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Literature Review

Analysis of Law and Facts in the Era of Artificial Intelligence

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Abstract

The digital world comprising of Artificial Intelligence is taking over humans and even directing their values. Various sectors of the world have been benefited and are urging towards the need of having fully automated system in all the sectors, however there is fear that this initiative can lead to a disastrous result as the data fed to the system may be misused. It is a requisite of society that innovation is socially preferable and justifiable, that it should go hand in hand with law. This paper discusses the challenges that are faced by the legislators, courts, lawyers and judges and also the challenges while developing models in automobiles, cyber security and machinery with IoT.

Keywords: Artificial Intelligence; Law; E Commerce; Liability; Automobiles; Cyber Security

Introduction

There is a rapid change in the field of technologies that are replacing human activities and Artificial Intelligence (AI) is the technology that is growing the fastest. AI is the development of computer system to perform tasks that normally require human intelligence. Many companies are developing AI which is used in health care technologies, self-driving cars, digital assistants, legal assistance and many other areas of daily life. John McCarthy had used the term Artificial Intelligence in the Dartmouth Conference at the Massachusetts Institute. He defined AI as "science and engineering of making intelligent machines, especially intelligent computer programs"[1].

Literature Review

This article explores trends in the use of mechanisms within soft law programs to govern methods and applications of artificial intelligence (AI). Using a database of over 600 AI soft law programs, this piece identifies the diverse array of options available to organizations in their efforts to implement and enforce their programs [1].

But ultimately what is missing is not knowledge about the content of ethics as much as political will. If, as both detractors and proponents claim, AI constitutes the transformative technology of our time, then one of the aspects of society that must transform is the law and legal institutions [2].

Work on topics like prior probabilities, the theory observations, encyclopedic knowledge for disambiguation in language translation and pathology test diagnosis has produced a body of knowledge on how to represent context in artificial intelligence applications [3].

The classic scheme, used in this paper to illustrate how schemes need to be a vital part of advancing argumentation technology in

[1]Sagdeo, P. (2020). Blending Machine Intelligence with Natural Intelligence: Artificial Intelligence and Law. International Journal of Law Management & Humanities, 3, 1215-1224 p 1215

tools for evidence visualization in law, is that for argument from expert opinion. The visualization of argumentation schemes is illustrated using a new version of the scheme, which takes into consideration Supreme Court rulings on the admissibility of expert witness testimony [4].

LAW-U is an Artificial Intelligence (AI) chatbot that gives legal guidance to survivors of sexual violence by recommending the most relevant Supreme Court decisions to the survivors' situations. In Thai, "LAW-U" - pronounced similarly to - means "I will wait for you", which signifies the chatbot's unconditional support to the user [5].

In this article, we survey the literature and provide various scenarios for the use of artificial intelligence, highlighting potential risks to privacy and offering various mitigating strategies. For the purpose of this research, a North American perspective of privacy is adopted [6].

This article proposes three potential strategies to increase the effectiveness and credibility of professional society ethical codes as governance tools. First, enforcement of the codes should be broader and more transparent. Second, employers could be enlisted to help enforce the codes adopted by professional societies, given employers' greater influence in creating a more compliant and ethical workplace culture. Third, AI practitioners could be professionalized, with accompanying licensure, educational, and ethical requirements. There are pros and cons related to each of these three strategies [7].

This solution also points to an opportunity for procurement to serve as a form of AI "soft law" governance by promoting compliance with ethical norms. This solution also points to an opportunity for procurement to serve as a form of AI "soft law" governance by promoting compliance with ethical norms [8].

On 12 January, MEPS voted for a set of regulations to be drafted to govern the use and creation of robots and artificial intelligence, hot off the back of the UK Government setting up a commission to look at the issues surrounding artificial intelligence. Across continents, the law is unclear and differing and is likely to evolve in this area [9].

We propose a model for verification and validation of law compliance of smart contracts in IoT environments. The main goal of this article is to propose a formal model (based on multiagent logic and ontological description of contracts) for validating law compliance of smart contracts and to determine potential responsibilities of failures [10].

