

# **AI And Ethics of AI**

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## **1. Introduction to AI**

The use of AI began in 1950, although the word 'artificial intelligence' was coined by John McCarthy in the 1955 term "artificial intelligence." The AI is a simulation of man's ability, to solve issues, and to behave rationally as an individual(**Anon, 2019.**)

Artificial Intelligence (AI) is a fast-changing internet technology, and will have an enormous effect on the lives of people in the years ahead. The purpose of AI lies of enhancing computing tasks like logic, comprehension, and solving problems related to people's understanding. Creative artificial intelligence is already influenced as to how well the world wide web communicates with users and is connected to the artificial development of the human intellect, the perception, thinking, strategy, recognition, or method of natural language. Its influence is expected to only expand over the next few years.AI has the potential, not just in the modern world but also by their works and through other means, to change the relationship of people dramatically(**Selvamanikkam, M., 2018.**)

Algorithms guide artificially intelligent systems by methods such as deep learning, profound learning and rules. AI systems will use mathematical techniques for the training of AI systems by machine learning techniques. AI systems gradually get better at tasks by artificial intelligence, without having to be programmed specifically for them.(**Duggal, 2021.**)

## 2. Types of AI

There are three types of Artificial Intelligence they are as follows:

### 2.1 Narrow or Weak AI

Narrow or weak AI is just the kind of artificial intelligence we have. Narrow AI is targeted, designed for unique tasks such as face identification, speech/voice recognition, car driving or internet analysis, and is highly intelligent in carrying out a particular mission. While these devices can seem intelligent, they work under clear limits and restrictions and are thus usually referred to as weak AI (*Techopedia, 2015*). In a small collection of cases, narrow AI does not emulate or duplicate the human brain, only mimics human behavior. In the past decade, Narrow AI has undergone several breakthroughs powered by machine learning and deep learning achievements. For example, AI systems are used today in medicine for the diagnosis and reproduction of human cognition and thinking in cancer and other diseases with extraordinarily detailed precision. Examples of narrow AI are: Siri by Apple, Alexa by Amazon, Cortana by Microsoft and other virtual assistants, Image / facial recognition software, Email spam filters / social media monitoring tools for dangerous content, Self-driving cars etc. (*Frankenfield, J., 2020.*)

### 2.2 Artificial general Intelligence

The idea of a general intelligence system that mimics human intelligence or behaviors, which has the potential to learn and to apply its knowledge to solve any problem is often called the Powerful AI or the Deep AI. In any given case AGI can think, understand and behave in a manner that cannot be differentiated from the human (*Joshi, N., 2019*). AGI would be machine which is capable of understanding the world as well as human and will be capable of carrying

out a huge range of tasks. AGI does not exist yet has been used in stories of science-fiction movies for years and years . In recent times it is popularized by films like A Space Odyssey, Avengers , Star wars etc. An AGI can do any task humans could and likely many tasks that humans are incapable of doing . AGI would have human-like thinking and reasoning with computational advantages (*Heath, N., 2018*).

## **2.3 Artificial Super-Intelligence**

The imaginary AI is Artificial Super-Intelligence, i.e. we were unable to do it but we know what happens if we do so. It is also ultimately the fictional AI that not only interprets or recognizes human actions and intellect, but ASI where computers are sufficiently self-conscious to transcend the ability of human intelligence and actions. In math, technology, architecture, entertainment, medicine, marketing techniques, hobbies, interpersonal relationships or the use of a specific human intellect in a specific problem, ASI will be much better at anything or everything we do. With faster management and examination of circumstances, data and stimulus behaviour, ASI will have more recalling. This assumes we should be confident that superintelligent beings/machines are much superior and reliable to those of humans in decision-making and troubleshooting skills (*O'Carroll, B., 2017*).

### **3. Application of AI**

#### **3.1 AI in healthcare:**

Artificial intelligence (AI) has changed sectors all over the world and is capable of significantly changing the healthcare system. In the area of healthcare, AI is capable of providing decision makers with vital real-time data which can be used for medical evaluation, treatment preparation and public health management has helped healthcare information technology society (*Bohr, A. & Memarzadeh, K., 2020*). For example A deep-learning algorithm that can accurately detect multiple neurological disorders, including epilepsy, has been created by a group of researchers at Osaka University.

#### **3.2 AI in business:**

AI in business simply means using knowledgeable, human-like computer software to increase sales, enhance consumer service, increase productivity and performance, and encourage development and transformation of industry. With the growing number of market data available, it can be very difficult to obtain insights from the data. This led to the regular implementation of business intelligence of artificial intelligence to get valuable data. (*Anon, Artificial intelligence in business*)

#### **3.3 AI in education:**

AI in education can help monitor and analyze student progress in real time. Teachers can monitor and analyze the progress of students using AI software in real time. The teachers may not have to wait for the yearly report sheets to be compiled. AI also offers advice to teachers in fields that need to be re-explained or explained. In this case, intelligent AI analytics explores topics for which most students have been struggling. (*Galvis, N.*)

### **3.4 AI for robotics:**

The combinations of AI and robotics have helped businesses to move beyond automating and to work on more complex and high-level tasks on their computers. Robots are able to benefit from machine learning in numerous ways and these AI feasibilities include: Computersight, AI handling and catching. AI can assist the robot with several different activities from successfully navigating the area, detecting objects around the robot and assisting humans with a variety of tasks, e.g. bricklaying, drywall construction or robotics help operation. (2018, *R.O.M.T.P.O.S.T.E.D.,*)

### **3.5 AI in Autonomous vehicles:**

Autonomous driving is one of artificial intelligence's core applications (AI). Self-containing vehicles, such as cameras, rocket radars and lidar are fitted with numerous sensors to help them understand their atmosphere and route planning. These sensors provide a large amount of data. AVs require supercomputer-like, virtually instant computing capability to make sense of the data provided by these sensors. Companies who build AV systems rely heavily on AI to efficiently process and train and validate their self-sufficient drive systems in machines learning (*IHS Markit, 2021*).



