# Robot and Intelligent System Future and Ethics

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**Abstract:-** The world today is now better then we met it, research and advancement in technology has seen a tremendous increase and landmark achievements, yet all this achievements are far little compared to what we expect in the nearest future. With the developments of Machine that can understand natural language and perform many tasks that human can call intelligent, serious questions begin to rise. Will robots eventually replace human race? will robots and intelligent machine have human feelings in the future?, what will be the right of Robots in case they have feelings? what will become of human existence and need for human if robot can perform same functions as human?, this and more questions are what we need to answer with regards to moral conduct, legal and ethics to what effects robots will have to the society and human race.

Today, the aim of researchers of producing an intelligent machine has become a reality. We are indeed a witness to the great advancement of robotics as they can now mimic human thought and many other uncountable possibilities which were never considered possible many years back, this has led to an issue regarding if robot will outpace its inventor in the future. Find out general challenge, ethicist and lawyers view of where Robot and Intelligent System will take human race in the near future and what conduct and obligation do human and Robot owe to each other.

**Keywords:** Intelligent System, robot and artificial intelligence.

## I. INTRODUCTION

Although artificial intelligence is a branch of Computer science, it goes beyond this; it includes machine vision to expert systems, in addition to philosophy and physiology.  But they all focus on a common goal, which is to produce a machine capable of doing tasks which humans regards to be intelligent.

With the rapid developments in robotics, there is need to create a ground upon which scientist, the robots designers and developers, will work in harmony with ethicist and lawyers, as regards to the future of robots.

Through committed research, Artificial Intelligence (A.I) has seen much more development, from many researchers to thousands of engineers and specialist, from programs that can play chess to systems capable of diagnosing disease and proffer solutions and drugs prescriptions accordingly [1] and soon the prediction of robots that can be more intelligent than the inventor will be a reality and when this happens, ethical issues will come to play.

The existence of computer science, word processor, computer interface and advance level computer language has solemnly depends on dedicated research in the field of Artificial Intelligence (A.I) [2]

Definitely the future of computing will be determined by dedicated  research into Artificial Intelligence (A.I), like I said earlier, much will been seen in the near future as Robot and Intelligent System will continue to impact and always effect our society, lives and carrier, bringing imaginations and predictions to reality.

## II. ROBOT AND INTELLIGENT SYSTEM IN THE PAST

Robot and Intelligent System can be traced back to ancient Egypt and Greek mythology, then the classical philosophers tried to describe the human thinking with mechanical manipulation of symbols, this was the initiation of modern A.I.[3] but with the creation of computer in the early 1940's the technology is now available to create intelligent machine. Artificial Intelligence (A.I) which was first used in 1956, at Dartmouth conference [4], and since then Robot and Intelligent System has seen much advancement as a result of its dedicated researchers.

Although Robot and Intelligent System has not been as fast as predicted, yet there has been much achievement after its birth some 50years back.

The link between human intelligent and machine was actually first observed in early 1980's with the principle of feedback of thermostat, by Norbert wiener in which he observed the feedback in temperature [5]

Robot and Intelligent System moved a little further to 1955, when Newell and Simon developed the logic theorist, which is considered by many as the first Artificial Intelligence (A.I) program. [6] The progress of the logic theorist contributed a lot to the advancement and improvement in the field of Robot and Intelligent System

John McCarthy, which is regarded as the father of Artificial Intelligence, further took Artificial Intelligence to next level when he organized a conference to draw experts and others interested in intelligent machine for a month of brainstorming in 1956.

