009), 68. For instance, Margaret Boden was one of the most well-known proponents of the sceptical view, although in her latest work, Margaret Boden, AI: Its nature and Future (oxford: oxford University Press, 2016), 119 et seq she acknowledges the potential for “real” artificial intelligence, but maintains that “...no one knows for sure, whether [technology described as Artificial General Intelligence] could really be intelligent".
III. ARTIFICIAL INTELLIGENCE & INDIA

India, being the fastest growing economy with the second largest population in the world, has a significant participation in the AI revolution. Recognizing the potential of AI to transform economies and the need for India to implement its strategy, the honorable Minister of Finance, in his budget speech for 2018-2019, ordered NITI Aayog to establish the National AI Program, with the objective to guide research and development in new and emerging technologies. NITI Aayog has also made a council and committee to deal with the perspective challenges in AI as per Dr. Manoj Kumar Pateriya, Director, CSIR-NISCAIR on the occasion of India’s first global AI summit recently organized by All India Council for Robotics & Automation (AICRA), which was focused on real-world scenarios to analyze the various ways AI may influence human lives & industries, also citizens of India to be very judicious & realistic while framing the policies related to all future technology adoptions in the country, the Director said.

IV. ARTIFICIAL INTELLIGENCE & INTELLECTUAL PROPERTY

Defining the word "artificial" is relatively indisputable. It means something synthetic and that does not occur in nature. The key difficulty is with the word "intelligence", which can describe a variety of attributes or abilities. As Jerry Kaplan, a computer expert and futurist, says the question "what is artificial intelligence?" It is an "easy question to ask and difficult to answer" because "there is little agreement about what intelligence is," while intellectual property rights are rights granted to people over the creations of their minds. Generally, they grant the creator an exclusive right over the use of his creation for a certain period of time.

Intellectual property is divided into two categories: industrial property includes invention patents, trademarks, industrial designs and geographical indications. Copyright covers literary works (such as novels, poems and plays), movies, music, artistic works (for example, drawings, paintings, photographs and sculptures) and architectural design. Copyright-related rights include those of the performers in their performances, the producers of phonograms in their recordings and the stations in their radio and television programs. This technology is exploding across virtually all industries. The Intellectual
Property (IP) industry is another market where AI could have a profound effect. Human inventors once responsible for designing every detail of their inventions will be freed to identify the problems they are trying to solve, & to pose those problems to artificial invention software in a language understood by the software. The software then does the rest. However, the development of AI has resulted in conflict with IP. When a human paints an image, writes a book, invents a new medicine or designs a bridge, then most legal systems provide structures to determine ownership over that work and to protect the author against the unauthorized copy of his creation. Other laws protect the commercial reputation. This is called the "intellectual property" (IP) law. AI is already creating new and innovative products and designs, whether in technical fields such as engineering and architecture, or in industries such as art or music production. Researchers at Rutgers University, Charleston College and the Facebook AI Research Laboratory have created an AI capable of making abstract art so compelling those human experts cannot tell which works were done by AI and which ones by human artists.

V. ARTIFICIAL INTELLIGENCE & INTELLECTUAL PROPERTY LAWS: GLOBAL PERSPECTIVE

COPYRIGHT

INDIA

Copyrights in India are governed under Indian copyright act, 1957 defining copyright as the exclusive right to do or authorize others to do certain acts in relation to original, artistic, literary, dramatic, musical works, cinematograph films, & sound recordings. Any idea which is expressed in a tangible form is protected. Idea of algorithms, used in computer programming is not protected. However, programmes devised for working of computers is regarded as literary work, which if computer-generated, authorizes the person who causes the work to be created.

UNITED KINGDOM

UK law establishes two forms of "database" law: one, a specific form of literary copyright; and the other database right "sui generis". In both cases, there are doubts about their suitability to protect "big data", such as the requirements of "intellectual creation" (for copyright), of a substantial relevant investment (for sui generis database law) and that The collected materials

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14 Ibid
must be separable without affecting their informative value. While United Kingdom courts routinely recognize literary copyright in computer programs, an AI algorithm, per se, may not attract such protection. This provision does not allow for AI itself to be considered the author.

UNITED STATES OF AMERICA

The copyright office of the United States has stated that "it will register an original work of authorship, provided that the work has been created by a human being,"18 citing the case of 1884, Burrow-Giles Lithographic Co. v. Sarony.19 In the case of the United States, Comptroller of the Treasury v. Family entertainment centers,20 a Maryland court was asked to decide whether animatronics puppets that danced and sang in restaurants activated a state food tax "where a presentation is presented."

MONKEY SELFIE CASE: In 2014, a crested macaque monkey (or rather a charity that claimed to be acting on behalf of that monkey) demanded the copyright in a "selfie" (self-portrait) that he had taken with the camera of a professional photographer.21 The monkey, Naruto, was named plaintiff in a case in the northern district of California, against the photographer, David Slater.22 According to reports, the conciliation agreement required Slater to donate 25% of the proceeds of his book to charities "that protect the habitat of Naruto and other crested macaques in Indonesia," as described by the charity of animals.23 Although the final conclusion of the courts was that the relevant statute did not extend to the protection of intellectual property animals or other entities without legal personality, the broader question is whether it should?

