AI 4 CA

Artificial Intelligence

Learning With AI
Learning About AI

Resource Kit

Designed to support implementation of California Department of Education AI guidance which was released September 2023

California Department of Education

Tony Thurmond, State Superintendent of Public Schools

CDE AI Guidance bit.ly/CDE_AI

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Resource Kit

This resource kit, developed in alignment with CDE's AI guidance released in September 2023, includes links to webinars, implementation examples, and graphic representations to support our partners in education.

Contents:

Please note: These resources are meant to provide helpful guidance to our partners in education and is, in no way, required to be followed. The document is intended to be informative rather than prescriptive. The information is merely exemplary, and compliance with any information or guidance in this document is not mandatory. (See Educ. Code §33308.5.)

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Foundational Beliefs

Human relationships are crucial. Technology cannot replace the value of a student's relationship with a caring educator who can connect on a human level.

While AI can unlock increased learning opportunities including personalization and accessibility, prioritizing student safety is paramount and must be addressed prior to deciding on its implementation.

As educators and students learn about AI they are better able to promote ethical use with attention to potential bias, social impacts, and equity. Education about AI enhances responsible digital citizenship.

Educational organizations developing AI policies and guidelines foster ownership and community relevance by involving local partners in the process.

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Context of AI

Artificial Intelligence (AI) permeates our daily lives, from virtual assistants to social media algorithms. AI makes decisions that appear to mimic processing in the human mind.

AI systems analyze large amounts of data. They use complex mathematics to guide output. AI systems improve their results as they continually receive data and feedback.

Reframing AI in terms of math, rather than magic, helps people understand its pros and cons. This leads to critical questions regarding safety, efficiency, and inaccuracies or biases in AI results.

Responsible users of AI consider important questions, such as: What data was used to train this AI system? Does it collect user data for future use? Can we trust the information it provides, or could the AI lack the context needed to give an unbiased, factual answer?

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Timelines & Parallels

November 2022

- ChatGPT launches publicly, reaching 1 million users in just 6 days

May 2023

- U.S. Department of Education releases policy report on AI (tech.ed.gov/ai-future-of-teaching-and-learning/)
- CDE holds panel discussion: Demystifying AI for California Students (csforca.org/artificial-intelligence-panel/)

August 2023

- CDE partners with TeachAI, a global initiative (teachai.org/)

September 2023

- CDE AI guidance released (bit.ly/CDE_AI)
- CDE AI Webinar Series "Learning With AI, Learning About AI" launches (bit.ly/AIFundamentalSkills)

October 2023

- TeachAI Toolkit Released featuring quote from California AI guidance (teachai.org/toolkit)
- White House AI Bill of Rights released, with parallels to CDE AI guidance regarding safe systems, data privacy, awareness of bias (www.whitehouse.gov/ostp/ai-bill-of-rights/)

November 2023

- California GenAI Report released, with parallels to CDE AI guidance regarding capabilities & risks, beneficial use cases, call for ethical use policies & guidelines (bit.ly/CAGenAIReport)

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Benefits of Utilizing AI In Schools

Enhance academic learning in all content areas

Planning Workflow Support

AI-powered tools can help streamline planning and workflow, optimizing time and resources. By leveraging AI for automation and personalized learning, educators can enhance teaching quality and address individual student needs. Webinar recording: bit.ly/MaximizeWorkflow

Accessibility Personalization

AI tools can support customized learning experiences by generating personalized materials, providing insights into student progress, and enhancing accessibility through features like text-to-speech and language translation. Webinar recording: bit.ly/AIAccessibilityPersonalization

College/Career Readiness

Responsible AI use develops critical thinking, analytical problem-solving skills, and time management abilities crucial for success in higher education and the workforce. Exposure to AI tools empowers students to automate tasks, fostering efficiency and digital literacy. Webinar recording: bit.ly/AICollegeCareer

Address Digital Divide

AI can be leveraged to ensure equitable access and enhance digital literacy, bridging the digital use divide. Thoughtfully integrating AI into curricula promotes equitable opportunities, enabling students to develop digital literacy skills

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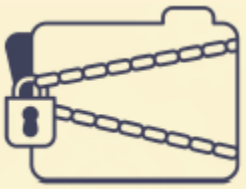
Safety & Guidelines For AI Use

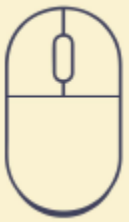
Considerations for Technology Departments

Evaluate AI terms of use for responsible deployment, considering data privacy, security, and transparency.

