

HOW WOULD YOU DESCRIBE

ARTIFICIAL INTELLIGENCE?

'Artificial intelligence' is a term that is increasingly being used. But what does it mean exactly?

The Knowledge Centre Data & Society compared various descriptions of the term 'artificial intelligence'.

Some findings:

- There are **three major categories** of descriptions. They either emphasise (1) the human aspect, (2) the technology, or (3) the intelligence of the AI system itself.
- Therefore, it is important to **clarify your interpretation** when using the term.
- Most descriptions state that **machine intelligence is always dependent upon human intelligence**.

Below are a few examples of descriptions, grouped into the three categories we have identified.

Sources:

¹ Artificial Intelligence, Elaine Rich and Kevin Knight, 1991

² DigitalEurope, 2018

³ China's New Generation of Artificial Intelligence Development Plan, Chinese Government, 2017

⁴ Artificial Intelligence Defined, Deloitte Blog, 2017

⁵ Coordinated Plan on Artificial Intelligence, European Commission, 2018

⁶ Digital Ethics Guidelines on AI, Deutsche Telekom, Germany, 2018

⁷ Sizing the Prize: What's the real value of AI for your business and how can you capitalise?, PwC, 2017

⁸ Work in the age of artificial intelligence: Four perspectives on the economy, employment, skills and ethics, Ministry of Economic Affairs and Employment of Finland, 2018

⁹ A Definition of AI: Main Capabilities and Disciplines, European Commission High-Level Expert Group on Artificial Intelligence, 2019

1. HUMAN

"[AI is] The study of how to **make computers do things at which, at the moment, people are better.**"¹

"[...] AI is based on the perception and interpretation of vast amounts of information (data) [...]. From this information, software [...] generates hypotheses. In the end, it reaches **decisions** on its own or makes **recommendations that human partners can use to underpin their own actions.**"²

"[...] Artificial intelligence technology can accurately perceive, forecast, early warn the major trends of infrastructure and social security operation, timely grasp **the change of group awareness and psychology**, respond actively decision-making, significantly improve the ability and level of social governance, and it is **indispensable for the effective maintenance of social stability.**"³

2. TECHNOLOGY

"[AI is] A collective term for **computer systems that can sense their environment, think, learn, and take action** in response to what they're sensing and their objectives."⁴

"Artificial intelligence (AI) has been compared to electricity. It is **a general-purpose technology** that will over time make its way to almost every aspect of life."⁵

"At the core of an AI system lays its **reasoning/information processing module**, which takes as input the data coming from the sensors and proposes an action to take, given the goal to achieve."⁶

3. INTELLIGENCE

"AI is concerned with **getting computers to do tasks that would normally require human intelligence.**"⁷

"Artificial Intelligence refers to systems that display **intelligent behaviour** by analysing their environment and taking action – with some degree of autonomy – to achieve specific goals. We are using AI on a daily basis, for example to block email spam or speak with digital assistants."⁸

"[...] AI in machines and computer systems **imitates the processes and characteristics that mark human intelligence**, such as being able to learn, to think logically and to correct one-self."⁹