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Ethical Artificial Intelligence - Does it exist?

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Abstract

This paper delved into an ethical analysis of various applications of artificial intelligence (AI). It covers the application of AI in different sectors viz. healthcare, finance, manufacturing, automobile, and defense. In every industry, the questions and concerns that AI raise are discussed. Many times, actual events are cited as the evidence of the argument – which is noteworthy. It is argued that the ethical implementation of AI is not practical as of today. Though achievements of AI are embraced and admired, the paper concludes by stating that it is not possible to enforce ethics in AI with today's technology. The paper also calls for action to hold strict governance to AI advancements until the ethical implementations are enforced.

Keywords: Artificial Intelligence, Ethical AI.

Ethical Artificial Intelligence - Does it exist?

Machines are replacing human beings increasingly. The strongest areas where humans still win are intelligence and creativity. But, how long can it last? It is a proven fact that machines can have intelligence and be creative. The victory of an AI program from IBM - Watson in the TV game play – Jeopardy in 201, is a good example of how AI defeated humans in language-based creativity (Palmer, 2011). The victory of another AI-system - AlphaGo over 18-time world champion Lee Se-dol in the game of Go in 2016 is another example of how machines beat human beings in intelligence (Vardi, 2016). With all these technological advancements in the field of AI, there remains a big question. When machines replace human beings in critical decision making, how will we make sure that these decisions are ethical? For example, the tech giant, Amazon, had to terminate its AI recruiting tool because it showed bias against women candidates (Daslin, 2018). Undoubtedly, artificial intelligence is a giant leap in technology. However, it is impossible to enforce ethics while implementing AI.

One of the key areas of focus for AI where ethics is a big question is healthcare. Even without being intruded by the AI, it is a challenge to enforce ethics in healthcare. This is the prime reason for the Hippocratic Oath that every physician would take before starting practice. Can we make a machine to take such an oath and expect it to uphold the same (Hosny et al., 2019)? When it comes to healthcare, it is crucial to ensure that clinical decisions are made in such a way that human life and well-being is given the highest priority. However, as AI-powered machines use dynamically generated logics to make decisions, these logics can be unethical or even lack basic morality. AI, as of today, favors a universalism approach. But, for healthcare as a service, principles of social and cultural relativism are the backbones - which AI will fail to support (Ashrafian, 2015). Additionally, data privacy and security for sensitive patient data will not be guaranteed in an AI driven healthcare era.

The privacy of enormous amounts of data that are used to create AI machines is another major concern. Machines can only be as intelligent as the quality and quantity of the data that it uses to learn and build itself (Siegel, 2018). In the pursuit of creating more intelligent and creative machines, tech giants have

entered into a new and dangerous competition of gathering and acquiring large sets of personal, protected, and private data. "Google's NHS data deal" (2016) was one such incident that triggered many controversies. The deal that was made in 2015 between Google and the U.K.'s National Health Service (NHS), gave Google access to private health information of over 1.6 million patients. This was alleged illegal by many British regulators (Kharpal, 2017). Researchers and early adaptors of autonomous driving vehicles are also accumulating huge amounts of personal data including driving habits, routes, and frequently visited places of individual drivers. They have no governance on how and when this data can be used. Although many laws and regulations were enacted like Privacy Act of 1974, The Right to Financial Privacy Act of 1978, and The Children's Online Privacy Protection Act of 2002 ("U.S. Privacy Laws," 2017); they have proven insufficient and lacked reliable methods of enforcement.

The field of autonomous vehicles is more advanced than any other AI applications. In fact, they are technologically ready to hit the road (Nath & Sahu, 2017). However, it uncovers another set of legal, moral, social, and ethical problems with AI. What should an AI driven vehicle do when it has to make a decision on prioritizing one life over another - typically referred to as a Trolley Case Situation? Who will be legally responsible to pre-authorize such an intentional killing by AI (Santoni, 2017)? Recently, there were multiple incidents of videos surfacing on the social media with sleeping drivers behind the wheels of semi-autonomously driven cars (Brown D., 2019; Brown L., 2019). The automobile manufacturer was legally obliged to prevent these situations. Intentionally or not, it is evident that they failed to enforce the regulatory requirements. In the United States, autonomous vehicles will take out approximately 10% of the jobs, which will be a significant disruption to the economy (Vardi, 2016). It is essential for the leaders of AI research to have social awareness of these implications and consider the regulatory requirements as an ethical necessity and not a hindrance to their business.

The manufacturing sector is probably the most impacted with the intrusion of AI. As AI opens up endless possibilities for business automation, and tasks that needed creativity, learning and implied judgements, that were once thought to be impossible to automate, are now being automated with the use of AI. Researchers in the field of business, who usually embrace the outcomes of technological advancements, are expressing the ethical concerns over AI. Research by Wright and Schultz (2018) of Providence College, RI, analyzes the impact of AI driven business automation based on two theories - the Stakeholder theory and the Social contracts theory. Of which, the latter even demands the need for a compromise on the rational correctness of AI, for a greater good of the society. They call for an ethical framework to be developed around all AI implementations, without which there would be severe impact to the society and the economy.

Wall Street is not far behind in adopting AI based technologies. One of the main activities where the AI is already making decisions for a financial institution is the credit analysis. It is also one of the main areas of concern for the critics of AI. If a tech giant like Amazon couldn't prevent its AI recruiting tool from being biased (Dastin, 2018), what is the guarantee that an AI powered credit analysis tool is not showing a bias against gender, race, or country of origin? The investment firms are looking up to the AI technologies to make market predictions and decisions for investments (Patterson, 2010). Are we paving the way for an economy where machines decide bulls and bears? It also means those who can afford the capital of the best AI system will dominate the market, thereby increasing the financial gap further between the upper and lower ends of the society.

Ethics usually don't have a fair share in the warfront. That raises more concerns as AI begins to drive the warfare. The defense sector already deploys AI in various ways including autonomous drones and Lethal

Autonomous Weapons (LAWs). LAWs are more threatening because they are being designed to search and engage targets on their own - without any human oversight (Ostvold, 2016). An AI driven warfare could be more dangerous due to two main reasons. Firstly, as being feared by the critics, AI has the potential to take control and protect itself even from human intervention. If a semi-autonomous robotic cannon can go out of control and kill nine friendly soldiers in 2007 (Shachtman, 2007), the potential harm of a rogue AI system out of control is unimaginable. Secondly, an AI system, being vulnerable to cyber-attacks, possess a huge risk of powerful and lethal weapons ending up in the wrong hands. The CEO of Tesla and SpaceX, Elon Musk have repeatedly stated that the AI is more dangerous than nuclear weapons (Clifford, 2018). Despite the risks, AI has become the prime focus of defense programs around the world. As of now, China leads the AI arms race, whereas United States is getting close with its $10 billion Joint Enterprise Defense Infrastructure (JEDI) contracts with the tech giants like Amazon and Microsoft. (JEDI orders, 2019). According to a report on Business Insider, Google decided not to militarize its AI capabilities further and dropped itself out of the JEDI contract. There was also a mention of a petition from approximately 4000 employees of Google to stop militarizing its AI capabilities (Chan, 2018). We may not be able to control machines on the warfront in future; however, like those 4000 Google employees who stood for an ethical cause, we may be able to delay further weaponizing of the AI, until it meets a benchmark on ethical deployment practices.

Despite the ethical concerns, AI is inarguably a masterpiece in the world of computational engineering. In healthcare, AI has empowered and augmented physicians to save more lives than they could do otherwise. From personalized medicines to digital twins of patients (Bruynseels, De Sio, & Van den Hoven, 2018) – where a surgeon can even try a procedure on the digital twin of a patient, without any risk of wrong doing on the actual patient. The manufacturing industry is more productive and efficient with AI. Autonomous vehicles have proven to be safer than human drivers on the road (Jurgen, 2013). Wars bring home fewer coffins because the machines do their share. No matter which industry we assess, there is no denial of the fact that AI has the potential to save human lives (K.R., 2017). However, these advantages are insufficient to be an excuse for the lack of morality and ethics. The fact that AI is so advantageous and has the potential to be deeply rooted within all industries in the near future, is also the strongest reason why it should enforce ethics and moral behavior in AI.

As the saying goes, rights and responsibilities are two sides of the same coin. Whoever *or whatever* that has the right to make decisions that affect human lives, should also have the responsibility to do so in a moral and ethical manner. The human race cannot and should not overlook the advantages of AI. However, we should not replace but augment the human brain with AI. Though the scientists, researchers, and engineers in the field of computational engineering have tried their best, it is evident that there is no established methodology today, that can immutably integrate ethics into artificial intelligence. It needs less thought to conclude that, even with all the ameliorations that AI is bringing to the human kind taken into consideration, unless and until it is proven otherwise, and ethical behavior is enforced on all of its applications, advancements in AI should have a checkrein. It is worthwhile to be remember that the constitution of this great nation begins with “We, the people” and not *machines.*

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