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Ms. Sumiti Ahuja, Assistant Professor, Faculty of Law, University of Delhi,

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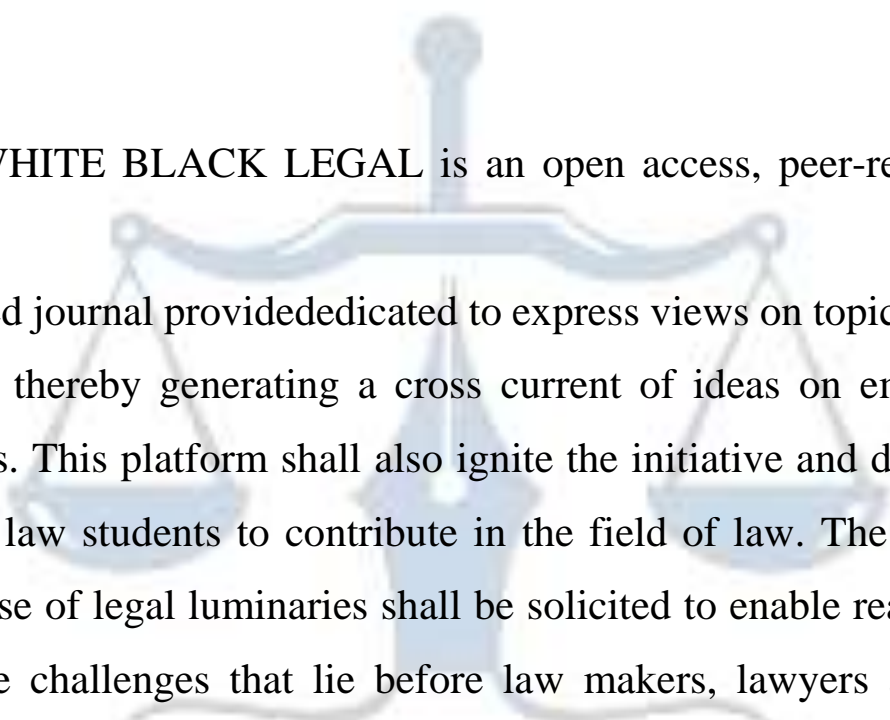

Subhrajit Chanda

BBA. LL.B. (Hons.) (Amity University, Rajasthan); LL. M. (UPES, Dehradun) (Nottingham Trent University, UK); Ph.D. Candidate (G.D. Goenka University)

Subhrajit did his LL.M. in Sports Law, from Nottingham Trent University of United Kingdoms, with international scholarship provided by university; he has also completed another LL.M. in Energy Law from University of Petroleum and Energy Studies, India. He did his B.B.A.LL.B. (Hons.) focussing on International Trade Law.

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With this thought, we hereby present to you

ARTIFICIAL INTELLIGENCE, MACHINE LEARNING AND LAW

AUTHORED BY - ABHISHEK ANAND, LL.M

Assistant Professor, S. K. J. Law College, Muzaffarpur.

ABSTRACT

With the growing capabilities of digital era the solution of every problem is at our fingertips and so is the possibility of committing any crime. The technology being used for making things easier to finding legal remedies instead of moving to the court is not a bad idea. The use of technology will fasten the pace of justice to the common people unlike the slow working and lengthy procedures of the judiciary. It will convince the people to update themselves to the ever-growing technological usage and adapt it. Artificial Intelligence is an area where humans develop the computer science and create intelligent machines that are going to work better and faster than the human brains. These intelligent computers will be used further for the invention of other machines, art etc.

Keywords: Artificial Intelligence, Machine learning, AI & Intellectual Property, IP Rights.

INTRODUCTION

According to Stephen Hawkins "*I believe there is no deep difference between what can be achieved by a biological brain and what can be achieved by a computer. It, therefore, follows that computer can, in theory emulate human Intelligence and exceed it*"

Artificial Intelligence refers to the ability of the machines to think analytically, using concepts that the humans have inbuilt in them. Artificial Intelligence is an area where the humans will be developing the computer science and create intelligent machines, that will be developed by the human to work like humans. The computers AI will have the same capacity as that of a human brain and may be more. AI has been existing from the human efforts and the humans have made efforts in improvising it to the best. The AI machines today have the capacity of creating, making new, something original that was never made before. So, will the AI's have the IP rights over their exclusive products?

