

Artificial Intelligence Towards International Regulations, Frameworks and Laws in the World of Globalization: Implications and Challenges

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Abstract

This paper investigates, describes and presents the way and status artificial intelligence is having in the global society that bases on economy, politics, economy, culture and law, the judicious element that is law, the actors and representatives of justice and advocacy could face a threat with the substitution and incorporation of artificial intelligence that challenge the human being workforce in industry, occupations and services. The Global society has gone through a radical transformation socially, economically and culturally, especially after the fourth industrial revolution and digital revolution, meanwhile, it began to go through a number of ethical and legal challenges and risks. The appearance of internet, digitalization and artificial intelligence have given the world new insights, facilities in economy, communication and various aspects. The research question is "How may law or international law, the actors and representatives of justice and advocacy face the threat of artificial intelligence substitution?" the used methodology was literature review of the existing literature and qualitative descriptive analysis based on facts and some theories of law. The results show that many countries have established or started to implement artificial intelligence laws or regulations and some of them are published, in progress or already in force. In conclusion, as a reflection, lawyers should get trained with theoretical and practical technological knowledge that appropriate the new visions of the world, from a propositional and preventive role, if technology continues, it changes the paradigms of law from the automaton application.

Keywords: globalization, AI, international, law, judge, global society, economy, future.

JEL Classification: K22, K24, K20, J83, O14, F01, F60, D63, N40

1. Introduction

The Global society has gone through a radical transformation socially, economically and culturally, especially after the fourth industrial revolution and digital revolution, meanwhile, it began to go through a number of ethical and legal challenges and risks. The appearance of internet, digitalization and artificial intelligence have given the world new insights in economy, communication and in various aspects.

Artificial intelligence is a rising leading technological innovation that is given and characterized by an increasing number of tasks to be performed, the thing that makes it somehow exceed human abilities and capacities. Mainly, the change of advanced technology impacts the concept and application of international rules and law. In this regard, new artificial intelligence issues will have to face one day the international humanitarian law and international human rights law. *Will Robots be treated and judged like humans in front international law or legislations?* Of course, nobody will care about a robot's life like about a human being. *But what will the future confirm, especially during the fifth industrial revolution?* Robots and artificial intelligence are going to dominate more space in the world and the question is whether if humans should keep producing them in the future if they are considered a threat to many human opportunities even if they are needed to provide more facilities in life.

In general, the technological world is moving towards a new era and system rapidly. Artificial intelligence and computers are frequently replacing humans in doing simple activities like in supermarkets or car industries for example. Computers are becoming increasingly sophisticated, the speed towards more innovations, technology and security needs to rely on more manpower and put confidence in artificial intelligence. Nowadays, the world is facing the fact of thinking machines, in other words, programmed hardware or software to perform specific thinking operations and this is what we call artificial intelligence.

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AI is the ability of a machine or virtual program to imitate intelligent behavior. It is kind of a simulation of human behavior and cognitive processes. In fact, the birth of the term was in a reunion of young mathematicians in the summer of 1956 at Dartmouth College in Hanover, in the State of New Hampshire. Among them were: C. E. Shannon, M.L. Minsky, N. Rochester and J. McCarthy. Besides, artificial intelligence has become a revolutionary tool, it cannot be denied that today its usefulness is more necessary than ever so that the application and study of regulations are protected. Artificial intelligence in companies is making its way, although its implementation is still very scarce. It provides benefits in all its processes, thanks in part to its interrelation with new technological innovations, such as augmented reality or the Internet of things. AI opens up opportunities to solve some of the most pressing global problems, but the technological changes it brings about can also spark new divisions and fears, possibly making the world more fragmented, as only a small percentage of people will benefit from these changes and most people still will be afraid to be “overboard” of the New Era³.

2. Literature review

2.1. Artificial intelligence, machine learning and deep learning

The Oxford English Dictionary defines Artificial intelligence as "the theory and development of computer systems to perform tasks normally requiring human intelligence". Artificial intelligence, a wide-ranging branch of computer science, influences and it is influenced by other disciplines like mathematics, statistics, engineering, business, logics and others⁴. This kind of intelligent entity is expected to have the ability to reason, make judgments, solve problems, and even communicate with themselves and with humans. Furthermore, artificial super intelligence refers to the next level of strong AI when the latter becomes a reality⁵. Likewise, machine learning is a part of artificial intelligence and it can be mainly defined as empowering machines that can learn. Machine learning can learn and get improved by itself using training algorithms without literally being programmed. Hence, it can be regarded as "the automation of cognitive functions"⁶ or "the automation of knowledge work"⁷.