Ensure legal compliance, reviewing data handling practices, and clarifying data ownership.



Security measures should encompass data encryption, access control, and ongoing monitoring to safeguard against breaches and cyber threats.



Accessibility and inclusivity should be confirmed through universal design principles to ensure access for all students.

Educational partner involvement, including parents, students, and educators, is crucial for gathering input and addressing concerns.

Continuous monitoring and assessment are necessary to ensure ongoing compliance with terms of use and data privacy standards.

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Safety & Guidelines For AI Use

Considerations for Educators & Leaders

Ethical guidelines for responsible and safe online behavior, especially with emerging technologies like AI, are vital for students. AI should enhance and not replace critical thinking, creativity, and human connection.

Involve students in discussions when developing ethical use guidelines at the district, school site, and classroom level.

At the classroom level, ethical use policies for AI may be flexible to be customized for different assignments based on academic learning goals.

While ethical use guidelines for academic honesty are important, digital citizenship must not be neglected. Include AI in character education initiatives to combat cyberbullying, deep fakes, and other misuse cases.

Educate students about how AI collects data on social media and its impact on how they feel and interact online.

Note: Policy & guideline examples can be found at teachai.org

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AI Guidance In Action

Supporting Educators Across Districts

The San Bernardino County Superintendent of Schools has embraced a proactive approach to professional learning in artificial intelligence (AI) by actively engaging educators and administrators. This initiative aligns with the California Department of Education's guidelines and resources for leveraging AI into K-12 education, emphasizing the safe, ethical, and equitable use of AI technologies. Through focused professional development sessions, SBCSS professional development providers have been providing workshops to equip educators with the knowledge to leverage AI for enhancing teaching and learning experiences, while critically addressing AI's capabilities, limitations, biases, and social impacts.

In addition, through this professional learning, SBCSS is aiming to inform responsible use of AI in educational settings, preparing students for a future where AI plays a significant role in various sectors, through an awareness of AI literacy education. This initiative emphasizes AI's role in future sectors, highlighting the importance of preparing students through responsible AI use and focusing on the empowerment of diverse learners, thereby making educational experiences more accessible and engaging. This effort takes a proactive model for integrating AI tools to foster an inclusive learning environment.

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AI Guidance In Action

A California School District Shares Their Journey

The California Department of Education's AI guidance, supported by Computer Science Coordinator Katherine Goyette, played a crucial role in San Gabriel Unified School District's AI journey. With this guidance, our district's AI Task Force excelled in shaping our approach to developing district guidelines. Leveraging the guidance, our diverse taskforce, including teachers, administrators, and classified staff, meticulously crafted comprehensive guidelines prioritizing responsible AI integration. By aligning policies with regulations and leveraging frameworks like academic integrity and privacy, we gained a holistic understanding of AI's impact.

Collaboration with educators and staff ensured diverse perspectives, prioritizing community well-being and student success. The hands-on process facilitated collaborative learning, laying a solid foundation for future AI initiatives in our district. The COE guidance provided invaluable resources, guiding us toward safe, effective, and responsible AI use across our organization. Empowered by COE support, we navigated AI integration with confidence and foresight, ensuring meaningful progress in developing district AI guidance and policies.

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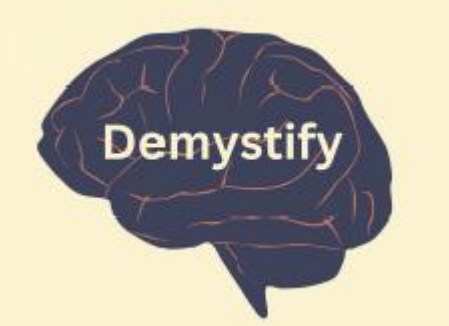
Learning With AI
Learning About AI

Fundamental Skills For Educators & Students

Review AI data collection, user privacy

Leverage AI capabilities, critique inaccuracies

Consider presence of bias, societal impacts of AI



Build understanding of how AI systems work

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Learning With AI
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Fundamental Skills For Educators & Students

Key Steps for Safe Use of AI Systems

- Ensure compliance with FERPA & COPPA
- Review data security measures (eg.
- encryption, authentication)
- Communicate data privacy guidelines to students & parents

Guiding Questions

How might we build awareness of data collection activity of AI systems?

