# IN5480
# Individual Assignment
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## Artificial Intelligence – definitions

1. Search and find three definitions of AI, describe these briefly.

("Artificial Intelligence (AI),")is an area of computer science that emphasizes the creation of intelligent machines that work and react like humans. Some of the activities computers with artificial intelligence are designed for include:

- Speech recognition
- Learning
- Planning
- Problem solving

The second definition defined by is artificial intelligence is the science of making intelligent machines that's performs task as well or better and faster than human can.

The third definition are derived from the book Artificial Intelligence

By (Urwin, 2016)who defined artificial intelligence is a tool constructed to aid or substitute for human thoughts it is a computer program weather standing alone in a data centre or a PC or embodied in a device such as robot which displayed the outward sign of intelligent- those sign of being the ability to acquire and apply knowledge and skills in order to act with reasons in its environment.

## Robotics - definitions

2. Search and find three definitions of Robotics, describe these briefly.

A ("robot,")is a machine designed to execute one or more tasks automatically with speed and precision. There are as many different types of robots as there are tasks for them to perform.

("Robotics,") is a branch of technology which deals with robots. Robots are programmable machines which are usually able to carry out a series of actions autonomously, or semi-autonomously.

A ("bot (robot),") is a program that operates as an agent for a user or another program or simulates a human activity. On the Internet, the most ubiquitous bots are the programs, also called spiders or crawlers, that access Web sites and gather their content for search engine indexes.

## Machine learning - definitions

3. Search and find three definitions of Machine Learning, describe these briefly.

A ("machine learning (ML),") is a category of algorithm that allows software applications to become more accurate in predicting outcomes without being explicitly programmed. The basic premise of machine learning is to build algorithms that can receive input data and use statistical analysis to predict an output while updating outputs as new data becomes available.

Machine learning define by (El Naqa, Li, & Murphy, 2015) is an evolving branch of computational algorithms that are designed to emulate human intelligence by learning from the surrounding environment. They are considered the working horse in the new era of the so-called big data.

A ("Machine learning,") is a method of data analysis that automates analytical model building. It is a branch of artificial intelligence based on the idea that systems can learn from data, identify patterns and make decisions with minimal human intervention.

4. Write in three to five sentences the relationship between AI and Robotics as you understand this.

The artificial intelligence and robotics are the combination of smarts software program and hardware devices which can create devices which can reduce human workload. In artificial intelligence we can create program by smarts algorithm of prediction while using these programs with the sensor based robots can make artificial environment.

5. Make a text to describe your own definition of AI. Explain briefly this definition.

In this modern era AI is using in different ways like google search engine which predicts results according to human requirements. In past AI was very limited to by using computer