2.2. Artificial intelligence and the risk of unemployment

The recent literature has progressively turned its attention to artificial intelligence and unemployment⁸, most of the center of the addition around artificial intelligence as an automation process⁹, rather than cognitive entities. One of the papers that takes the initiative in touching the controversial impact of artificial intelligence on employment is by Frey & Osborne¹⁰. There are two factions contributing to the standpoint of the job-creation effect of artificial intelligence usage. One advocates the beneficial impact, while the other is more on the advisory perception. Regarding the

³ Cheney C. (2018), *The Promise and Pitfalls of Artificial Intelligence for Global Development*. <https://www.devex.com/news/the-promise-and-pitfalls-of-artificial-intelligence-for-global-development-91881>, 2018.

⁴ B.G. Buchanan, (2005). *A (very) brief history of artificial intelligence*. AI Magazine, 26 (4), p. 53; N. Kumar, N. Kharkwal, R. Kohli, S. Choudhary, *Ethical aspects and future of artificial intelligence*, 2016 International Conference on Innovation and Challenges in Cyber Security (ICICCS-INBUSH), IEEE (2016), pp. 111-114.

⁵ V. C. Müller, N. Bostrom, *Future progress in artificial intelligence: A survey of expert opinion. Fundamental issues of artificial intelligence*, Springer, Cham (2016), pp. 555-572.

⁶ R. Parasuraman, V. Riley, *Humans and automation: Use, misuse, disuse, abuse*, Hum. Factors, 39 (2) (1997), pp. 230-253.

⁷ M. Chui, J. Manyika, M. Miremadi, *Where machines could replace humans-and where they can't (yet)*. McKinsey Q., 2016 (3), pp. 58-69.

⁸ E. Ernst, R. Merola, D. Samaan, *Economics of Artificial Intelligence: Implications for the Future of Work*. IZA Journal of Labor Policy, 9 (1) (2019), Pp 3 et seq.

⁹ W. Wang, K. Siau, *Artificial intelligence, machine learning, automation, robotics, future of work and future of humanity: A review and research agenda*, Journal of Database Management 30(1), 2019, p. 63.

¹⁰ C.B. Frey, M.A. Osborne, *The future of employment: How susceptible are jobs to computerisation?*, Technological Forecasting and Social Change, Volume 114, January 2017, p. 260 et seq.

beneficial influence of artificial intelligence¹¹ notes that the artificial intelligence revolution is an auspicious start. However, there emerge adversities in the journey. In the end, more jobs would be created and human beings should not concern themselves with any unemployment recession¹². Dauth et al. agree with the outlook studied in the German job market. He states that the automation process did not record net job losses. Frey and Osborne (2017) contribute to the literature by concluding that employment decreases only in industries vulnerable to automation.

Kumar et al. (2016) who investigated motivations and expectations for the development of Machine Intelligence precises that artificial Intelligence is the intelligence shown by machines or software. Artificial intelligence includes reasoning, natural processing language and even various algorithms are used to put the intelligence in the system. There is a new emerging AI scope with the old technologies in various fields and its advantages to the society¹³.

2.3. The application of law and artificial intelligence

There are two types of application of the law that should be identified. Legal literature distinguishes between judicial application of the law and managerial application of the law¹⁴. According to Wronkowska (2001), these terms should not be unequivocally associated with the type of organ that applies the law. Judicial application of the law is confined to issuing a ruling which will officially establish specific facts and on the basis of these facts it will decide about an individual and specific norm prescribed for such cases. The content of an act of a state body is determined by the content of substantive law provisions, but this body has the power to state officially and with binding force that there are circumstances in which a given norm of substantive law is applicable and this is why it has the authority to establish a specific kind of an individual and concrete norm with regard to a given case¹⁵.

3. Methodology and research question

The research question is "How may law or international law, the actors and representatives of justice and advocacy face the threat of artificial intelligence spread and substitution?" the used methodology was literature review of the existing literature and qualitative descriptive analysis based on facts and some theories of law.

4. Analysis, results and discussion

4.1. Is there an abuse of rights by artificial intelligence?

It is very easy to talk about interdisciplinary, but it is difficult to do interdisciplinary work, the prospects of artificial intelligence and biological engineering of genomics rise the question "*What is the future of law?*" The development of artificial intelligence together with the issue of genetic engineering means that people's behavior is or will be programmed in such a way that it is possible to break the rules and stay away of what we call social control that bases on law and its mechanism control a utopia is perhaps getting a dystopia, if artificial intelligence is going to surpass the capabilities of human beings that can't see things in a similar way, *can artificial intelligence be like that too?*

¹¹ M. Boden, *Artificial intelligence: Cannibal or missionary?*, AI and Society 1 (1), 1987, p. 21.