EUROPEAN UNION

According to EU legislation, the original literary and artistic works are covered by various copyright protections, which grant certain rights to the author.24 A work or part of a work is

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19 111 U.S. 53, 58 (1884). The position is supported by later US case law (e.g. Feist Publications v. Rural Telephone Service Company, Inc. 499 U.S. 340 (1991)) which specifies that copyright law only protects "the fruits of intellectual labor" that "are founded in the creative powers of the mind".
considered original if it is its own intellectual creation. Under EU law, the first owner of copyright is the author.

**PATENTS**

**INDIA**

Patents in India are governed under Indian patents act, 1970 that defines patent as an exclusive right granted to a person on any invention featuring novelty, non-obviousness & capability of industrial application. India doesn’t recognize any invention done by way of computer programme per se or algorithms.

**UNITED KINGDOM**

In the United Kingdom, patentability is governed by the Patent Law of 1977, which was enacted to give effect to the European Patent Convention. The European Patent Office takes the approach that AI models and computational algorithms are excluded from patentability, unless they constitute a computer program that has an "additional technical effect" that goes beyond "normal" physical interactions between the program and the computer on which it is run.

**UNITED STATES OF AMERICA**

AI inventions are generally patentable in the United States, however, because they involve features related to computer and software, care should be taken regarding the US Supreme Court eligibility test as provided in Alice Corp. v. CLS Bank International, an important test, if the claims of an invention related to a computer or software recite a specific improvement to the "operation of the computer itself" or "any other technology or technical field".

**EUROPEAN UNION**

On November 1, 2018, the European Patent Office ("EPO") issued new guidelines for the patentability of artificial intelligence ("AI") and machine learning ("ML") inventions which indicate that applications within this subject matter may be treated as largely unpatentable. "Computational models and algorithms" are "per se of an abstract mathematical nature." Mathematical methods and purely abstract mathematical concepts are generally excluded from patentability according to the EPO guidelines.

**VI. CONCLUSION**

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26 directive 2001/29, Arts. 2–4; directive 2006/115, Arts. 3(1), 7, and 9(1).
27 European Patent Office, Guidelines for Examination, G-II-3.6.[26]
28 35 U.S.C. § 101
The status of AI under Indian IP laws is an open-ended question, which still needs to be recognized. Legislators & policy makers will discover scope in developing guidelines & ethical codes for AI-generated works, providing it the most adequate form of legal safeguarding.

VII. SUGGESTIONS

Technological disruptions such as AI are a phenomenon that occurs once in a generation and, therefore, large-scale adoption strategies, especially national strategies, need to strike a balance between narrow definitions of financial impact and the greater good. Presently, the government of India, through its NITI Aayog is focusing over those sectors that are envisioned to benefit the most from AI in solving societal needs to name a few, healthcare, agriculture, education, smart cities & infrastructure, etc. this shows a prolonged wait, the Indian IP sector has to commit to till the AI hits its space. However, an advanced methodology can be taken before AI makes any issues in IP. Whether India needs separate legislation for AI or amendments, if any, will be needed in current IP laws to run sufficiently? Well, the answer lies in the future, so does the issue, yet the solution might be plausible enough in the present. The author attempts to give some suggestive measures that can be mulled over:

- **Legal personality of AI:** In October 2017, the humanoid robot known as Sophia, endowed with artificial intelligence, obtained the citizenship of Saudi Arabia. In May 2018, Google showed the capabilities of its Google Duplex product, whose artificial intelligence system can make an appointment at the hairdresser or reserve a table in a restaurant, avoiding misunderstandings on the phone and imitating the hems and gaps of the human conversation.  
  Legal personality refers to a set of rights and obligations. The legal personality of the AI could be a solution to 
  (i) Pragmatic concerns arising from the difficulties of assigning responsibility for the AI. 
  (ii) Supporting AI’s moral rights, if any. If the legal personality of AI is adopted as a solution, the useful features of that regime would include AI's ability to have rights, obligations and assets, and that there is a verifiable means of identification or registration.

- **Authorship of AI-generated works:** Works created by machines are unprotected and they do not fall in the scope of intellectual property legislation. There is no incentive for programmers to generate software codes capable of creating artistic work if those programmers are not going to have a "monopoly" on their work in the same way as a writer or a music composer would be.  
  Policy makers have to review the current copyright legislation for determining a different class of works that are created solely by the AI and regulating them with the help of possible expertise.

• **Separate legislation**: Artificial Intelligence (Data Protection & Regulation) Act can be formulated dealing with the creations or the works generated solely by AI & regulating them accordingly.

• **Amendments**: current IP laws can be modified by adding up the provisions relating to computer-generated works.

• **Liability**: At whatever point AI encroaches, subsequently, setting a liability over an innocent creator, who might not be aware of the action of AI, a particular authorization for the destruction of such an AI, or the prohibition of the technology behind its creation from being used, can be provided. Parliamentary or judicial clarification would be beneficial in understanding this issue.