Role of Ethics in Artificial Intelligence

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ABSTRACT

This paper provides detailed understanding about the role of ethics in artificial intelligence. The author will be dealing with the given title by dividing it into two branches: roboethics and machine ethics along with their moral values and role in technology. In the roboethics section, the author clearly explains about the characteristics and behaviour of a robot and the problems caused by it and how it poses as a threat to human beings. In the second part, the author differentiates between roboethics and machine ethics. Machine ethics only refers to computed machine which are designed by humans and their moral behaviour.

Moreover, the author has discussed in detail about societal moral values of artificial intelligence and how it tends to threaten human and future technology in terms of philosophy and law. Only moral values and the ethics behind the technology governing the artificial intelligence exists in the present and there is no law to formally punish crimes that deals with AI. To revolutionise the current scenario, the author widely takes the topic into several dimensions regarding governance and other ethical aspects of artificial intelligence. One way to overcome the difficulty in governing artificial intelligence, as suggested by the author, is to obtain patents for the inventions and eventually this would fall under the category of intellectual property rights. Many countries like the UK, USA and Japan have proposed to include artificial intelligence under intellectual property and this process is in progression. Few other countries are at the developing stages for devising laws that concern artificial intelligence, because this branch of engineering is an emerging one.

By moving on to the second part of this paper, the author describes AI's influence on human race. The super intelligent machines created by a human may put an end to another human's life. Next comes the issue of employment disability which will be illustrated elaborately. This paper concludes by reviewing both positive and negative aspects concerning AI: how it aids in improving technology and bringing a developed society and how it steals jobs that employed humans and the danger it causes

Keywords: *roboethics, machine ethics, artificial intelligence, employment, intellectual property.*

INTRODUCTION

The ethics of artificial intelligence is divided into two main branches: roboethics and machine ethics and along with the moral values and role in technology. The first branch which is roboethics in the roboethics the moral values and behavior of the robot and artificial machines and the second branch is machine ethics which will be based on the computed machines designed by humans and their ethics. Begin with the artificial intelligence and robot development and history, and wide concept behind the hierarchy of development of robots and AI. The roboethics and machine ethics are differentiated based on the moral values and behavior in terms of corresponding accomplishment of work. To govern the ethics of AI and robots the law must be recognized in society. The legal scenario on the subject matter of the ethics turns out the issues and protection towards human and robots. Discussing issues relating the framework of law many countries and relating various specialization of laws to govern the ethics of artificial intelligence. And comparing the significant government motion on regulating legal provisions and bringing AI and robots under the legal circumstances and coded. The final section on ethics of artificial intelligence takeover brings to an assumption towards the future over threat

and fear of domination of AI and other machines. Regarding the artificial intelligence takeover, the positive aspect can only be set for modernized development of society, whereas the negative aspect of takeover brings the human into extinct. Many more issues arisefrom the negative side of the takeover, the situation of unemployment and the decline of the economy and exist of socio-culture activities. Atlast the country is under the severe dominance of artificial intelligence. The human beings will relay on artificial intelligence which projects the takeover of artificial intelligence and robots. Considering the both factual aspect of artificial inelligence makes biased situation around the world, expolitation of technology makes the human being obsolete. Finally giving the overall assessment on role of ethics in artificial intelligence.

HISTORICAL DEVELOPMENT OF ARTIFICIAL INTELLIGENCE AND ROBOT

ROBOTS: The word "robot" was introduced into the English language in 1921 by the playwright Karel Capek in his satirical drama, R.U.R (Rossum's universal robots)[1]. In the play, the characters resemble like robots. Initially, the robots are made on the profit motive for the replacement of human workers. The industrial robots can be traced to the period following World War II. During late 1940 the robots were the slave type, they designed to guide on motions. In the mid- 1950s the industry groups replaced by electronic and hydraulic power[2]. At the same time, the key manipulators introduced for inserting programs on robots to carry out various tasks.