¹² Dauth, W., Findeisen, S., Südekum, J., & Woessner, N. (2017). *German robots-the impact of industrial robots on workers*, CEPR Discussion Paper No. DP12306, Available at SSRN: <https://ssrn.com/abstract=3039031>.

¹³ N. Kumar, N. Kharkwal, R. Kohli, S. Choudhary, *op. cit.*, p. 113.

¹⁴ Wróblewski, Jerzy (1988), *Judicial application of law*, 2nd edition, Warsaw, pp. 9-11.

¹⁵ Wronkowska, Sławomira and Ziemiński, Zygmunt (2001) "Outline of the theory of law", Poznań, pp. 213-231.

4.2. Robot judges and lawyers?

It sounds a bit like science fiction having robot judges and lawyers and especially in the current circumstances. An artificial intelligence is not like any type of basic computer program, but it is an algorithm capable of learning and improving its reasoning very quickly. We currently have artificial intelligence capable of driving cars such as the one that Tesla includes in its cars or artificial intelligence that create images from descriptions and even more recently artificial intelligence that is capable of writing essays on any topic that is asked and even creating a code to program currently, it is not impossible to see, have or replace lawyers through artificial intelligence, from a point of view, it is not practically impossible but there is still a long way to go. At least, from a particular point of view, a transition should be initiated so that this type of technological aid begins to help seek to eliminate the judicial backlog although artificial intelligence would not be possible to solve a legal problem at the moment. If it is possible to solve a whole legal problem, it would be possible for it to replace humans to start working on legal procedures or trade agreements, thus, that could be done immediately with these tools. Personally, everything would be almost impossible for lawyers to be 100% eliminated by artificial intelligence from a legal perspective. In computer science, an ideal intelligent machine is a flexible agent that perceives its environment and carries out actions that maximize its chances of success in some objective or task. Currently, there are several countries that have made progress in this matter.

4.3. Can justice be dispensed in algorithms?

Macro data algorithms can create and make up digital dictatorships, most of the people will suffer such an exploitation and the irrelevance of the human being. The outlook is not encouraging, the imminent automation of the public justice service, from the literal tenor of the law leads to the macro data algorithm that could distort the humanization of justice. According to "Norbert Hoester" and the theory of five theses, the words of human beings could come to defend the positivist applicable dogma to the algorithm.

1) The thesis of law "through law must be defined in the concept of law."

2) The thesis of neutrality one of the principles of law "any additional content must be dispensed to define the concept of law, the digital judge would guarantee the application of the law in an impartial manner."

3) The thesis of subsumption in which it is presented in all cases and application of law can be carried out by" means of a free subsumption of assessments according to the legal syllogism applied by algorithms to the specific case".

4) The thesis of subjectivism for the author "it is a metaphysical foundation or the inclusion of supra positive criteria in the development of moral law"; so, a judge would act based on pre-established data and would not be influenced by moral criteria.

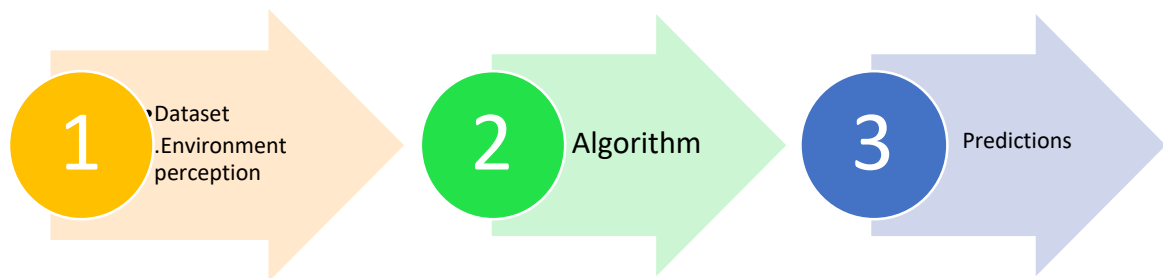
5) The thesis of legalism that "establishes an obligatory nature to obey the norms of law at all times", it is a pure positivism, it would be like the thesis that "Orion Austin" developed at his time his theory of law that mentioned that legal norms are data issued by a sovereign whose subjects must comply with.

So, as a reflection, lawyers should get trained with theoretical and practical technological knowledge that appropriate the new visions of the world, from a propositional and preventive role, if technology continues it changes the paradigms of law from the automaton application.

