



2024 CAE Community Symposium

Artificial Intelligence (AI) in Education

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What is AI?

According to Britannica, human intelligence is being able to learn from experience, adapt to new situations, understand and handle abstract concepts, and use knowledge to manipulate one's environment.

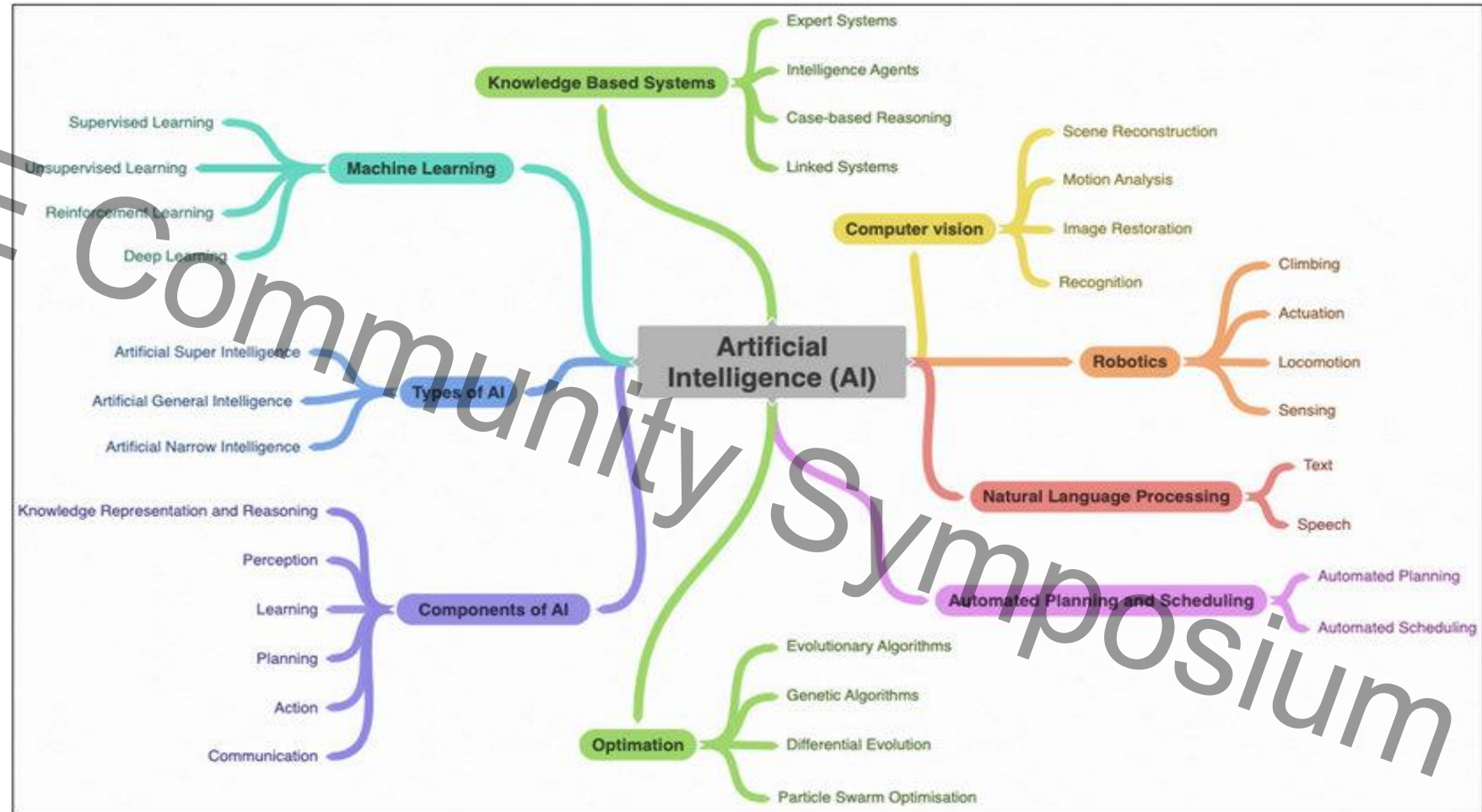
Much of the research in and about systems built to perform **AI**, has focused on the human intellectual processes such as learning, reasoning, problem solving, perception, and using language.

Copeland, B. (2024, March 6). artificial intelligence. Encyclopedia Britannica. <https://www.britannica.com/technology/artificial-intelligence>

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Components, Types, and Subfields of AI



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Some Uses of AI in the Classroom

There has been a rapid advancement of AI tools used in the classroom:

- ALEKS - is an adaptive learning system, that offers personalized instruction in mathematics and chemistry (ALEKS, n.d.).
- Brainly - is a social learning platform, which employs AI to facilitate peer-to-peer learning, fostering a collaborative educational environment (Brainly, n.d.).
- Cognii - is an AI-based educational platform that offers personalized tutoring and assessment in various subjects, promoting deeper understanding (Cognii, n.d.).
- ChatGPT - is an AI system used to create human-like conversations and more.

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Are you concerned the use of AI will lead to a greater reliance on AI rather than on educating students?

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Are you concerned the use of AI will lead to a greater reliance on AI rather than on educating students?

Yes
0%

No
0%

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Learning?

If we continue to rely on AI in education, are we genuinely educating students? For example, using AI to help write papers may be beneficial but have students learned how to write properly?

Going through the “process” is learning. Are we denying that “process” to our students and just facilitating “constructed” intelligence?

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Are we denying students of the learning “process” and just facilitating “constructed” intelligence?

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Are we denying students of the learning “process” and just facilitating “constructed” intelligence?

Yes
0%

No
0%

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Learning?

AI should be used to help aggregate information, but students should be able to process the aggregated information and turn it into knowledge.

If students rely on AI to complete assignments, where is their personal creativity? Are we limiting the abilities of the human mind by using AI? Will the imaginations and creative thoughts we are all inherently created with be limited or diminished?

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Data and the Concern

Humans are capable of learning because they experience life. For AI systems to “learn”, they must collect and process large amounts of data. If so, these questions are posed:

- “where is the data stored?”
- “who has access to the data?”
- “what happens if that data is accessed by the wrong persons or organizations?”

With the help of Deep Learning (a subset of Machine Learning), generative AI can be used to **manipulate data**. This poses another concern, “is the data authentic?”

AI poses ethical, socioeconomic, privacy and security concerns and risks.

2024 CAE Educational Goals

The US Department of Education recommends developing policies and suggests:

1. Emphasize Humans in the Loop
2. Align AI Models to a Shared Vision for Education
3. Design Using Modern Learning Principles
4. Prioritize Strengthening Trust
5. Inform and Involve Educators
6. Focus R&D on Addressing Context and Enhancing Trust and Safety
7. Develop Education-Specific Guidelines and Guardrails

“Educational leaders need to bring these and their own policy priorities to the table at every discussion about AI, driving the conversation around human priorities and not only their excitement about what new technology might do. Fundamentally, AI seeks to automate processes that achieve goals, and yet, AI should never set goals. The goals must come from educators’ vision of teaching and learning and educators’ understanding of students’ strengths and needs.”

U.S. Department of Education, Office of Educational Technology, *Artificial Intelligence and Future of Teaching and Learning: Insights and Recommendations*, Washington, DC, 2023.