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Subject: **Agent** **Based** **Intelligent Systems**



**Q1: Describe four useful advantages and disadvantages of artificial intelligence in your own words.**

**Ans.** Artificial Intelligence or AI provides a computer program the ability to think and learn on its own. It is a simulation of human intelligence (hence, artificial) into machines to do things that we would normally rely on humans.

**Advantages of Artificial Intelligence:**

1. Reduction in human errors:

The decisions taken by AI in every step is decided by information previously gathered and a certain set of algorithms. When programmed properly, these errors can be reduced to null.

1. Zero Risks:

Humans can overcome many risks by letting AI robots do them for us. They can provide accurate work with greater responsibility and not wear out easily.

1. 24x7 Availability:

Studies suggest that humans are productive only about 3 to 4 hours in a day. They need breaks and time offs to balance their work life and personal life. But AI can work endlessly without breaks performing multiple tasks at a time with accurate results.

1. Digital Assistance:

Nowadays almost all the big organizations use digital assistants to interact with their customers which minimizes the need for human resources. We can chat with a chatbot and ask them exactly what we need.

**Disadvantages of Artificial Intelligence:**

1. High Costs:

The ability to create a machine that can simulate human intelligence requires plenty of time and. AI also needs to operate on the latest hardware and software to stay updated and meet the latest requirements, thus making it quite costly.

1. No Creativity:

AI cannot learn to think outside the box. AI is capable of learning over time with pre-fed data and past experiences but cannot be creative in its approach.

1. Increase in unemployment:

Perhaps one of the biggest disadvantages of AI is that AI is slowly replacing number of repetitive tasks with bots. The reduction in the need for human interference has resulted in the death of many job opportunities.

1. Make Humans Lazy:

AI applications automate majority of tedious and repetitive tasks. Since we do not have to memorize things or solve puzzles to get the job done, we tend to use our brains less and less. This addiction to AI can cause problems to future generations.

**Q2: Write a case study example of How AI works in your own words.**

**Ans.** Artificial intelligence refers to a machine, device, or program that is coded and programmed on the principle of human intelligence.

AI machines are programmed using human logic of problem-solving and thinking. We come up in contact with AI machines and devices in our everyday life without knowing. GPRS navigation, voice-recognition in smartphones, and registering hand gestures in smartphones are typical examples of AI.

Artificial intelligence is playing a significant role in our lives, making complex tasks simpler and easier. The latest artificial intelligence applications have revolutionized every domain of our lives.

**Case Study:**

GPRS/Navigation:

GPRS/navigation is a necessity nowadays. It not only helps to reach far-fetched places and areas but also assists in the way. Its artificial intelligence predicts the estimated time of reaching a destination by analyzing traffic situations in real-time.

GPRS also gathers data from thousands of other cars and predict the best route given for every car. Google maps are one of the classic examples of a navigation app that is used by thousands of people every day.

It also recognizes. and understands the voice commands of the person who uses it to navigate.

This fine example of artificial intelligence is widely used by other sectors, including security, Intel, police, and the military.

References:

1. [Top Advantages and Disadvantages of Artificial Intelligence [2022 Edition] (simplilearn.com)](https://www.simplilearn.com/advantages-and-disadvantages-of-artificial-intelligence-article#advantages_of_artificial_intelligence)
2. [10 Strong Examples of Artificial Intelligence in Everyday Life - getchip](https://getchip.com/examples-of-artificial-intelligence/)