In the late 1960s, McCarthy and his colleagues at the Stanford artificial intelligence department designed like human and demonstrated and recognized spoken messages and other works according to the instruction. Meanwhile, Japan and its surroundings begin with industrial robots. In early 1968 Japanese Kawasaki industries negotiated the license for the robots usage[3]. When the unusual development occurred during the year 1969, the American army made a computed truck. In 1974, Cincinnati Milacron introduced its first computed controlled robots. Called "the tomorrow tool" or T, it could lift over 100lb as well as the track moving on the assembling line in the industry. During the 1950s a great research work which is focused on the external sensors to accelerate

manipulative operations. At Stanford Bolles and Paul [1973], using the demonstrated computed controlled for assembling the automotive water pumps. Will and Grossman [1975] IBM developed the touch and force machines for the assembling unit in the industry. Inoue [1974] at the artificial intelligence laboratory worked on the artificial intelligence aspects of reactions to the landfall navigation in the assembly task. Bejczy [1974], at the jet propulsion laboratory, developed the computer-based torque technique on Stanford for outer space exploration projects[4]. After [1975] the robots developed and occupied in other places. The automated robots are still at developing stage. Today, we view the robotics as a much broader field of work than we did just a few years ago.

ARTIFICIAL INTELLIGENCE: the first work which is now generally recognized as artificial intelligence was done by Warren McCulloch and Walter Pitts (1943). They drew three sources: knowledge on the basic of physiology and the function brain neurons; a formal analysis on the propositional logic due to Russell and Whitehead; Turing's theory of computation[5]. They proposed the artificial neurons which each neuron characterized as "on" and "off". When it turns ON the neurons state responding and simulate with other neurons.

The birth of artificial intelligence (1956) the influential figure in artificial intelligence, John McCarthy. The McCarthy and other U.S researchers interested in developing the neural nets, and artificial intelligence. They made several computed intelligences and displayed on their workshop of their college. In the year (1952-1969) between this year's made enthusiasm and great expectations. Many researchers went on developing the theories of mathematics and constructed a geometry and made the college students play and learned on computed machines[6]. In the year 1959 the computed machines are programmed and made the students and research scholars to design and calculate the problems relating to the mathematical problems, with the programmed made the crucial development of artificial intelligence. In the year [1987] artificial intelligence becomes a science the real-world application toward the artificial intelligence, made the toy example s into

[1] Fu, K.S., Gonzalez, R. and Lee, C.G., 1987. *Robotics: Control Sensing. Vis*. Tata McGraw-Hill Education.
[2] Ibid
[3] Ibid

[4] Ibid
[5] Russell, S., Norvig, P. and Intelligence, A., 1995. A modern approach. *Artificial Intelligence. Prentice-Hall, Egnlewood Cliffs, 25*, p.27.
[6] Ibid

real intelligence on institution and other places So the situation led to the isolation of the technology and made them abandoned. Judea pearl's (1988) the artificial intelligence systems led to the new acceptance on the decision on reasoning making theory of AI. Work by Judea pearl and by the Eric Horvitz and David Heckerman promoted the idea of the reasoning theory and the systems problem solving[7].

In the year [1995] emergence of intelligent agents encouraged all the researchers to research in field of artificial intelligence. The work of Allen Newell, John Laird, and Paul Rosenbloom best known example of the complete artificial intelligence agents architecture. The artificial intelligence embedded in real environments from web based to everyday application of human works.

AI created a rebellion over the other field. As David McAllester (1998) put it the philosophy on the methodology were the beginning of intelligence made the computed machines obsolete[8]. At present the artificial intelligence had an extraordinary growth and made human being much potential. The AI has been drawn into much closer to other fields. the AI is still in developing stages. The world yet not faced the autonomous growth of the AI.

ROBOETHICS
The roboethics is different from human ethics, human ethics which is based on the moral agent and subject to moral behavior. Whereas roboethics which are made by human and it as its own ethics which does not fall under moral agents they are called as artificial moral agents. In the branch of roboethics the character of the robot and other functions of the robot is varied from the human characteristics. The roboethics is a study of robot nature and behavior of the robot as per the command. So, every robot is pre-programmed according to the condition of the robot work and order given by the human. The next part was the question arises whether the robots are performing under their ethics by the order of human? The robots are not moral agents they have no perception of the society and the social values and human nature. The robots are pre-programmed, so they cannot think and act like a human even though they more intelligent than a human, but with regard to the changing circumstances, they can't act like a human. The

primary roboethics is something that will prevent robots, and other autonomous technologies from doing harm, and secondary something that resolves the ambiguous moral status of robot agents. The robots are generally casual agents or part agent, they are against moral[9].

