

# Artificial Intelligence (AI)

Artificial Intelligence (AI) refers to the ability of computers to display human-like capabilities such as reasoning, learning, planning, and creativity. Societies benefit from AI in many ways, as it is widely used in social media, banking, and accessing information. The development of AI affects the skills needed in life and, by extension, naturally influences education. AI offers many new pedagogical possibilities for personalizing learning and supporting students with special needs.

Citizens in modern societies will need at least a basic understanding of AI and its effects, e.g., on participation, democracy, and freedom of speech. Computational thinking and data skills are needed to understand automated decision-making and machine learning. AI is already used in areas such as social media, hybrid influencing, internet search services, and banking. AI literacy will be a key element in tackling potential risks from AI, such as disinformation.



DigComp 2.2 framework's latest version includes AI-related requirements and examples.

## Requirements for citizens interacting with AI systems<sup>3</sup>

**Knowledge:** Having an awareness of what AI systems do and do not do, and understanding the benefits, limitations, and challenges of AI systems.

**Skills:** Using, interacting with, and giving feedback to AI systems as an end-user and to configure, supervise, and adapt AI systems (e.g., overwrite, tweak).

**Attitudes:** Including human agency and control, a critical yet open attitude, and ethical considerations of AI use.

**Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for educators (4)** have identified four key considerations that underpin the ethical use of AI and data in teaching, learning, and assessment. These are human agency, fairness, humanity, and justified choice.

- **Human agency** relates to an individual's capability to become a competent member of society. A person with agency can determine their life choices and is responsible for their actions. This underpins concepts such as autonomy, self-determination, and responsibility.
- **Fairness** relates to everyone being treated fairly and equally. All users should have equal access to opportunities with AI. These include equity, inclusion, non-discrimination, and the fair distribution of rights and responsibilities.
- **Humanity** relates to the consideration of people, their identity, integrity, and dignity. The human-centric approach to AI considers these.
- **Justified choice** relates to using knowledge, facts, and data to justify and support necessary or appropriate collective choices made by multiple stakeholders in the environment. It requires transparency, collaborative decision-making, and explainability.

These ethical considerations are intrinsically valuable and worth striving for in education. They guide educators and school leaders in their decisions on the use of AI systems in education.

## Questions to ponder:

1. How can we create learning opportunities to develop the competencies necessary for understanding AI?
2. How to promote human centric use of AI?
3. What are the challenges of AI?
4. How do we need to consider the EU AI Act in education?
5. What kind of privacy and security issues should be considered when using AI?

## For references and more information:

1. Artificial Intelligence | Shaping Europe's digital future: <https://digital-strategy.ec.europa.eu/en/policies/artificial-intelligence>
2. Digital Education Action Plan (2021–2027): <https://education.ec.europa.eu/focus-topics/digital-education/action-plan>
3. DigComp 2.2: <https://publications.jrc.ec.europa.eu/repository/handle/JRC128415>
4. Ethical guidelines on the use of artificial intelligence (AI) and data in teaching and learning for educators: <https://op.europa.eu/s/z1CM>
5. EU AI Act: <https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai>