

Artificial Intelligence

Student's Name

Affiliated Institution

SAMPLE: DO NOT COPY

Artificial Intelligence

What is Artificial Intelligence?

Artificial intelligence (AI) is a modern science which deals with using machines to find solutions to complicated problems that would require human intelligence. Some of the common examples of these tasks entail language translation, speech recognition, visual perception, and decision-making (Ingrand and Ghallab, 2017). In most popular films, artificial intelligence is portrayed in robots that can talk, make decisions, and develop emotions just like humans. AI is also present in real life with machines such as self driving cars, human versus computer games, navigation systems, and Boston dynamics among others.

There are two categories of AI, which are weak and strong A.I. Weak AI is the use of computerized machines low levels of artificial intelligence, which are made to respond to specific situations but they cannot think independently (Irizarry-Nones and Wallace, 2017). On the other hand, strong AI is the use of computerized machines that can think independently and act like humans. Besides, machines with strong AI can also learn from their experiences. However, there are no real examples of machines with strong AI unless in fictional movies (Steels and Brooks, 2018). Primarily, machines with strong AI have “machine learning”, which is an application of AI that enables machines to learn continuously with the help of humans or without the need for new programming. In the 1950’s, Alan Turing developed the “Turing Test”, an instrument that is used to determine the level of intelligence possessed by a computer (Irizarry-Nones and Wallace, 2017). The future of AI intelligence is speculated to highly benefit the modern world by bring new machines such as the perfect lawyer, military bots, healthcare, business, and music.

How Does AI Work?

AI programming entails the study of symbolic programming, search, and problem solving. Most AI programs use symbols rather than numeric figures. Some of the common AI programming languages entail LISP and PROLOG (Steels and Brooks, 2018). LISP is an early programming language that was developed in the 1950’s, which uses procedural extensions. This language was designed for processing a list of symbols using special features such as high order functions and automatic memory management (Ingrand and Ghallab, 2017). On the other hand, PROLOG is another AI language that was created in the 1970’s and it is founded on first order logic. These programming languages enable AI machines to achieve higher levels of intelligence in the modern world.

AI applications rely on various tools such as search, logical AI, pattern recognition, representation, and inference for them to perform human-like activities. Logical AI is what a program knows regarding the world based on factual information in the specific situation which it should respond (Steels and Brooks, 2018). In this tool, the computer goals are represented by sequences of mathematical logical language. The search tool is a program that enables machines to examine large numbers of possibilities such as moves in a chess match. The authors explain that discoveries are being made continuously about how the search tool can be utilized efficiently in different domains.

Consequently, pattern recognition is used by programs to make observations, as machines are designed to compare what it notes about certain patterns. The representation tool is used when factual information of the real world is represented using languages of mathematical logic (Steels and Brooks, 2018). Fundamentally, all these tools are designed to

help AI machines to achieve effective problem solving capabilities. In this perspective, a problem consists of the desired goal and a set of actions that will lead to the desired goal.

Benefits of Artificial Intelligence

The primal purpose of AI is to reduce human error in most situations such as dangerous workspaces, wars, natural disasters, and car accidents. Additionally, AI can also lead to improved efficiency when performing basic tasks such as shopping, cleaning, gaming, and transportation. Moreover, AI can also be used in business to develop powerful tools that will help to solve business problems (Ingrand and Ghallab, 2017). Some of the widely used AI applications entail game playing, speech recognition, computer vision, and expert systems. Game playing uses AI simulations to facilitate human versus computer challenges.

AI is also popularly used in speech recognition applications to enhance security when accessing sensitive information. Computer vision entails the use of computerized programs that utilize three-dimensional objects (Irizarry-Nones, and Wallace, 2017). The application of AI in the business world is also remarkable as firms typically use this application to get vital information such as customers' responses to new products, and changes in customer behaviour using data mining algorithms. AI has also enhanced identification technologies such as biometric identification in modern world.

Disadvantages of AI

Some research argue that while AI poses many benefits in the modern world it can also be a risk especially when something is programmed to perform a devastating task, and when something is programmed to a helpful task, but it develops a destructive method for achieving this task. In the first case, AI can be used to produce autonomous weapons that rely on artificial intelligence programs and they are designed to cause havoc (Steels and Brooks, 2018). These machines can be used by ill-minded individuals to cause mass casualties. For this reason, the use of AI in military technology is likely to lead to an AI war in the future.

Moreover, AI can be designed to yield productive results but used wrongly when the AI goals do not align with ours. For instance, one can order an automated car to take them to the airport in the shortest time possible, leading to over speeding because the computerized systems are designed to follow human command. Additionally, super-intelligent machine systems can be tasked with a complex project leading to the destruction of the ecosystem as a side effect of using the machine (Ingrand and Ghallab, 2017). For this reason, the advantages of using AI systems should be weighed over the disadvantages to reduce the potential cause of harm that is likely to be caused by these systems.

The Future of AI

The use of AI is likely to increase in the future because of the rise of modern technology, which has prompted high levels of machine automation. For instance, large firms like Uber and Google are now considering shifting towards the use of self-driving cars whereas some education systems are considering the use of AI systems in personalized learning (Steels and Brooks, 2018). Evidently, the future of AI holds endless possibilities as this technology can transport every sector of the industry ranging from health and transport to education. In my opinion, the use of AI systems is likely to enhance efficiency and reduce errors compared to the use of humans. For instance, the use of automated cars can reduce the impact of accident caused by human error significantly. Therefore, more research on how AI can be used safely in the future to create efficiency is warranted.

SAMPLE: DO NOT COPY

References

- Ingrand, F., & Ghallab, M. (2017). Deliberation for autonomous robots: A survey. *Artificial Intelligence*, 247, 10-44.
- Irizarry-Nones, A. and Wallace, M. (2017). Artificial Intelligence (AI).
- Steels, L., & Brooks, R. (2018). *The artificial life route to artificial intelligence: Building embodied, situated agents*. Routledge.

SAMPLE: DO NOT COPY