The second part of the roboethics, the main question arises whether the robot is treated as moral agents?[10] By arguing on the one side of the roboethics as include its moral character, the robots will think more than a human could think. The robots are pre-programmed on basis of information regarded to the human behavior and nature, so they can be called ethical moral agents. By arguing on the other side of ethics of robot, by taking the current situation the robots don't have the capability of ethical moral values. They can think like a human but they can't act like a human on the aforesaid the humans are moral agents they know the values of society and moral values of the culture. Humans go over this way from the very first humankind. The technology is developing day to day. So, the current situation will not make any change over to the ethics of robots. By forecasting the same situation into the future there will be dominations of robots. So as part of the question the answer could be robots are not treated as moral agents. We can refine our conception of ethics and morality in order to come to terms with the development of new technologies with capacities that increasing approach to human actions. But there is a problem of increasing the human actions and nature of humans in robots will lead to humankind. They tend to dominate and destroy the human race. So, as per the suggestions of the many scientists, the robots should not exceed its robot ethics, where they should not fall under the character of a human.

The third part of the roboethics which is a robot and human responsibility towards society and activities. The robots are not intentional but they don't have the perception to think on situations, humans are intentional they act according to the situation. The social interaction will be less and the robots do not cooperate with the society.

The final part of the roboethics which the ethical issues in the roboethics in the society, by comparing

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[7]Ibid
[8]Ibid

[9]Asaro, P.M., 2006. What should we want from a robot ethic. *International Review of Information Ethics*, *6*(12), pp.9-16.
[10]Sullins, J.P., 2006. When is a robot a moral agent. *Machine Ethics*, pp.151-160.

the current situation and the upcoming future generation rather face more difficulties in the society. The first which is dual use of the technology where they can be used and misused, so relating the first issue with roboethics the robot can be used in a normal way by going under the order of human who created the robots. Whereas the robots can be misused and may lead to several consequences, the robots will work by the command given by operator as humans so the operator gives any wrong command or intentionally programmed to do such thing which makes harm to the society and human. Robots are automated to do the work the interaction will be in the hands of humans. The second issue which is environment impact on technology where the development of technology the artificial intelligence tends to occupy more in society. The third issue is a gap between economy and technology whereas the economy and technology are on the equal distribution level then there will be a constant growth if the economy is greater than the technology then the world will be on the earlier stage. Giving the equal distribution to the technology the economy can grow with the help of technology. The fourth issue of roboethics which is there is transparency because the robots are codes and not only the robots and other computer machine and technology instruments are also coded by the way of much coding the designed humans can easily enter into the database of the computer applications, were there is no secrecy maintain and the control can be easily changed. The third party can get accessibility over the robots[11] the concept of roboethics is at the developing stage so as aforesaid statement will not have a mere conclusion over the development of roboethics.

MACHINE ETHICS

What are machines anyway? The machines are separate parts which constructed the function of the given work without human interaction; the motors, gears and all parts part which is wholly consider to be a machine. The machines perform only single way function whereas the robots can be programmed to perform many tasks. The successive development of machines made machines modernized into "virtual machines"[12], with regard to govern the machines many scientist and researchers profound machine

ethics. The machine ethics is the new field which concerned with giving machines ethical principles and moral values or procedure for discovering to resolve the ethical dilemmas they might encounter, manner through their own decision making. Why machine ethics needed? The excessive functionality in machines which led to the explosion of the mechanism, the behaviour of the machines will have pre-programmed and there is no surety for the actions done by the machines. After the [1950] the machines are implemented in industry rather which led to conclude in unemployment, but the production of goods is comparably high than the human effort over production. It becomes a burden to human beings the basic criteria of a labour get struck down by unethical principles. There must be a sustainable ethics between the human behaviour and machine behaviour. The machines cannot function autonomously it need the humans for the casual intervention. There is a possibility of getting harm to humans by machines behave in certain manner. The mere example will be food industry labour who work in the heavy machine-like grinder and scrapper, the labour who inspect the machine for the production without knowing they fell into the machine, machine on its own ethics and programmed it will grind the human as material in production. It orders to reduce the deaths and harm to the labours, the machine ethics should be controlled and protected. In contrast the machines in the computed manner they can be private by third party. By taking the step into the moral reasoning behind the ethics, according to the early philosopher Immanuel Kant in the mid-twentieth century profound in progressive thinking of "Action-based ethics" it reflects the implication machines towards the action on its act. The ethics are governed by action-based. In words of Jeremy Bentham towards the action-based theory as utilitarian theory "the rules and procedures should be implemented on particular concern to avoid conflict"[13]. Applying the utilitarian theory in implication on computer algorithm code, were in other context by Jeremy Bentham before making such rules and procedures bring the "good" and "bad" to the situation, were the law is made upon on the good and bad. so, applying the proportion to the machine coded with algorithm by defecating good and bad[14]. The algorithm is computed to machine for function