ARTIFICIAL INTELLIGENCE

Artificial Intelligence was first coined in 1956 by John McCarthy, a scientist considered to be the father of AI. According to him AI is *"the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings."*

According to Raquel Acosta *"it was the notion of a program, processing and acting on information, such that the result is parallel to how an intelligent person would respond in response to similar input"*

AI challenges the one sacred notion that intelligence and creativity is the existing preserve of humans today the intelligence of human is used to make the Artificial machines which create or invent machines further. This is all because of the human intelligence first. In order to understand that the outcome of the AI is because of its own intelligence or algorithms and commands by humans Sir Alan Turing proposed a test '*Turing Test'* "*this test called users to converse with a machine/human in a text only format, and then suggest whether they believed they communicated with a human or a machine."*

To understand how AI works it is important to understand the some of the important elements like machine learning, the algorithms used, neural networks etc. The backbone of Artificial Intelligence is machine learning i.e. Making the machines learn, based on the human knowledge and making decisions accordingly. Machine learning can be used by AI machines by two ways, using algorithms to find meaning in random and unordered data and the second part is to use learning algorithms between that knowledge and improve that learning process. The learning algorithm is something that enable the machine learning and promotes Artificial intelligence. Machine learning is about having an input data, and we find some algorithm to find the meaning of that data and in future we use neural networks to improve the whole process. With the elapse of time the learning process of the machines increases rapidly, it is because of the neural networks of machine learning.

FUTURE WITH AI

Today the usage of AI is impeccable and compared to other times it is at its peak. AI mimics the natural intelligence of the human beings by learning, reasoning, or making decisions. Today the companies use AI in order to analyze data, perform document review, to wade through voluminous information, to interpret contacts, and to perform legal research in order to be cost and time effective. According to Thomson Reuters "*over 60% of respondents believe that usage of AI will be mainstream within the next 10 years, and 21% believe it will be within the next*

five years."

Today AI technology like IBM and ALPHAGO are AI machines that are being used to defeat the world champions that show jeopardy, *"the launch of self-driven taxi services starting its first trial in Singapore called the Nu Tonomy, video games that adapt to the behavior of players are now common."*

Some of the AI'S that have created history are: Deep Blue chess playing AI machine developed by IBM by chip test project defeated the world chess champion Garry Kasparov in 1996 under the tournament rules Google created DeepMind's AlphaGo, AI machine could play the most complex board game Go. And then the match was played between the AI machine and the South Korean Go Champion Lee Sedol. Ai-Da first ultra-realistic humanoid artist, is an AI machine, the robot does not imitate, or mimic others work but takes picture with its camera and by making autonomous and unpredictable decisions, draws original paintings from those clicked pictures. The first AI machine to have a citizenship of any country. AI will not only make small changes in the future but will make tremendous change. With the increase in the use of AI there will be a lot of savings of time, reduction in the cost and in the mitigating risks.

INTELLECTUAL PROPERTY OF AN AI

Artificial Intelligence has gain so much momentum in today's world, everyone irrespective of their age and need are becoming techno savvy. The only reason is that is makes our life much easier and the scope of modernization increase with its use. There is no denial to the fact that in the future these AI technologies will be the reason behind marvelous invention and that too without any human interference. If these AI in the future will be inventing and creating new product the import question is who gets to keep the IP rights, the inventor of the AI machine or the AI machine itself?

For this different countries and organizations have set their own definition of AI machines and their domain for Intellectual Property Rights.

According to WIPO *"The world Intellectual Property Organization (WIPO) identified the existence of AI and propounded three categories of AI, i.e., expert systems, perception systems, and natural-language systems."*

Expert systems are the programs that solve problems in specialized fields of knowledge, such as diagnosing medical conditions, recommending treatment, determining geographical conditions etc.

"These are also used for creative purposes such as producing art and other such works. This

system gathered legal attention when a computer authored work was denied copyright by the Registrar, on the grounds of indeterminate legal status of works created with the aid of computers."

"*Perception system are the systems that allow a computer to perceive the world with the sense of sight and hearing. This is used by topologists, word context experts, etc."*

Lastly, "*a natural language program is meant to understand the meanings of words, requiring a dictionary database. What is noteworthy is, the system takes into consideration different grammatical and textual contexts, to provide a semantic analysis."*

So, when AI and IPM rights are considered, the laws will have to change not today may be but in the coming decades. The law will have to change as the emergence of AI in the society. To grant IP rights to AI the features essential are AI machines must be creative i.e. The machines should be able to create new product, a product of their own The AI machines must be autonomous i.e. They must be able to execute high level tasks with limited or no human intervention. The AI machines must have rational intelligence and enable them to mimic human perception and cognitive abilities The AI machines are capable of learning which will allow them to continually gather data and feedback and process these to improve their ability. AI machines can data processing that is learning from that data and make decisions based on it i.e. The AI machines are creating layers of knowledge that did not exist before. So, the AI machines are creative, autonomous and have rational intelligence from data processing, so IP rights can be given to the AI machines

IP Rights and different countries and organizations

The World Intellectual Property Organization (WIPO) has defined AI as "*to the unique, value adding creations of the human intellect that results from human ingenuity, creativity and inventiveness*".

Intellectual Property laws are "*the sets of law that recognizes and protects products of the human intellect by granting to inventors and creators a legal right to exclusively control the commercial exploitation of their creation*."