Proposed analysis

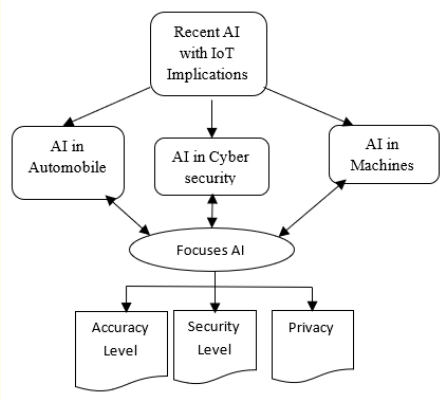

Figure 1: Block Diagram for Proposed Method.

The above diagram shows the implications of AI in different fields such as automobiles, cyber security, AI with Internet of Things. While manufacturing system using AI must consider and follow the law of AI. In this paper, analyzes the parameters factors accuracy level, security level, privacy and are discussed in terms of Percentage.

Artificial intelligence in automobiles

The prospect car is fully associated and for eternity online. It is all-electric and autonomous. In the modern robust car, we suppose that it takes both to understand it- technology and trust. The augmented need for protected electronic systems in vehicles, that drivers and passengers can rely on, are the foundation of trust and shape the future towards higher levels of automated driving. Engaging trust of tomorrow's passengers starts with loyal electronics that facilitate highly available, dependable, robust, safe and secure systems that work in all conditions.

Factors/Field of AI	Parameter Evaluation (%)		
	Accuracy	Security	Privacy
AI in Automobiles	90	85	80
AI in Cyber Security	90	65	60
AI in machinery	70	60	60

Table 1: Grade of Parameters Evaluation.

The complication and functionalities of vehicles will persist to grow, thus driving the need for dependable electronics with quality being one of its key ingredients. We are convinced that our passion in quality creates a product portfolio that meets the high-quality requirements and leads to highly reliable and robust products. With our approach towards practical safety, the system is responding to the improved complexity and stringent requirements that make functional safety projects costly and time-consuming. It provides the required products, including credentials and sustaining information, for easing the integration and reduces the endeavor at organization integrator plane.

Today's connected vehicles offer rich, beyond-the-car experiences. But every communication interface could also be a potential point of attack, putting personal data and car safety at risk.

Artificial intelligence in cyber security

Cyber security is built on faithful electronics is the key for increasing security needs and to unlock the trust of drivers and passengers. AI has influenced that cyber security "by design" is essential with cyber security comprising of hardware, software and connected ecosystems the path forward should incorporate a comprehensive cyber security system approach with strong cooperation of trustful and reliable cohorts across the whole automotive value chain. With more than comparisons of cyber security knowledge and a highly scalable, constantly developing automotive portfolio of security solutions, this system is trusted advisor for a holistic automotive cyber security move toward. Every connection in the vehicle is a budding point for a mugger.

Artificial intelligence in IoT machinery

IoT abide devices to commune with each other. These devices are only as good as the data they make available. To be functional for decision-making, the data needs to be collected, stored, processed, and analyzed. This creates a challenge for organizations. As IoT embracing increases, businesses are under pressure to development the data efficiently and use it for real-world decision making and insights.

The two problems were the cloud and data transport are considered while developing design for autonomous vehicle. The cloud can't level proportionately to switch all the data that comes from IoT devices, and transporting data from the IoT devices to the cloud is bandwidth-limited. No matter the size and sophistication of the communications network, the utter amount of data collected by IoT devices leads to latency and jamming.

Numerous IoT applications rely on quick, real-time decision-making such as autonomous cars. To be effective and safe, autonomous cars need to process data and make instantaneous decisions like a human being. They can't be limited by latency, unreliable connectivity, and low bandwidth.

Law governing artificial intelligence

Oliver Wendell Holmes, Jr. a legal scientist was of the early scholars who have pointed out the importance of technology in development of legal science. He believed that law was open to many other fields of human science and technology was of that[2]. AI is not like any other field of law, it not only touch upon technological and legal aspects it deploys social change both mentally and culturally.

When discussing about the interaction of AI and law certain things has to be taken into consideration. The law regulates the effects of AI in our life. The technology involved in AI is extremely vivid and to many a lawyer it is a difficult task to follow all the developments and understand the technicalities involved.

The challenges law faces are many folds one to regulate the offences culmination from action in AI and another issue regarding how AI will be able to create and enforce the law. The latter is a much more difficult issues, it's an issue embracing all walks of life. It starts with how AI can contribute to law enforcement, to automatic administration management and may be to passing of orders and judgments. When it comes to the former liability in law is founded on free will, determining free will for AI is the difficult

[2]Artificial Intelligence and Law. GSI Articletter, 20, 274-282.

task with human being as programmers and manufactures of the robots and machines.