[11]Veruggio, G., 2006, December. The euron roboethics roadmap. In *Humanoid Robots, 2006 6th IEEE-RAS International Conference on* (pp. 612-617). IEEE.
[12]Anderson, M. and Anderson, S.L. eds., 2011. *Machine ethics.* Cambridge University Press.

[13]Anderson, M., Anderson, S.L. and Armen, C., 2004, July. Towards machine ethics. In *Proceedings of the AOTP'04-The AAAI-04 Workshop on Agent Organizations: Theory and Practice.*
[14] Ibid

then moral issues between the human and machines will reduce. The main disadvantage is to the code which makes a partiality over the actions so makes discomfort to the human to perform. Next there will be uncertainty to compute the code, because there will be alternate situation occurs several times the machines cannot perform two or more situations at a same time, thus it results to a consequence at any level. The consequences may be temporary nor permanent its in the hands of domain user. To struck down the consequences of machine by implying the approach of "reflective equilibrium" given by Rawls [1951][15], mere intuition by human beings on situation reflect the situation and solve the situation to end up with consequence. Take the same situation to the machines compute with the reflective situation then test the machines according to the situations it makes the machines stronger on the alternate situations. The Ross theory can be the only way to govern the machines in the moral ethical manner.

AI AND LAW

Every human being is governed by law and the law is created for the safety enhancement for the people who live in the society, and to control the crime. From the ancient days till now the peoples are governed by law, so if any person commits a crime then he will be punished under the law. And if any person is affected or caused damage by another person he may get compensation under the law. the artificial intelligence is made by human beings as the artificial intelligence have the sameintelligence as human, but they are not governed by any laws. The artificial intelligence must be governed according to their ethics. Till now there is no law for governing and controlling the artificial intelligence. Many countries are trying to make a law to govern the AI, still many countries are developing stage. countries like India and other eastern countries still artificial intelligence is an emerging one.

The artificial intelligence should be governed by law. they should have separate law and entity because the upcoming future there will be an increase of artificial intelligence so in need to control the machines the appropriate law should be implemented. In the year 2016, the UK, commons science and technology a committee submitted a report regarding robotics and artificial intelligence regulation of ethics. And the further movement of the government is set to have a debate over the regulation of the artificial

intelligence.[16] So, the pending regulation before the government where are we in relation to the intellectual property. And currently in the UK is beyond on its works.

The intellectual property is what giving a copyright to the computed machines to be get regulated. There is a little discussion is going on regulations and many other countries are struggling to make regulations for theUS the copyright has been recognized for the machines and their work is eligible for copyright. In 2016 the US government made an infringement regarding the copyright of the artificial intelligence in the infringement the author who made the machines, as well as the computed machines, will not be recognized and it is not eligible for the copyright. And there is no law regarding the copyright of the artificial intelligence and many other lawmakers cannot include the artificial intelligence in the subject matter of labor law. over Japan, the government's in 2016 does not create any copyright law and government stated that yet to be made in 2017, but the current situation on Japan is going through till the copyright is not implemented.[17]

The question arises whether the artificial intelligence can be patentable? The patent which is relevant to the field of artificial intelligence. And the computed machines are an invention. The matter of the patent is going through several countries which are set to the discussion as to whether the invented machines are to be patented.

Taking away the intellectual property and the legal implications as to who is liable and omissions for the act of artificial intelligence and robots. In 2017 many countries are trying to manipulate regulations for the AI. In the beginning of 2017 the report from MadyDalvaux if the robots should have given legal rights and status as an electronic person, the EU principles of this report include the robot may or may not injure the human beings through the action to harm.so, the command from the human being should be protected against the conflict between both and others. In 2017 the countries like US UK Japan were set to make legal implications for artificial intelligence in intellectual property in the UK they added the complexity of Brexit such EU laws deal with AI. India is a developing of artificial intelligence

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[15] Ibid

[16]Walker-Osborn, C. and Chan, C., 2017. Artificial Intelligence and the Law. *ITNOW*, *59*(1), pp.36-37.
[17]Ibid

and they are emerging one with other countries. Indian laws are not efficient enough to scrutinize and to regulate the intricacies of artificial intelligence. The "artificial intelligence" laws are in its developing stage for it to develop in entirety.