The outcome of this conference did lay a foundation for the future research on Robot and Intelligent System As time began to go, Robot and Intelligent System started to make much progress and new idea and challenges which is to create a machine that can efficiently solve problems and learn on their own became the focus of every researcher. [3]

The first version of new program, which is known as the *General Problem Solver* (GPS) was tested in 1957, this program was the extension of wiener feedback principle, the program was capable of saving greater problem to the extent of common sense!, [7] this program was really great breakthrough in the field of Robot and Intelligent System it also made Robot and Intelligent System to gather much momentum

Another major breakthrough in Robot and Intelligent System history was in 1958 when McCarthy developed (LISP) which is still in use today. The LISP programming language was adopted by most Artificial Intelligence (A.I) developers. [8]

In 1970's further achievements in the field of Robot and Intelligent System was made, which is the development of expert system capable of predicting probability of a solution under set of rules and conditions. Since then there have been so many advancement and achievements in the field of Robot and Intelligent System including the development of PROLUE language in 1972, Minsky's frame theory of Fuzzy logic in 1980's [9] and many other land mark achievements which brought A.I to what we have today.

## III. ROBOT AND INTELLIGENT SYSTEM TODAY AND ETHICAL ISSUES

Ethical questions regarding robots have been on people's attentions since the word 'robot' was dubbed in the 1920s. Isaac Asimov before now was thoughtful about these problems since in the 1940s,

when he developed his well-known "three laws of robotics".

He contended that Robot and Intelligent System should all be programmed to obey the following three laws:

- A robot may not injure a human being, or, through inaction, allow a human being to come to harm

- A robot must obey the orders given it by human beings except where such orders would conflict with the First Law

- A robot must protect its own existence as long as such protection does not conflict with the First or Second Law

Since then Robot and Intelligent System has evolved into a more intricate nature both in design and in development, the impact of and Robot and Intelligent System has been felt in our very day life; there have been much advancement in the field of Robot and Intelligent System, which have been seen in the society, in our jobs, and education, although much is expected in the near future, than what we have at present.

As Robot and Intelligent System advances, ethical questions are raised. Consider some of the achievements of dedicated researchers in the field of Robot and Intelligent System have brought to reality today.

**Speech Recognition** Intelligence Machine has been created today to recognize human speech, starting from 1990's till date speech recognition has been put to test and found to be working, most airline in US and other countries now uses intelligent machines of speech recognition for flight and city names, indeed this was a great achieve in the field of Robot and Intelligent System giving more hope of what to be expected in the near future

**Natural Language Understanding** Some Intelligent machine today can understand Natural Language to an extent, although much work and research are still needed to perfect the idea, yet, some intelligent machines can now understand English language, nevertheless where we are today were never considered possible some 6 decades ago.

([http://news.bbc.co.uk/2/hi/6432307.stm](http://news.bbc.co.uk/2/hi/6432307.stm))

Fig. 1 Robots have become more intelligent over the last decades

**Game playing**; today we have many Robot and Intelligent System programs and intelligent machines that can beat human best game player, an example is machine beating the world best chess game player, for a machine to beat the world best game player is indeed a great achievement in the world of Robot and Intelligent System and indeed a credit to dedicated researchers.

Today we have witness of robot as trading agents, which is now in the center of every event in exchange market, they have also been proven in most cases to be more effective the humans

**Computer Vision**; Intelligent machine today have the ability to see, and even go far beyond 2-dimenssion, which human eye can see, some intelligent machine today can see in 3-demension, this is the power of Robot and Intelligent System made possible by dedicated research

The society is gradually becoming Robot and Intelligent System oriented society, countries like South Korea has developed robots that can serve as prison warden in the country's prison system, thereby reducing work load for human and raising great concern of ethical issue of what can be considered appropriate use of Robot and Intelligent System to avoid over labor and slavery, since Robot and Intelligent System has been predicted as going to have human feelings in the near future

In fact there are more to Robot and Intelligent System that I cannot exhaust. Intelligent machines today can do many works which human beings consider intelligent, from disease diagnosis to drug prescription.

Intelligent Machines has been effectively used in many areas of human endeavor, in space mission, production, in aeronautics to mention only but few, indeed many year of dedicated research in Robot and Intelligent System has positively impacted our society.

## IV.    THE USE OF AI BY DIFFERENT COUNTRIES

Many countries have seen the need to invest in the AI; most of these countries make use of AI in one way or the other

Consider the below information gathered from mails sent to many countries (developing countries), regarding the overall application of AI as shown in the table below

TABLE 1.  ROBOT AND INTELLIGENT SYSTEM MAIL RESPONSE FROM SOME DEVELOPING COUNTRIES

| Region | Number of countries contacted | Number that responded | Number yet to respond | Percentage of response (%) |
|---|---|---|---|---|
| Africa | 20 | 16 | 4 | 80 |
| Asia | 10 | 7 | 3 | 70 |
| Latin America | 12 | 6 | 6 | 50 |

TABLE 2. ROBOT AND INTELLIGENT SYSTEM USE IN SOME DEVELOPING COUNTRIES

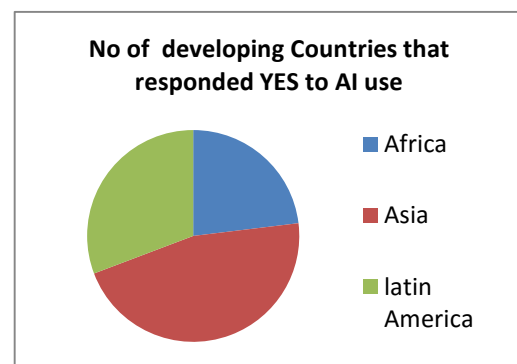| Region | Number that responded YES to AI use | Number yet to respond | Total |
|---|---|---|---|
| Africa | 3 | 13 | 16 |
| Asia | 6 | 1 | 7 |
| Latin America | 4 | 2 | 6 |



FIG 2. ROBOT AND INTELLIGENT SYSTEM USE IN DEVELOPING COUNTRIES BASED RESPOND GATHERED

While there are few countries that has adopted the use if AI, in developing countries, most developed counties have invested much in to research and development of AI, countries like south Korea, Japan

and many European countries has done much research in artificial Intelligent research

While there are little number of countries that make use of AI in developing countries, in contracts many developed countries seems to be moving to a more AI oriented society

**TABLE 3. ROBOT AND INTELLIGENT SYSTEM MAIL RESPONSE FROM SOME DEVELOPED COUNTRIES**

| Region | Number that responded YES to AI use | Number yet to respond | Total |
|---|---|---|---|
| Asia/Australia | 5 | 1 | 6 |
| Europe | 13 | 3 | 16 |
| North America | 6 | 2 | 8 |

Percentages of response from developed countries are more compared to developing countries

**TABLE 4. ROBOT AND INTELLIGENT SYSTEM USE IN SOME DEVELOPED COUNTRIES**

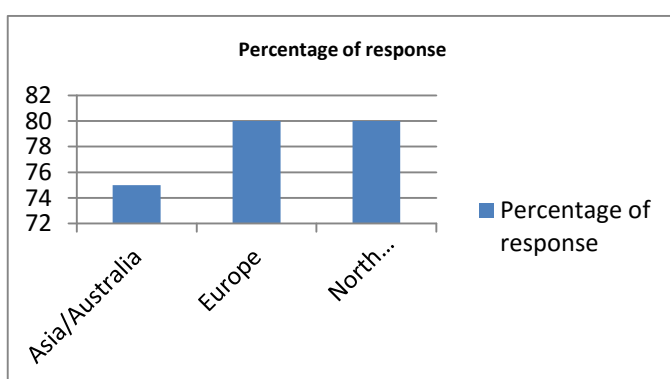| Region | Number of countries contacted | Number that responded | Number yet to respond | Percentage of response (%) |
|---|---|---|---|---|
| Asia/Australia | 8 | 6 | 2 | 75 |
| Europe | 20 | 16 | 4 | 80 |
| North America | 10 | 8 | 2 | 80 |



FIG 3. COUNTRIES THAT MAKE USE OF AI IN DEVELOPED COUNTRIES BASE ON MY RESEARCH

## V. OPEN CHALLENGES

Initially Robots and Intelligent systems was not designed for home use, but to be used in military, yet in recent years, a number of Robot and Intelligent System have found their way to homes in form of vacuum cleaner, toy for children; surely, the moral implications of machine slavery are one of the most intellectual ethical questions to be consider as their usage grows. Assuming a child got wounded while playing with a robot, who is to be blamed? The robot, and designer or the child? These are some of the moral issues that are difficult to address. Other ethical questions about machine labor is their impact on the society – certainly robots are going to replace humans being in many areas of work, thereby exposing human to serious social and economic problem.

