

Artificial Intelligence and the Future of Teaching and Learning

U.S. Department of Education
Office of Educational Technology
tech.ed.gov/AI



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Mission

The U.S. Department of Education Office of Educational Technology (OET) **develops national educational technology policy** and **establishes the vision** for how technology can be used to **transform teaching and learning** and how to make **everywhere, all-the-time learning** possible for early learners through K-12, higher education, and adult education.

Artificial Intelligence and the Future of Teaching and Learning

Insights and Recommendations



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Artificial Intelligence and the Future of Teaching and Learning

Insights and Recommendations

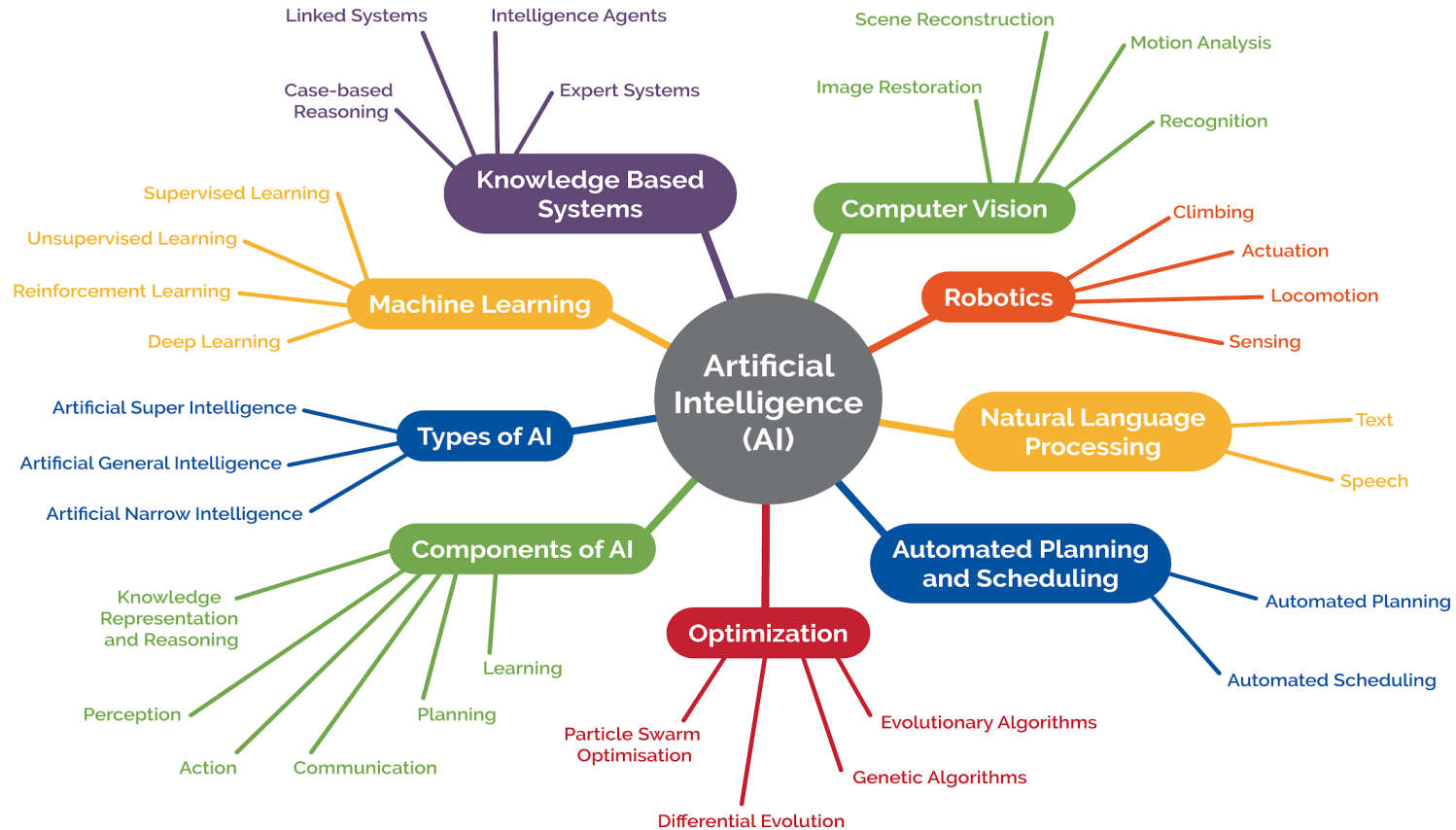
May 2023



Recommendations for AI in Education

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

Defining AI Broadly (It's not just essay writing tools)



We envision a technology enhanced future more like an electric bike and less like robot vacuums. On an electric bike, the human is fully aware and fully in control, but their burden is less, and their effort is multiplied by the supporting technology



Insights about AI in Education

AI goes beyond existing educational technology capacity to advance teaching and learning in multiple ways.

