

## Individuell innlevering

First iteration Module 1

Slogan: The Imitation Game, The Language Game, The Learning Game and the Moving Game

### Concepts, definition and history of interaction with AI

*First, write a section about how AI came about, the history of AI!. When, and by whom, was the term first used?*

The term AI was first used by John McCarthy. He is seen as 'the father of artificial intelligence' as he coined the term in 1955 for a proposal he wrote for the Dartmouth Conference, the first artificial intelligence conference.(Childs, 2011)

McCarty described AI as "the science and engineering of making intelligent machines".(Peart, 2017)

*Then, find three different definitions of AI. Describe and explain these three definitions, for example by when it was defined, by whom and in what community. Based on these three definitions, make one definition yourself - and describe and explain your definition.*

The Merriam Webster dictionary defines it as :

'a branch of computer science dealing with the simulation of intelligent behavior in computers'

'the capability of a machine to imitate intelligent human behavior'(artificial solutions)

The Oxford English Dictionary describes it as:

'The capacity of computers or other machines to exhibit or simulate intelligent behaviour; the field of study concerned with this'

Both of these definitions focuses on the fact the machine should imitate human intelligence. But neither of these definitions says anything about what they mean with 'human intelligence or 'intelligent behavior''. Often when a computer is meant to behave as a human the focus is on training them how to interpret patterns and to come up with appropriate responses. The computer uses data to make rules that allows it to act as if it were 'intelligent', but there is many things a human can do that a computer cannot, which also relates to intelligence. A machine will for example have trouble understanding the context the data belongs in. I would like to define AI as 'a machine that uses patterns and statistics to interpret data and come up with appropriate responses, imitating humans ability to analyse and interpret a situation'.

*Find one contemporary company that work with AI and describe how this company present AI on their web pages. In what way does this company talk about AI, as a product, as a service, framework or "idea"?*

Boost AI: Boost AI is a company that works with virtual agents and talks about they can improve the customer experience with AI. They present it as a product that they are offering.

*Select one documentary or a **fictional film, book or game** that is about the use of **AI systems**. Describe with your own word how human interaction with AI is portrayed in this work.*

*I, Robot* is a science fiction movie from 2011 about human-like robots with artificial intelligence that have become an integrated part of society with the mission to protect humans. It explores the intelligence of the robots and the trust the humans have in it.

## **Robots and AI systems**

*First, write a section about how the word Robot came about.*

The word 'robot' was used in a 1920 play Karel Capek, which was a play about a factory that manufactured artificial humans. Later, the altered word 'robotic' was used by the author Isaac Asimov. The word 'robot' did also appear in literature previous to this play, but the meaning differed from we think of when we use the word 'robot'. At the 19th century the word was connected to 'forced labour or services'.(Tearle, 2016)

*Then, find two different definitions of robot. Describe and explain these definitions. Based on this definitions, make one definition yourself, and describe and explain this definition.*

Oxford English Dictionary: 'An intelligent artificial being typically made of metal and resembling in some way a human or other animal.'

Merriam Webster: 'a machine that resembles a living creature in being capable of moving independently (as by walking or rolling on wheels) and performing complex actions (such as grasping and moving objects)'

These definitions focuses on that computer should mimic something living, but this does not seem to be the case for all robots. My definition is that a robot is something that often uses sensors and can be programmed to a specific set of actions.

*Discuss the relation between AI and Robots. Is "a robot" different from "an AI"? In what ways are they different and similar? Bring in the definitions that you described earlier about robots and AI for this discussion.*

AI focuses on how the machine can interpret and come up with responses that would be similar to a human's way of reasoning. Robots can look similar to a human without necessarily having the ability to mimic the behaviour of a human. A robot can simply be programmed to a certain set of actions without deciding these actions 'by itself' based on rules and data. A robot does therefore not necessarily have AI, and AI is not restricted to just robots, as many different systems and machines can have AI.

*Find one contemporary physical robot, either described in a research article - or a commercial robot, and describe how this robot moves and how a human user is interacting and using the robot in a specific situation.*

An article by Mutlu and Forlizzi describes how a robot can be used in a hospital to transport things. The robot moves autonomously through the hallways and elevators and announces its actions with a pre-recorded voice. If medicine is to be transported from one part of the hospital to another, an employee can use a combination of a touch screen monitor and buttons to get the robot to complete the task.(Mutlu and Forlizzi, 2008)

## **Universal Design and AI systems**

*Please find and describe a definition of Universal Design. Explain this definition, how you understand what Universal Design is about with respect to inclusion.*

“Universal Design is the design and composition of an environment so that it can be accessed, understood and used to the greatest extent possible by all people regardless of their age, size, ability or disability.”(*The Centre for Excellence in Universal Design*)

Universal design is about designing for everyone. Every user is supposed to be able to access and use the application or program you have made. Making it accessible for everyone also means making it easier to use for everyone else. For example audio books, which were originally made for blind people are now used by everyone.

*Describe the potential of AI with respect to human perception, human movement and human cognition/emotions. You are encouraged to use examples.*

AI can make it easier to communicate your need to the machine. It can learn your habits and help you with everyday tasks.

*Describe the potential of AI for including and excluding people. You are encouraged to use examples.*

By adapting it for everyone you are including everyone. AI is built on statistics and previous data sets, this means it is designed for the average human. Everyone who falls outside of this average can therefore easily be excluded. But AI can also learn how to adapt to specific user needs, and therefore be more including.

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