Artificial intelligence was launched coinciding with the emergence of the great scientific revolution in this field. The innovation of artificial intelligence came from a well-studied and developed philosophical background that planned to invest scientifically. Besides, either the common meaning of artificial intelligence is entirely related to comparing and distinguishing the intelligence of the computer machine in relation to the intelligence of the human beings, or on the other hand another description could say that artificial intelligence is how computer or a learning machine is classified within the field of intelligence, but both descriptions have not met general acceptance as

the objection came to focus on the fact that “intelligence” is an activity that derives its understanding from its body and its legal owner that is the human being.

Figure 1. The way artificial intelligence functions



Source: By author

Artificial intelligence based on data and environment perception an issue that needs a series of algorithms for predictions and decision-making processes, accuracy is very important since results are required. (See figure 1).

Figure 2. Main risks of using artificial intelligence



Source: Author's contribution 2023, Pixelplex 2023

There are some risks that could be main issues in the use of artificial intelligence such as Bias and discrimination, profound impact on people's lives and privacy and security issues. (See figure 2).

Figure 3. Laws and regulations of artificial intelligence in the US, EU, Canada & the UK

<i>United States</i>	<i>European Union</i>	<i>Canada</i>	<i>United Kingdom</i>
The national AI Initiative Act (US AI Act) <i>in force</i>	The Artificial Intelligence Act (The AI Act) <i>A proposal law</i>	Artificial Intelligence and Data Act (AIDA) <i>A proposal law</i>	National AI strategy <i>Published</i>
The NIST AI Risk Management Framework (AI RMF) <i>Second draft released</i>	General Data Protection Regulation (GDPR), Article 22 <i>In force</i>		
Local Law 144 (the AI law) <i>In force</i>			
The California Privacy Right Act (CPRA) <i>In force</i>			

Source: Author's contribution 2023, Pixelplex (Jan 10th, 2023)

Many countries have established or started to implement artificial intelligence laws or regulations and some of them are published, in progress or already in force taking the case of the United States of America, the European Union, Canada and the United Kingdom that worked and provided people and legal entities with sources of law and regulations that should be respected within the use of artificial intelligence. (See figure 3).

Artificial intelligence is the ability of a computer or machine to perform tasks that typically require human-like intelligence, such as learning, problem-solving and decision making. Artificial intelligence is reached starting from the use of algorithms and machine learning techniques, which allows a computer to learn and improve its performance on a specific task without being explicitly programmed. It can be classified into two main categories: narrow and general.

Narrow artificial intelligence is made and designed to take on and perform a specific task, such as facial recognition or language translation. Meanwhile, general artificial intelligence is made and designed to perform any intellectual task that a human can.

There are many examples of artificial intelligence (AI) but some popular examples of them are Apple's Siri, self-driving cars and Amazon's Alexa that perform persona assistance. Self-driving cars are used to make decisions on the road. There are several potential impacts of Artificial intelligence on the next generation.

4.4. Artificial intelligence and companies

Indeed, the application of intelligent technology in companies is not something new. It has always been carried out, although at different scales based on the automation of work processes in factories. The key to its implementation today is to teach these machines to solve problems and make decisions more or less autonomously. To achieve this, it is based on four pillars:

- a) **Genetic algorithms** that is similar to the sequence of steps with which DNA is formed.
- b) **Artificial neural networks** with connection nodes that simulate the human brain.
- c) **Logic reasoning** that is equivalent to abstract thought.
- d) **Search for the requested state** that is about choosing between the different possibilities, something similar to the decisions that a chess player must evaluate before making a move.

5. Conclusions

So, as a reflection, lawyers get trained with theoretical and practical technological knowledge that appropriate the new visions of the world, from a propositional and preventive role, if technology continues it changes the paradigms of law from the automaton application. Artificial intelligence may dominate and invade more the world of technology, smart technology has become very necessary and relevant, even if, AI should play an important role in assisting humans and the global society in various fields and spheres it can be a threat to many aspects and opportunities that are made for human beings. There are some occupations like advocacy and noble scientific jobs like engineering, architecture and medicine that are made for the brain of human beings and not for artificial intelligence. But when it comes to hard jobs or hard tasks that affect the health of people, artificial intelligence can be very relevant. Technological advances and smart technology have made life even more expensive and full of challenges, protecting business, personal data and being away of cyber threat and disinformation could need always regulations, laws and frameworks to be in force to protect the global society of all kinds of threat that could lead people, the world and nations to crisis or conflicts or major risks. The virtual world always remains parallel to the reality world.

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