- AI enables new forms of interaction.
- AI can support educators via assistants and agents.
- AI can help educators address variability in student learning.
- AI supports more powerful forms of adaptivity.
- AI can enhance feedback loops.

Blueprint for an AI Bill of Rights



AI should be safe and effective.



AI should not discriminate unjustly.



Data privacy and security should be protected.



You should know when AI is being used and how it affects you.



You can opt out and interact with a person.

This blueprint provides necessary principles & shares potential actions. It is a tool for educating the agencies responsible for protecting & advancing our civil rights and civil liberties. Next, we need lawmakers to develop government policy that puts this blueprint into law.

— Algorithmic Justice League
(@AJLUnited) October 4, 2022

A Call to Action for Closing the Digital Access, Design, and Use Divides

2024 National Educational Technology Plan



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A Call to Action for Closing the Digital Access, Design, and Use Divides

2024 National Educational Technology Plan

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2024 National Educational Technology Plan



Designing for Education with Artificial Intelligence

An Essential Guide for Developers



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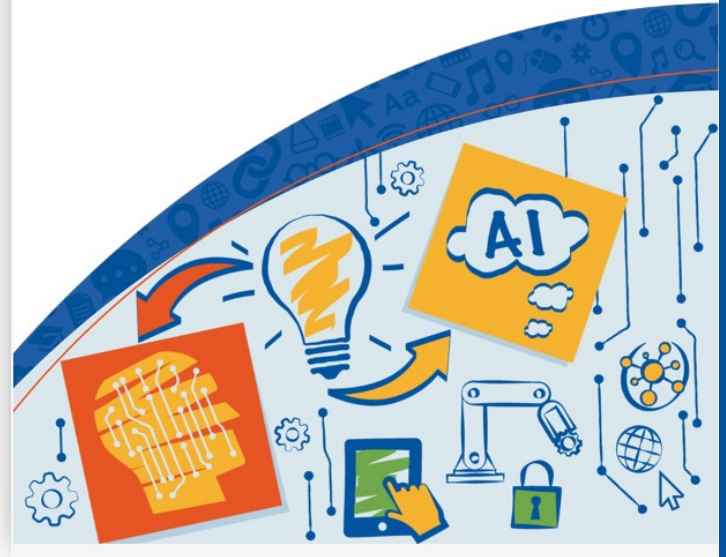


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Designing for Education with Artificial Intelligence:

An Essential Guide for Developers

July 2024





Expanding the AI Report's analogy: From fast e-bikes to safe e-bikes

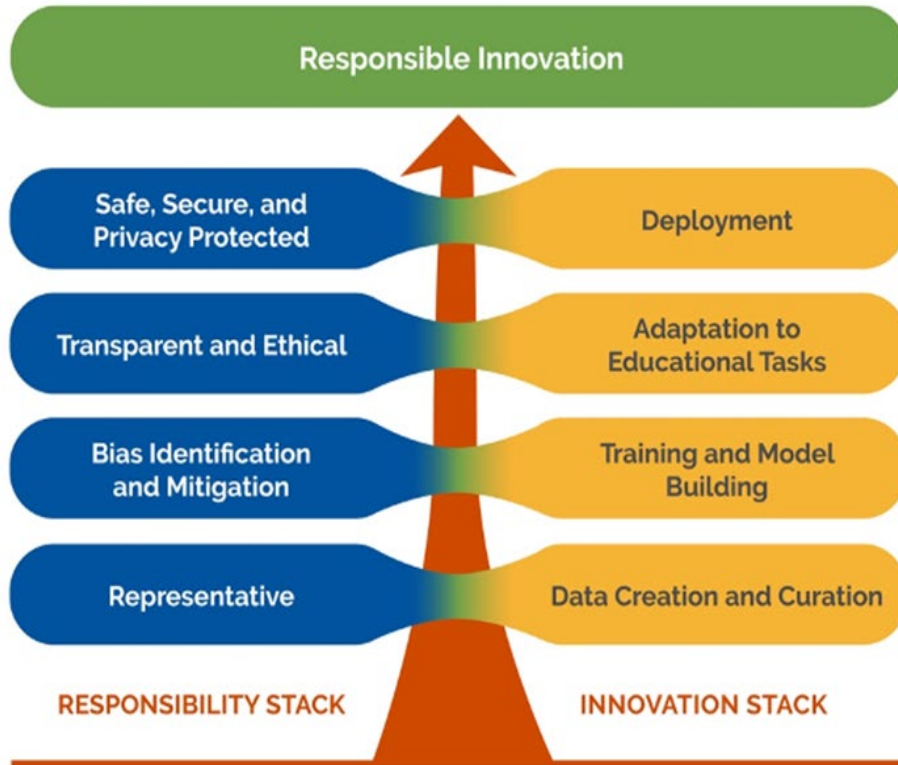


2023 - AI Report called for AI like an e-bike and not a robot vacuum: the human driver is in control, with less effort needed to raise the bar for student achievement.

