# What is AI?

Implications and Misconceptions

Understanding artificial intelligence (AI) helps decision-makers craft and evaluate policies to promote the responsible use, access, and design of this transformative technology.

AI is best used to augment uniquely human traits, such as creativity, while automating more mundane tasks. Integrating AI into society should augment, rather than replace, the human touch.

Artificial Intelligence

refers to **programs or machines that simulate tasks that typically require human intelligence.** An AI system is a "machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments" (OECD, 2024) The varied definitions and applications of AI and its recent pace of development make it a challenge to regulate.
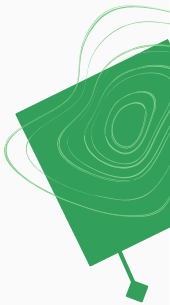
2020s

Large Language Models (LLMs), a product of DL techniques, are models specialized for tasks like natural language processing, text generation, and translation.
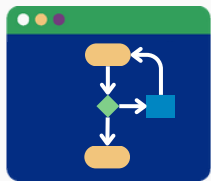
1980s

Machine Learning (ML) is a range of techniques whereby computers are trained to improve their performance by processing vast amounts of data. Early educational applications included intelligent tutoring systems, and later, adaptive learning.

1950s

Artificial Intelligence emerges as a field of computer science, integrating concepts from mathematics, engineering, and psychology.

Classical AI approaches use human-programmed rules to perform specific tasks.

Deep Learning (DL) is an ML technique that utilizes neural networks and algorithms inspired by how human brains learn and process information.

What is Generative AI?

Generative AI (Gen AI) is a powerful category of AI that includes LLMs and other models that generate text, images, videos, or music. The internal workings of Gen AI models can lack transparency and explainability, making it challenging to build trust and ensure accountability. Additional issues specific to Gen AI in education include bias, misinformation, and overreliance on AI tools.

Promoting AI Literacy

AI literacy encompasses understanding how AI works, using AI responsibly, and recognizing its social and ethical impacts. It includes understanding AI's potential benefits and risks and how to mitigate the risks. AI literacy is a crucial aspect of digital competence and equips individuals to engage productively and responsibly with AI in society, the economy, and their personal lives. Championing AI literacy is essential to prepare students to be informed citizens who can also thrive in a future workforce in which AI is ubiquitous across all fields.

AI Literacy requires understanding **how AI works**, including its principles, concepts, and applications, and **how to use AI**, including its limitations, implications, and ethical considerations.

40%
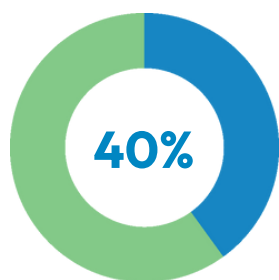
Global jobs that will be complemented, or in extreme cases, replaced by AI.
(IMF, January 2024)

Education leaders and policymakers can adopt policies to **prepare students** for the future of work in an age of AI.

Common Misconceptions about AI

Misconception	Explanation
AI can think in the same ways people do.	Gen AI simulates understanding by repeating patterns in data rather than comprehending content with intent or awareness. This approach can lead to seemingly plausible errors, often called "hallucinations," highlighting the need for humans in decision-making roles.
All AI is alike.	There is a wide range of AI technologies with various capabilities and levels of autonomy and adaptability. Each has its strengths and limitations and is suited to different tasks.
AI decisions are unbiased.	AI systems can perpetuate or amplify biases in their training data. Bias in AI systems can also come from the design, development, or testing process.

Teach AI

TeachAI is led by Code.org, ETS, the International Society for Technology in Education, Khan Academy, and the World Economic Forum.

CODE   *ets   AASA THE SCHOOL SUPERINTENDENTS ASSOCIATION   CCSSO Council of Chief State School Officers   CoSN LEADING EDUCATION INNOVATION   COSSBA CONSORTIUM OF STATE SCHOOL BOARDS ASSOCIATIONS   EDUCATION COMMISSION OF THE STATES   ExcelinEd

ISTE   InnovateEDU   NASBE National Association of State Boards of Education   nea NATIONAL EDUCATION ASSOCIATION   nsba National School Boards Association   SEAMEO STEM-ED   SETDA LEADERSHIP · TECHNOLOGY · INNOVATION · LEARNING