Other ethical problems that are yet to be addressed are regarding how robots ought to be treated, will it be good to turn Robot and Intelligent System off? What extent of interaction can both human and robot have? Who will be in the best position to protect each other, these and many other questions and ethical issues are needed to be addressed.

While there are few countries that has adopted the use of Robot and Intelligent System, in developing countries, most developed counties have invested much into research and development, countries like south Korea, Japan and many European countries has done much research in Robot and Intelligent System

## VI. ETHICAL CHALLENGE TO THE FUTURE OF ROBOTS AND INTELLIGENT MACHINE

As advancement and much research in Robot and Intelligent System field continues, the world will see much more than what we have at present, in the near future we expect that Robot and Intelligent System will not only change our lives but will also do among others the followings

**Completely take Human Job**: In the next 30 years most companies and organizations will have more intelligent machines than human beings, these intelligent machines will take over from human beings, and this means that it will be a reserve of what we have today, where human beings are still more than intelligent machine in most companies and organizations, then a question will be raised, is it moral right to design robots that will make human being redundant and irrelevant?

**Replace Human Race**: Intelligent Machines will in the future tends to replace human race, when human being will decrease drastically or tends to extinct and intelligent machines takes full charge of human activities, then people will prefer to have an intelligent machine than a human being, just a Japan

is developing a robots that can serve as home maids. Then to what extent will the use of robot in homes be seen as over labor or slavery or even abuse?

**Ability to teach:** we expect to have intelligent machine that will have the capacity to teach another Intelligent machine, just like human beings do teach each other, such is expected to be seen in the near future in the field of Artificial Intelligence. What type of information will be considered moral right to pass unto robots or will Robot and Intelligent System be restricted to particular information?

**Right to life**: Time shall come when intelligent machine will need right to life, just like human have their right to life protected by law, the future of Robot and Intelligent System will tend to bring such right to reality. Then human beings will be required to respect the right to life of Robot and Intelligent System. We may ask, what will be considered as misapplication? Who will be held responsible, the robot, the designer or human? Will they be allowed to marry? What happens if one seeks divorce? Will they own property? These and many more are unending ethical issues which researchers must give intelligent answer.



(http://news.bbc.co.uk/2/hi/6432307.stm)

FIG 4. DAVID HANSON'S K BOT CAN MIMIC HUMAN EXPRESSIONS

## VII.   SUMMARY

As we live in a world of endless possibilities, things considered impossible are now much possible than expected, since the advent of Robot and Intelligent System through dedicated research, human race have found new ways of doing things, thereby giving hope that the future prediction of Robot and Intelligent System with human feeling and thinking will be a reality one day.

Today the many years of dreams of researchers to create intelligent machine is now reality, lot of task can now be undertaken my machines, thereby

making it intelligent as dreamed, In school, industry and the society have seen the growing impact of Robot and Intelligent System

Looking at Robot and Intelligent System from the past years to this present era, we have no option than to say that now is a fraction of what the future of Robot and Intelligent System holds for human race and Robot and Intelligent System ethics must be a subject of concern to everybody.

There a lots expectations in the field of Robot and Intelligent System in the near future, which may not all be mentioned, for instance intelligent machine in the near future is expected to outpace its inventor, being more smarter than humans.   Artificial Intelligence (A.I) holds more in the future than the past and present put together

In the next 50 years intelligent machines are expected to defeat a human team of footballers, in addition to that, intelligent machines are expected to have human feeling and emotions, all these are expected to come to reality, just a matter of time and dedicated research, we will see all this expectations to full reality. While we expect much from robots in the future, there is need to provide a ground upon which ethicist and lawyers will work in conjunction with engineers and scientists that designs and develops robots and intelligent machines, towards striking a balance to moral and ethical issues regarding robots and intelligent machines in relations to its inventor and the society.

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