2024 - Developers Guide calls for AI like "safe e-bikes"
—mitigating risks, collaborating on rules of the road, and implementing safety precautions, so that using AI in education becomes safe for all—
especially those in vulnerable or underserved communities



The Dual Stack: Recommendation



Coordinating Innovation with Responsibility through each layer, step or process in developing applications of AI in education



Framework Grounded in Existing Policy



In time available today, we'll focus briefly on the middle circles.

NIST Risk Management Framework

In education, we must avoid harm to people, schools,
and to the educational technology ecosystem



Building AI Literacy

AI Literacy: Bridging the AI Literacy Gap in Education



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Rigorous Research and Development

How the Institute of Education Sciences is Supporting Evidence Building for Artificial Intelligence in Education



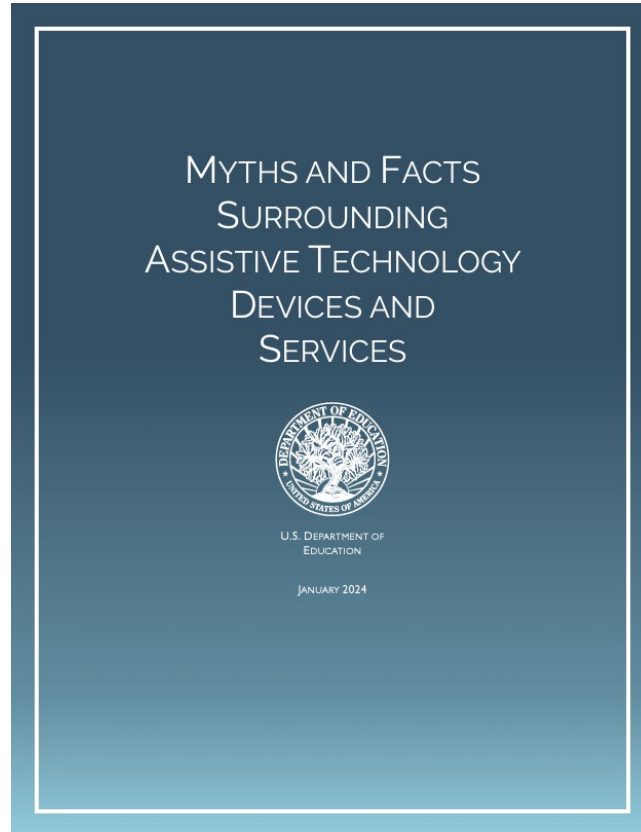
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Supporting Students with Disabilities



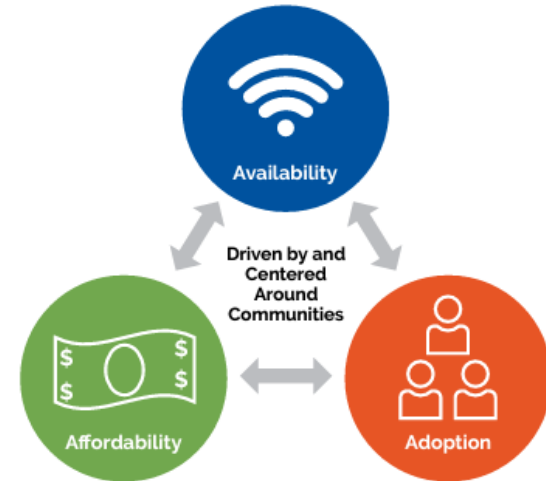
Equitable Access



Advancing Digital Equity for All:

Community-Based Recommendations for Developing Effective Digital Equity Plans to Close the Digital Divide and Enable Technology-Empowered Learning

September 2022
US DEPARTMENT OF EDUCATION
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Security and Privacy