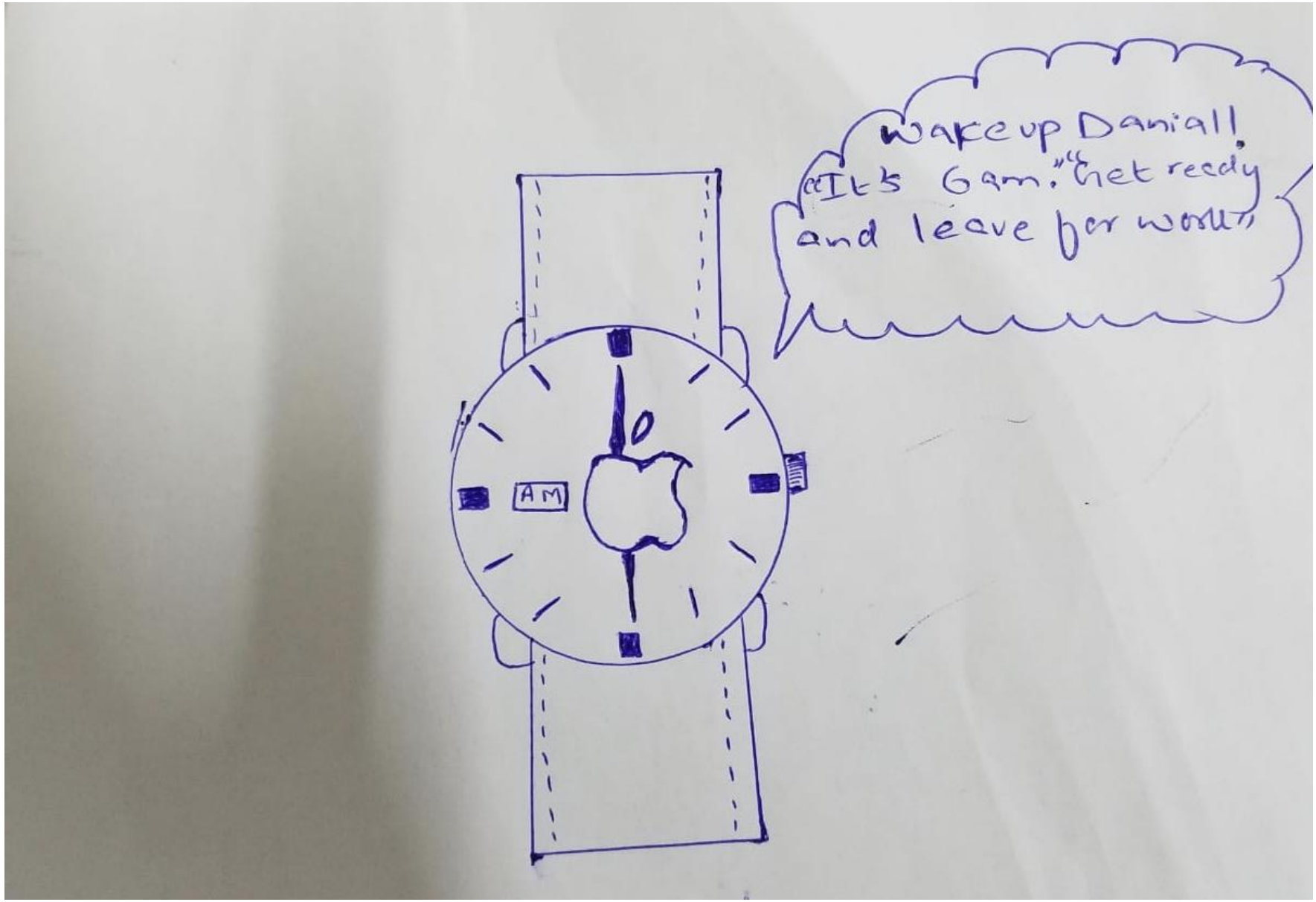
based program in big servers which predicts results like weather, health etc. but now the Nano devices like sensors in mobile devices using AI algorithm to predict results for example heartbeats calculator etc.

It is the study of a computer science that attempt to model and apply the intelligence of the human mind. AI is a capability of a machine to imitate intelligent human behaviour. In this modern era, there are many examples in which AI is been used. For instance; Netflix, Nest, Amazon Echo, Amazon prime air (Drone) are few best examples in this era.As per Forrester Research, Artificial Intelligence will replace 16% of the American jobs, by the end of this decade.

Expand on this text to explain the relation between AI and Machine Learning.

In the article written by (Bessi, A., & Ferrara,) used machine learning techniques to detect the artificial Intelligence based social-bots which generate content on the social media. Understanding from this article  machine learning is tool to teach computer how to make decision it self like in the artcle a machine learning framework based tool made decision it self which content generate by human or robot? On the other hand Artificial Intelligence based robots create content like hashtag, post and videos to election campaign on social media.

6. Make a drawing of an interaction with an AI - something that you imagine. Describe with some sentences your drawing.


Wake up Daniall!
"It's 6am." "Get ready
and leave for work"
AM

I have drawn an Apple wrist watch. It's wrist watch which shows the time but moreover, it reminds you about your daily routine and schedule you planned for. The watch itself speaks and tells you about the temperature and blood pressure on daily basis. It's programmed in such a way that you don't need to write notes for a reminder.

7. Read the article: "On the Subject of Objects: Four Views on Object Perception and Tool Use" by Tarja Susi / Tom Ziemke. Write in your own words one page about the different perspectives on the human relationship with tools.

This article addresses the relation between an agent and its environment, the author define the four different conceptions of the relation between subject and object are compared here: this functional tone is defined by the German biologist (von Uexküll) who describe that every human has is own perception which they interact in daily life. He has his own vision of his world, in the concept of equipment the German philosopher (Heidegger) who define these are the raw objects which human use in its daily life these equipment human can use to perform some task, the affordance is define by many writers but it first use by American writer (Gibson) who define that everyone needs a particular space which has set of things according to his affordance , and the fourth and last notion is entry point define by (Kirsh) which define that people structure their environment and create the set of entry point which can help them to achieve some goals and complete the task.