How might we protect user privacy in the educational setting in regards to AI systems?

Considerations

- Seek documentation from vendors regarding data privacy law compliance
- Provide training to educators & students regarding privacy, personal identifiable information, terms of use
- Follow a software approval process
- Infuse AI literacy into digital citizenship lessons

Webinar recording:
bit.ly/AISafeUse

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Learning With AI
Learning About AI

Fundamental Skills For Educators & Students

Key Steps for Safe Use of AI Systems

- Provide professional learning for leveraging AI for workflow support, personalization, adaptive learning & accessibility
- Collaboratively develop AI ethical use guidelines to maintain academic integrity.
- Embed prompt engineering & fact-checking skills into digital literacy lessons.

Guiding Questions

How might we leverage the capabilities of AI systems?

How might we foster a culture that questions the accuracy of AI outputs?

Considerations

- Encourage educators and students to collaborate with AI systems as co-pilots, validating critical thinking skills & nuances of human experience.
- Foster conversations in school systems & within classrooms about AI, to promote in person relationships & thoughtful usage of digital tools
- Build an understanding of how AI systems produce outputs, to better understand its biases & inaccuracies.

Webinar recording:
bit.ly/AIProsAndCons

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Fundamental Skills For Educators & Students

Guiding Questions

How might we identify bias in AI systems?

How might we consider social impacts of AI systems?

Key Steps

- Incorporate bias awareness discussions into digital citizenship lessons
- Encourage curious skepticism of AI outputs in ethical use guidance
- Embed impacts of computing concepts into activities utilizing AI, to provide societal context for emerging technologies

Considerations

- Emphasize the value of human connections while discussing social impacts of co-existence with emerging technologies
- Real world case studies provide relevant learning
- Hands-on projects that encourage building of AI models increase an understanding of how unintentional bias in datasets occurs

Webinar recording:
bit.ly/AISocialImpacts
bit.ly/ResponseToAIBias

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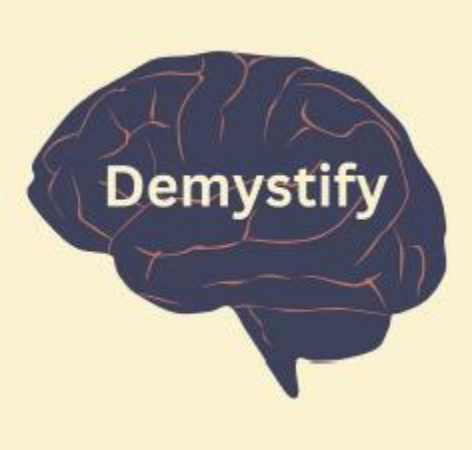
Fundamental Skills For Educators & Students



Key Steps for Demystifying AI

- Approach AI through inquiry & natural wonder
- Encourage access to computer science for **ALL** K-12 students
- Integrate AI lessons in alignment with the 5 Big Ideas of AI from AI4K12.org

Guiding Questions

How might we build an understanding of how AI systems produce output?

Are we preparing our students to consumers or producers of AI systems?

Considerations

- Foster student voice, motivation, & problem-solving skills within AI education to encourage active contribution to the digital world
- Challenge the perception that AI is for experts
- Broaden exposure to AI literacy to foster an inclusive computing culture

Webinar recording:
bit.ly/UnderTheHoodOfAI

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Developing AI In Schools

Explore and create within computer science

Learning about AI aligns with computer science concepts (computing systems, networks & the internet, data analysis, algorithms, and impacts of computing).

Integrating learning about AI promotes diversity and inclusion in STEM fields, helping to address systemic bias and expanding access for underrepresented groups.

AI learning integrated with computer science encourages student voice, problem-solving skills, and creativity, empowering them to design AI systems that solve real-world challenges.

Resources for integrating computer science & learning about AI into the curriculum:

bit.ly/CSEdWeek2023

csforca.org/ai

ai4k12.org

CDE AI Guidance bit.ly/CDE_AI

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