IP laws grant property like rights over new knowledge and creative expressions of mankind. It allows us to control the product that we make with our intelligence.

It gives exclusivity to the person making the technology that for certain period of time no other person can make that same technology without referring to the inventor. So, the cycle of Innovation and then it being protected by Intellectual property rights and economic reward goes

on. The incentive also rewards the huge investments of resources that go into Research and Development which had played a vital role in the continued progression of technology.

There are four forms of IP rights:

i. Patents, the exclusive rights granted over inventions that bring a new way of doing something.

ii. Copyright, the exclusive right granted to creators over their creative works like literature, artistic, music etc.

iii. Industrial Designs, exclusive rights to an aesthetic design of products, 3D designs and patterns.

iv. Trademarks, deals with any sign, name, or anything capable of distinguishing the goods or services of one enterprise from those of other enterprises.

ARTIFICIAL INTELLIGENCE AND COPYRIGHT

Copyright is one of the most integral parts of IP rights. Copyright includes two important factor that the law recognizes, first is the originality of work one has created, second is ownership, someone who has taken the initiative to come up with this particular work. *"This rationale and justification behind this were the notion that the author is an originator merged with Locke's economic theory of possessive individualism."*

In the US to qualify as a work of "authorship" a work must be created by a human being. In the case of Naruto el. al v. David Slater the question before the court was whether Naruto can have the ownership over the photographs? Because technically whoever clicks the picture is the owner of the picture. In this case the US court held that Naruto cannot assert a right to copyright as animals are not humans and accordingly, they do not have any standing right in the court of law, Naruto will not get the copyright over the selfies, nor he can sue for copyright infringement. In the UK they have expanded the scope of copyright protected work to expressly include the computer-generated work.

In Nigeria in legal theory*, "a person is any being whom the law regard as capable of rights and duties. These are the only two kinds of person distinguishable as natural and legal"*

So according to the laws the Artificial Intelligence lack legal personality and cannot be the authors of their work irrespective of being creative, autonomous or make something without any human interference. One of the contemporary areas of AI's applicability is creation of

literary works, the study of copyright considering AIs becomes relevant. This can be analyzed by various case laws demonstrated here:

1. Burrow Gilles Lithographic Co. v. Sarony

This is one of a landmark case where the question was whether a copyright protection can be granted to a photograph. This case addressed the dichotomy between creative and mechanical labor. The court discussed the possibility of granting copyright protection to a product which is the output of a machine. The court, by holding that purely mechanical labor is per se not creative, narrowed the scope of their protection. Therefore, if we take this in a very strict and narrow sense, then granting copyright to the AI will be difficult.

2. Bleistein v. Donaldson Lithographing

In this case the question was as same as that of the first case. In this case the court differentiated between a human work and that of an artificial work. Justice Holmes, writing for the majority, delineated the uniqueness of human personality and stipulated the same as a prerequisite to a copyright. The court by using the words 'something irreducible, which is one man's alone' which meant that there was no scope for anything that was not a product of man's creativity.

3. Alfred Bell and Co. vs Catalda Fine Arts

It's one of the major judgments because it took a softer approach towards copyrights being adopted. The court lowered the standard for originality and held that unintentional or accidental variations may be claimed by an author as his or her own. This judgment therefore was a respite to people claiming copyrights for work generated by AIs as it was not copied, despite it being generated through certain programming and algorithms. These three judgments, to some extent, clear the ambiguity that prevails around grant of protection to AI systems. However, a lack of definitive stance still affects the prospective right holders.

AI AND PATENTS

One of the most important contentions that the patents are provided to the inventors to protect their attachment to the invention, and AI lacks any kind of attachment to its invention and so there in no point of proving patents to their invention. In the US the inventor is defined to mean "the individual or a set of individuals collectively who invented or discovered the matter of the invention". In case the AI machine invents something like in the case of John Koza, the patent

right will go to the inventor of that AI machine. In the UK, the act of an "inventor" in relation to an invention means the actual deviser of the invention and "joint inventor" will be construed accordingly if the number of people involved is more. Collaborative form of Patent should be granted for the inventions of AI as this would include a human element in the functioning of the AI. The IP rights will help in managing the rights and obligations of the invention of AI associated with patents and copyright.

CONCLUSION

It is evident today that in a couple of decades Artificial Intelligence will surpass human intelligence in terms of performing functions, which uncontrolled, could pose challenges as to the way these AI systems control and manage their own destiny. Artificial Intelligence and its applications will likely have far-reaching effects on human life in the years to come with companies like GE, IBM, Apple etc. ALL the companies take advancing attempts towards revolutionizing technologies related to providing software solutions and sophisticated technologies. The position of AI and its right today is problematic, giving IP rights to the work generated by AI machines. But it is important to streamline the current laws and guidelines to grant patents and copyrights to the AI inventions. It will be a great step towards the technological future.

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