8. Select one of the perspectives from the article, and go into detail when you describe it.

In the functional tone he define in this article that with the passage of time human can create perceptual images of his world and objects to interact with them smartly. All objects which can perceived any image in his mind can change its value by the passage of time and make new perception with interacting with the subject. He can discard his old perception and create new one by transforming the new meaning of the images.

9. Select one other article from module 1, and write with your own words what this article is about.

The article Humans and Automation: Use, Misuse, Disuse, Abuse
By(Parasuraman & Riley, 1997), about how human can misuse the automation like Misuse refers to over reliance on automation, like in the example in this article crew were over relying on the auto pilot mode and did not monitor the attitude while they were busy with other possibilities to solve the problem. In this article we figure out the over usage of automation can be ethical like automatic self-driving cars in the busy downtown. We have many example like people over rely on automation and sleeping while driving on the highway which cause accidents.

10. Select one documentary or a fictional film, book or game: describe with your own word how interaction with AI is portrayed in this work.

Few weeks back I watched an Indian movie called 'Robot'. The basic story revolves around a brilliant scientist who after countless weeks of isolation, emerges with his latest invention called 'Chitti'. It was an android invention, created just a look alike to him. He gave emotions to that robot. The robot can feel the pain and understands different languages. It was a unique robot which was programmed to help mankind, especially those who are disabled and poor. He can also do all the home chores with no late. In one of the scene they showed that the house was caught by the fire and this robot rescued the poor family and their kids. Later on, as the robot has its own emotions, he starts developing feelings for his master's beautiful love. By knowing this fact, the rival scientist takes the advantage and makes the robot a homicidal.

11. Describe what you understand by autonomy; both human autonomy and machine autonomy.

Autonomy: Self-directing freedom, especially moral independence.

Human Autonomy: is about the self-esteem of a human that how versatile he or she is or what are his or her attributes and contributions. A person who is capable enough for self-legislation.

Machine Autonomy: are intelligent machines capable of performing tasks in the world by themselves, without explicit human control.

12. When was the term "AI" first coined? Please make a reference.

The term ''AI'' first coined by(McCarthy & Hayes, 1981) in 1956.

13. Articulate one question for the article "What we talk about when we talk about context" by (Dourish, 2004) in the curriculum.

How "system own-context" can impact on current state of user like (motivations, emotions and believe) to learn new things?

14. Articulate one question for any other article in the curriculum.

My question from the article “On the Subject of Objects: Four Views on Object Perception and Tool Use” how these perceptions can play more vital role when we use AI with robotic in HCI?

15. Choose one of the following two tasks, a or b. a. Read the article: "Like Having a Really Bad PA" by Luger & Sellen. Summarize in your own words key lessons learnt for interaction design with dialogue systems. Discuss the relevance of these lessons learnt for interaction with AI-based systems in general (1/2-1 page) b. Read the article: "Using Artificial Intelligence to Augment Human Intelligence" by Carter & Nielsen. Summarize in your own words the articles discussion of different views on computers, and on how AI may augment human intelligence (1/2-1 page).

The article’’ Like Having a Really Bad PA’’ was presented by (Luger and Sellen 2016) in which it was define that what is conversational agents and its usage in daily life. For that 14 of CA’s users were interviewed as to understand the current interactional factors affecting everyday use.

The lessons which I have assimilated from this article are;

The first subject to learn was conversing with computers. It is clearly stated that when a subject communicates to a partner (human) using more statements relating to their relationship and delve into a conversation. Also respond more assertively as they can understand each other through emotions. People expect politeness in human interactions, they are actually ‘repelled’ by excessive politeness and repetitions when they know the interaction is with a machine.

According to all participants, it is convenient to use CA, However, dropping words other than keywords, reducing the number of words used, using more specific terms, altering enunciation, speaking more slowly/clearly and changing accent were the most commonly describe tactics.

The third important lesson which I learned that people to converse with CA more in a private space rather than in public, which make them feel that they are talking to a human in a more comfort space.

CA are working like a human but yet they are certainly not up to mark as they are unable to do multiple tasks. Moreover, many of them have no idea that what a CA could do for them.

So, to recapitulate the topic is that CA systems failed to bridge the gap between user expectation and system operation. It showed that users had poor mental models of how their CA worked and that these were reinforced through a lack of meaningful feedback regarding system capability and intelligence. As to improve and to enhance this system it is important to bring changes in system intelligence. Considering how best to indicate capability through interaction and design goals in light of the dominant use case, as areas for future investigation and development.

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