ARTIFICIAL INTELLIGENCE TAKEOVER

Will AI takeover the world? Probably we are towards future of artificial intelligence. Everyone knows the artificial intelligence is the most powerful machines in the world in terms of capable knowledge more than human. So as far the growing capacity of AI they in turn control human, after the 2050s the AI will become a crucial part of human life. The AI tries to dominate the humans so foresaid statement they are more capable than human, they can go apart from the human brain. according to the current situation the artificial intelligence is still at developing stage, the same condition will not prevail at future. There will enormous development of artificial intelligence and the moral values and ethics of artificial intelligence will become extinct. From the past decades, the artificial intelligence and machines are taking over the human aid works. From the industry to the office and from the educational institution to the home they played a vital in human life.so, everything is under the control of AI. Many inventions made by humans made them weaker. Now a day there are many unemployment problems across the country. Industries have modernized into machines there are no human aid works and in several places, the human aid works don'texist. The positive aspect which is the development and modernized society behind the positive the negative which those modernized machines and further development of technology made human disappear and brings the world without the human. The problems cannot be solved because there is a law for governing the machines. In a futuresituation, there will be issues around employment, destruction of the economy and there will no monetary economy and totally will be the influence of machines. It takes more decades to deal the issue on machines. According to many researchers and scientist, the upcoming years the artificial intelligence must control the human. By differentiating the positive and negative, the negative prevails more than the positive. In positive we have only the development and modernized society and the moral value and behavior will be obsolete. In the negative aspect, there will be the end of human race.

After the takeover, the works which are done by humans will be done by advanced AI. And the white-collar crime will be increased by taking the tasks as automation. And there will be no human interaction between them, the economyslows down. As the result, there will be eradication which concludes the human extinction. The super-intelligent will take over the human necessary, and there will be no moral values and emotions to drive human beings. And there will be a destruction of the natural and human resource. The AI cannot recollect the resources from the humans. Without considering the fiction aspect the reality will prevail according to the aforesaid situations. The artificial intelligence doesn't have sexual emotions or sexual intercourse for the human reproduction, whereas the artificial intelligence is manufacturable.so, they can be produced more and more. Increasing of the artificial intelligence leads to imperative loss of humanity and its core values in the long run. AI is programmed to execute acomplex action in a predefined and in a controlled environment. It cannot replicate human behavior and ethos, which ultimately leads to thedestruction of cultural values. Technology is a supplement to human effort and it cannot replace human affairs.

CONCLUSION

AI is the first step to the next industrial revolution. The industrial revolution was the forefront reason of the emergence of various social ideas such as Communism and Capitalism which eventually led to high-economic inequality. With just over 1% of the world's elite controlling a majority of the wealth, the Industrial Revolution cannot be held responsible for such inequality. It is after this Revolution that the masses found their daily needs affordable. The impact of the Industrial Revolution could not be predicted. Likewise, it is highly premature to predict the consequence of AI and its impact on our lives in this dynamic world.

With growing fears of privacy, abuse of digital media and technology by non-state actors have paused us to think whether reliance can be placed on technology. However, AI can be a shot in the arm for developing countries to achieve high rate of productivity by minimal use of resources. This is relatively a new dimension that humans are dealing with and we would have found the answer of the role of AI in our lives by then. It is evident that in the near future, AI will be in the forefront of all fields of life to assist humans ranging from life-sciences to predicting our next card in Poker. AI will be an indispensable tool which

would further help the humans to leapfrog to the next Industrial Revolution.

The question now arises as to whether ethics, a human concept can be understood by AI. The concept of AI is relatively new. AI has slowly gathered momentum and the potential of the technology is not exploited to its maximum extent. With phones and speakers having AI, there is no doubt that we are heading towards an era of a New Industrial Revolution. Hence AI in the future may have fully understood the human perception of ethics. The possibility of AI creating its own perception of AI cannot also be ruled out.

There is a growing apprehension among the working classes that adoption of AI will lead to huge job losses. However, it is to be noted that AI cannot replace humans in all fields. Humans workforce will continue to dominate over AI.

The Author feels that AI is just a tool to aid human effort and it is hard replace human touch and ethos.

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