1
Enable Multi-Factor Authentication (MFA)



2
Use strong, unique passwords for every account

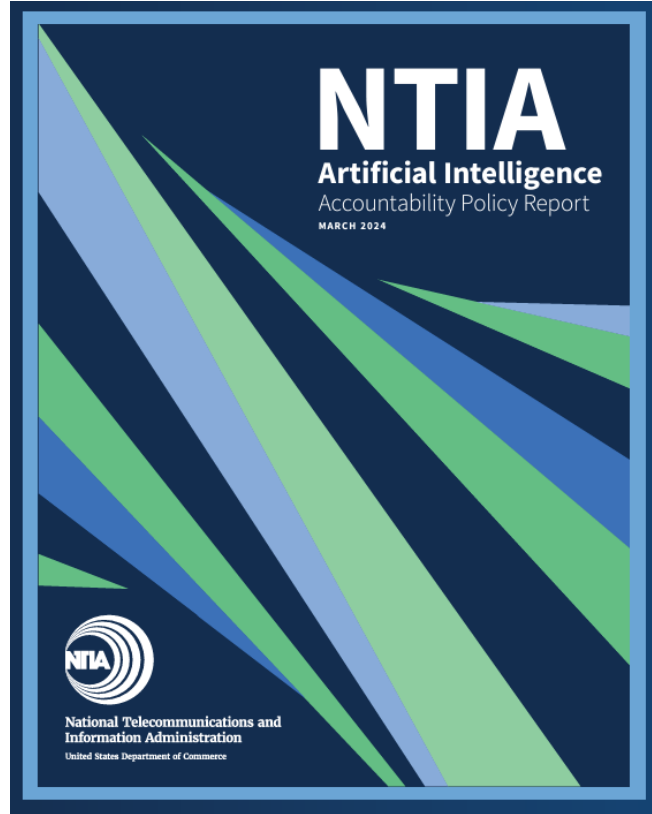


3
Recognize and report phishing



4
Update your software

Accountability



Resource List

- [Artificial Intelligence and the Future of Teaching and Learning](#)
- [Executive Order on Artificial Intelligence](#)
- [The Next Phase of AI in Education at the U.S. Department of Education](#)
- [2024 National Educational Technology Plan](#)
- [Blueprint for an AI Bill of Rights](#)
- [NIST AI Risk Management Framework](#)
- [Blog: How the Institute of Education Sciences is Supporting Evidence Building for Artificial Intelligence in Education](#)
- [Myths and Facts Surrounding Assistive Technology Devices and Services](#)
- [Advancing Digital Equity for All](#)
- [K-12 Digital Infrastructure Brief: Defensible and Resilient](#)
- [Artificial Intelligence: Accountability Policy Report](#)
- [Artificial Intelligence Risk 4 Management Framework: 5 Generative Artificial Intelligence 6 Profile](#)
- [AI Literacy: Bridging the AI Literacy Gap in Education](#)



Questions

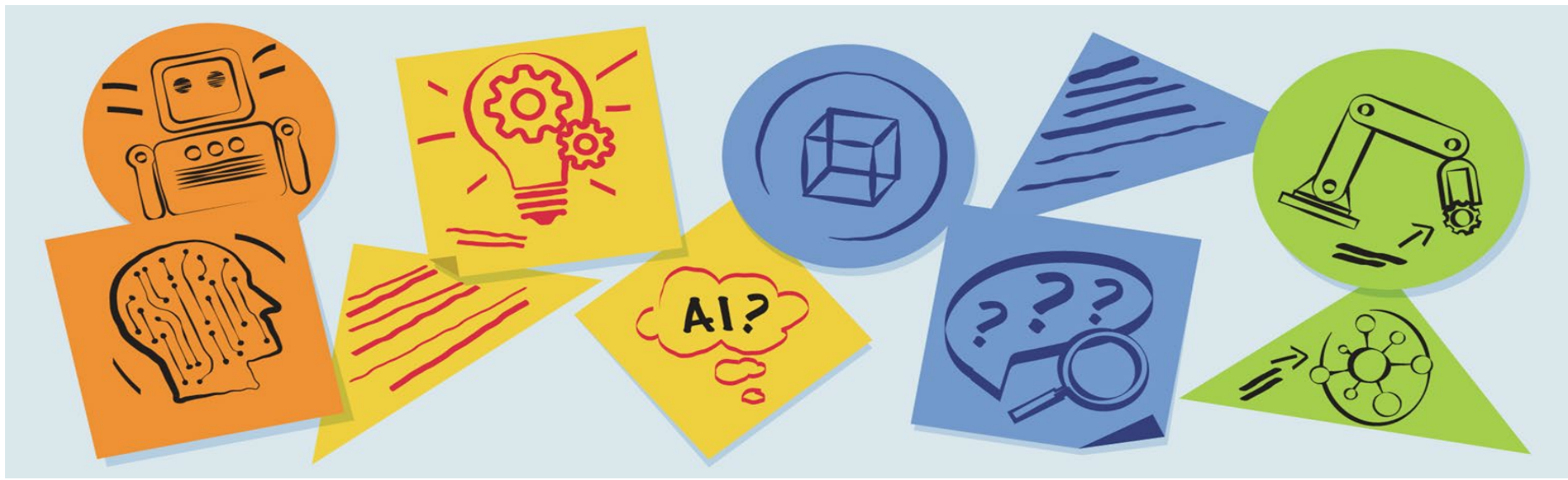
Please Stay in Touch

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