

# HW: Survey Introduction of AI

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## ABSTRACT

**Artificial Intelligence:** In different perspectives, has been collecting a lot of different knowledge about how to emulate the human capacities and we have developed increasingly advanced systems. Robotics is an important part of artificial intelligence which with a mobile machines it has been achieved that the robots be able to interact intelligently with their surroundings and manipulate some objects too. Key concepts about artificial intelligence have been defined for greater understanding, knowing their origin and everything that their study entails.

## 1 DEFINITION OF ARTIFICIAL INTELLIGENCE

The term artificial intelligence stirs emotions. The central question for engineer (especially for computer scientist) is the question of the intelligent machine that behaves like a person. It becomes difficult to define the term artificial intelligence or AI simply. In 1955 John McCarthy (one of the pioneers of AI, was the first to define the term artificial intelligence as a discipline that it has the goal to develop machines that behave as though they were intelligent. [1]. Clearly the above definition is insufficient because AI has the goal of solving difficult practical problems. In the Encyclopedia Britannica we could find a definition that goes like the AI is the ability of digital computers or computer controlled robots to solve problems that are normally associated with the higher intellectual processing capabilities of humans [2]. But this definition also has weaknesses. According to this definition, then, every computer is an AI system. Also, we could find in a lot of searches that the AI is a subdivision of computer science devoted to creating computer software and hardware that attempt to produce results such as those produced by people.

## 2 HISTORY OF AI

Some systems for logical reasoning are based on the logic invented by Aristotle, a philosopher from ancient Greece who lived from 384 to 322 B.C. The most interesting aspect of Aristotle's work is his study of logic. He invented the idea of the syllogism, which he defines as a discourse in which certain things having been stated, something else follows of necessity from their being so. Since then, a lot of mathematicians and philosophers like Peter Abelard, Gottfried Leibniz, George Boole, Charles Babbage, etc. have contributed to what we know today of logistics and mathematics, a fundamental part of artificial intelligence. One of the great figures in the history of Artificial Intelligence is Alan Turing. At the World War II, Turing worked in Bletchley Park helping to solve the

German's codes. After the war, he began to work on the idea of the possibility of building a computer that could think. He invented a mechanism to know if we are talking to a human or a computer. In 1956, the term Artificial Intelligence was first used by John McCarthy at conference in Dartmouth College, in Hanover, New Hampshire. In 1957, Newell and Simon invented the idea of the GPS, whose purpose was to solve almost any logical problem. At this time there was a great deal of optimism about Artificial Intelligence. In 1958, McCarthy invented the LISP programming language, which is still widely used today in Artificial Intelligence research. The aim of the study of AI is no longer to create a robot as intelligent as a human but rather to use algorithms, heuristics and methodologies based on the ways in which the human brain solves problems.

## 3 ADVANTAGES AND DISADVANTAGES OF AI

According to Kaplan [3] there is a few advantages of AI:

- AI is more permanent as long as the computer systems and programs remain unchanged.
  - AI offers ease of duplication and dissemination. When knowledge is embodied in a computer system, it can be copied from that computer and easily moved to another computer.
  - AI being a computer technology, is consist and thorough.
  - AI can be documented.
- But there is also some disadvantages:
- The AI can cost a lot of money an time to build, rebuild and repair.
  - Is a questionable topic if it's ethnically and morally correct to have androids.
  - Storage is expansive but access may not lead to connections in memory as well as humans could.
  - Machines can easily lead to destruction, if put in wrong hands.

## 4 ADVANTAGES AND DISADVANTAGES OF NATURAL HUMAN INTELLIGENCE

Human intelligence is another interesting topic. We learn since we born, everything depends in our success or failures. The natural intelligence of humans have the advantages:

- Natural intelligence is creative, while AI is uninspired.
- Natural intelligence enables people to benefit from and use sensory experience directly.
- Human reasoning is able to make use at all times of a wide context of experience and bring that to bear on individual problems.

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But nothing is perfect in ourselves, we commit a lot of issues in our life, that's our way to learn correctly the things. Our natural intelligence is slowly compared to AI. If we let the time runs, maybe we can't access to some places in our memory. We can forget information, we don't have photographic memory that lasts a long time.

## 5 DEFINITION OF KNOWLEDGE

The term knowledge is used widely, but often quite vaguely within business administration. There are a large number of definitions of this term, but the principals are: A clear and certain perception of something. To understand, to learn. All that has been perceived of grasped by the mind.

## 6 INTELLIGENCE SPECTRUM

Many techniques leads to the conclusion that computers are not really intelligent. The computer receives information and instructions about how to use this information and also can come up with a solution. When that is done, typically a solution is achieved. The computers appears to be thinking but it is not true.

## 7 TURING TEST

The Turing test was designed by Turing as a way to judge the success or otherwise of an attempt to produce a thinking computer. More specifically, it was based on the idea that if a person who interrogated the computer could not tell if it was a human or a computer, then to all intents and purposes, Turing said, it is intelligent. The test consists in: The interrogator is given access to two individuals, one of whom is a human and the other of whom is a computer. The interrogator can ask the two individuals questions, but cannot directly interact with them. The questions are entered into a computer via a keyboard and the responses appear in the computer screen. The human can give answers such as "I'm the human, the other one is the computer" but also the computer can say this. The real way in which the human proves his or her humanity is by giving complex answers that a computer could not be expected

to comprehend. Turing's test has resulted in a number of computer programs that were designed to mimic human conversation.

## 8 INTELLIGENT BEHAVIOR

Is that behavior which is at the same time effective and varied, it is examined the relationship between an intelligent performance and the performance at a level of functional aptitude of behavior. This relationship lies in the fact that the more complex is the individual's level of performance, the greater is his or her possibility to transfer an effective behavior to novel situations, accomplishing this way the variety criterion.

## 9 INTELLIGENT AGENT

An Intelligent agent is concerned with development of autonomous computational of physical entities capable of perceiving, reasoning, adapting, learning, cooperating, and delegating in a dynamic environment

## 10 CONCLUSION

The AI is a interesting thing to study, it's the future of the humanity. In the past, we believe that it can not be possible do things, like listen music in a machine, use computers for medicine, translate any language easy and quickly. The AI will help us to do a lot of things, support the science, education and our lives to be more easy. But it can be dangerous too, we could destroy our human skills because we make some dependence to our technology, weapons or some illegal stuff to harm the others.

## REFERENCES

- [1]J. McCarthy. Artificial intelligence, logic and formalizing common sense. *Philosophical logic and artificial intelligence*, pages 161–190, 1989.
- [2]B.J. Copeland. Artificial intelligence. *Encyclopedia Britannica, inc.*, 2019.
- [3]Kaplan J. The industrialization of artificial intelligence: from by-line to bottom line. *AI magazine*, 5(2):51–51, 1984.