## 4. Advantages and Disadvantages of AI

The Advantages and disadvantages of Artificial Intelligence are :

### 4.1 Advantages:

- ❖ AI operates 24x7 without interruption or breaks and has no downtime
- ❖ AI has mass market potential, it can be deployed across industries.
- ❖ Artificial Intelligence helps robotics to automatically and without human interference establish repetitive procedure and allow more efficient activities.
- ❖ In manufacturing environments, for example, computers can determine manually or control AI without AI. The application of AI is capable of having greater accuracy than humans.
- ❖ AI decreases human-related errors. AI is used in many production lines to detect small cracks or faults in products which are not noticeable by the human eye using infra - red sensors.(Kumar, S., 2019)

### 4.2 Disadvantages:

- ❖ Because of the complexities of engineering, the configuration of AI-based devices, processors are costly
- ❖ There is no doubt that robots are much more powerful than humans. Even then it is almost impossible, at least in the near future, to replace people with AI because it is a blessing of nature that you can't create human

intelligence in a computer. So it will never replace a person, no matter how smart a computer can get.

- ❖ Machines are definitely much superior when it comes to work with efficiency, but the bond between people that makes the team cannot be replaced. In terms of team management, machines cannot establish a link with humans that is necessary.
  
- ❖ One of the most risky factors are that with increase in AI technologies there is certain change in unemployment rate in nations GDP due to some jobs replaced by AI enabled technologies (*Kumar, S., 2019*)

## **5. Ethics of AI**

In the field of artificial intelligence or AI ethics, a collection of rules and procedures is used to guide ethics in the creation and application of artificial intelligence systems, using widely-agreed concepts of right and wrong. AI Ethics is a subfield of applied ethics. Today, AI ethics is a part of the basic technical ethics of robots and other artificially intelligent entities.

The dilemma is how engineers, manufacturers, officials and operators should behave to reduce ethical risks that may come from the creation, abuse or deliberate misuse of AI in society. Robot ethics, also known as robotics or computer ethics, is concerned with what guidelines should be enforced to ensure the ethical actions of robots and how ethical robots should be built. Roboethics tackles questions and ethical dilemmas such as whether machines pose a long-term danger to humans, or whether it will become troublesome for mankind to employ certain robots, such as killer robots in wars. Ethical AI should be focused on universal values such as justice, efficiency, protection, anonymity, security, and inclusiveness, and emphasized by openness and accountability. (Fourtané, S., 2020)

### **1. Human, social and environmental wellbeing**

The purpose of this philosophy is to make it clear from the start that AI systems should be used for the benefit of individuals, culture and the environment. AI system goals should be clearly specified and justified. Over their life cycle, AI systems should benefit individuals, society and the environment. (*Department of Industry, Science, Energy and Resources, 2019*)

### **2. Human-centred values**

The goal of this theory is to ensure that AI systems are consistent with human values. Machines are meant to represent people, not the other way around. AI structures should provide for an inclusive and democratic society by upholding, preserving and fostering human rights, allowing diversity, respecting human dignity and the sovereignty of individuals and protecting the environment. (*Department of Industry, Science, Energy and Resources, 2019*)

### **3. Fairness**

The purpose of this principle is to ensure that AI systems are equivalent and that they can be combined over their entire life cycle. AI systems should be user-centric and designed in such a manner as to enable all users who connect with them to access similar products or services. This includes both appropriate contact with clients who may have an effect on the AI system throughout their lifetime and ensuring that clients have equal access and care. AI services should be comprehensive and open over their lifespan and should not include or result in unfair discrimination against persons, populations or groups. (*Department of Industry, Science, Energy and Resources, 2019*)

### **4. Privacy protection and security**

This definition aims to ensure protection for privacy and data security by using AI technology. This includes ensuring solid data governance and management throughout its lifespan for all data used and generated by the AI system. For example, the preservation of privacy as used by AI systems by appropriate data anonymisation. In addition, the relationship between the data and the inferences taken by AI systems from that data should be sound and validated on a continuous basis. (*Department of Industry, Science, Energy and Resources, 2019*)

## **6 Conclusion:**

Lastly Artificial Intelligence (AI) is a fast-changing internet technology, and will have an enormous effect on the lives of people in the years ahead. Artificial intelligence (AI) has changed sectors all over the world and is capable of significantly changing the healthcare system. The combinations of AI and robotics have helped businesses to move beyond automating and to work on more complex and high-level tasks on their computers. Robots are able to benefit from machine learning in numerous ways and these AI feasibilities include: Computersight, AI handling and catching. AI can assist the robot with several different activities from successfully navigating the area, detecting objects around the robot and assisting humans with a variety of tasks, e.g. bricklaying, drywall construction or robotics help operation. In the field of artificial intelligence or AI ethics, a collection of rules and procedures is used to guide ethics in the creation and application of artificial intelligence systems, using widely-agreed concepts of right and wrong. Some troublesome for mankind to employ certain robots, such as killer robots in wars. Ethical AI should be focused on universal values such as justice, efficiency, protection, anonymity, security, and inclusiveness, and emphasized by openness and accountability.

## 7.Bibilography

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