Intelligent software agents and E-Commerce

The emergence of intelligent software agents has given rise to strong suspicion and debates on what such agents are[3], what their real role in the contractual process is? Although electronic contracts per se exhibits more similarities to their non electronic counterpart, the emergence of intelligent software agents has generated question as to whether agent generated contracts are legally binding contracts. Whether the basic condition of a valid contract, is fulfilled in cases where such agents are used on one or both sides. It furthermore gives rise to questions as to attribution of liability for the action of such agents.

For a valid contract there has to be two parties the promisor and the promise and the parties must have legal capacity to enter into the contract. Capacity however in law is conferred to natural or legal persons that the AI is neither of the two and thus has no legal standing in the eyes of law. The computers are not viewed as distinct parties to a contract or an agent of other involved parties that it is just an instrument of the person using it. They have no juridical standing in the eyes of the law and computers cannot be considered separately from their users, and that computer-based contracts can only be upheld on the capacity of the user.

Question of liability

There could be a scenario where the AI fails to perform the targeted function resulting in loss of property, injury or even loss of life. Application of traditional products liability might mean responsibly for manufacturer but it gets more complicated in situation like self-driven cars. In a scenario where the software looks to be doing something dangerous and driver overrides the same, how to determine liability? alike is the case with remote controlled aircrafts legislating on Artificial Intelligence Countries have been preparing to establish artificial intelligence laws and regulation for some time now knowing the risks of AI. The proposed law which the European Commission (EC) established in April 2021 is expected to play a major role in shaping AI in EU and serve as regulatory model for authorities round the world.

In the United States national strategy on AI is defined through legislation and executive orders. National AI Initiative Act of 2020 (NAIIA) became law on 1st of January 2021, with the purpose of 1) Ensure continued United States leadership in AI research and development:2) lead the world in the development and use of trustworthy AI systems in public and Private sectors;3) prepare present and future US workforce for integration of AI systems across all sectors of the economy and society and 4) coordinate ongoing AI research and demonstration activities among civilian agencies, the department of defense and the intelligence community to ensure that each informs the work of the others[4]. Executive order 13960 establishes principles for the use of AI in the federal Government, establishes a common policy for implementing the principles, directs agencies to catalogue their AI use cases and calls on General Service administration (GSA) and the office of personnel management to enhance AI Implementation expertise at the agencies[5].

Currently India does not have codified law or even government issued guidelines regulating AI, the obligation is set out in Information Technology Act 2000.Niti Aayog has collaborated with several leading AI technology players to implement AI Projects in areas such as education, agricultural and health. It has also developed a set of 7 responsible AI Principles to protect the public Interest.

Ministry of Electronic and Information Technology (MEITY) constituted 4 committees to bring in policy framework. The Supreme Court of India has set up the Ai committee to investigate the use of AI in judicial sectors. The committee has identified the application of AI technology in various areas like translation of documents, legal research and process of automation.

There is an urgent need to develop a legal regime specific to AI in India.

[3]Rahim Dahiyat, E. (2020). Artificial intelligence and law: do we need thoughtful reconsideration? Colorado Technology Law Journal, 18(2), 351-392. P.253.

[4]Section 5101 National Intelligence InitiativeAct 2020 US

[5]http://www.ai.gov/legislationLEGISLATION AND EXECUTIVE ORDERS - National Artificial Intelligence Initiative (ai.gov) accessed on 18 January 2022

Figure 2: Seven Principles of AI Implementation.

Results

In this analysis review, the artificial intelligence with IoT and law, the performance evaluation factors are considered in terms of percentage AI related with its law governance and policies.

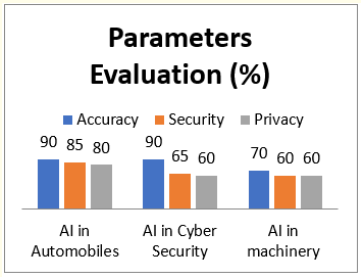

Figure 3: Parameters Evaluation Chart.

Based on metrics of performance factors, the figure shows the values in terms of accuracy, security, Privacy level. From this analysis, AI in automobiles has best percentage in all parameters comparatively with AI in cyber security and machinery. The further work can be focused on impact of complete automation in automobiles with law.

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