Crafting Policies that Support Student Thriving in an AI-Driven Future

Saskatchewan School Boards Association
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PedagogyFutures

Our Work

Pedagogy Ventures

PedagogyFutures
(Formerly pedagog.ai)

- Webinars
- In-person and virtual workshops
- Live and asynchronous courses
- Curriculum and policy resources
- Thought leadership

Socrat.ai

- Classroom-safe AI tools
- AI-facilitated formative assessment activities
- Writing feedback
- Group discussion facilitation
- AI that is designed to enhance, never replace, student thinking

EdTech Consulting

- Custom LMS
- Custom AI tools
- Policy and strategy advising
- Responsible integration guidance
- Virtual educational event management

In order be future-ready, we think schools must...

Bridge Curricular Goals

Connect traditional academic standards with emerging skills by designing learning experiences that prepare students for both human flourishing and real-world challenges.

Adapt Classroom Pedagogy

Transform teaching approaches to embrace student-centered, collaborative learning environments where technology enhances rather than replaces meaningful human interaction.

Use AI Responsibly

Implement AI tools that complement teacher expertise while maintaining transparency about their capabilities, limitations, and ethical considerations in educational settings.

Integrate Technology Responsibly

Adopt technologies that protect student privacy, promote digital citizenship, and ensure equitable access while critically evaluating their impact on learning outcomes.

01. AI INTRO AND UPDATES

02. POLICY CONSIDERATIONS FOR AI USE AND INTEGRATION

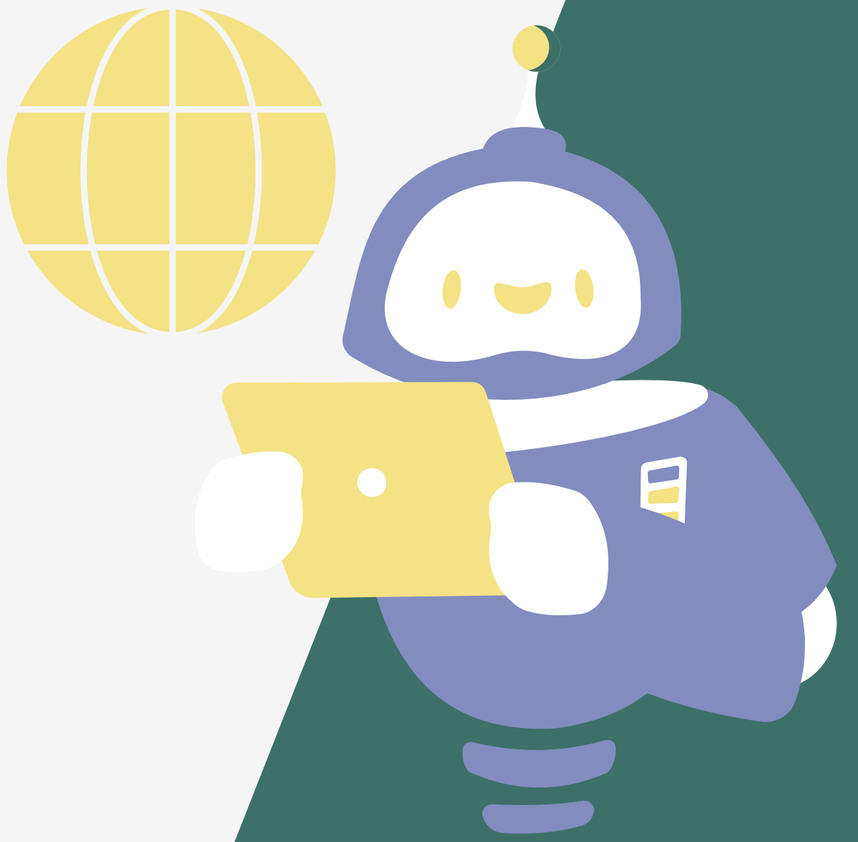
03. ASKING THE BIGGER QUESTIONS

04. AN ETHICAL FRAMEWORK FOR AI IMPLEMENTATION: PRINCIPLISM

05. MEETING THE MANDATE IN THE CLASSROOM

AGENDA

AI Intro and Updates



Artificial Intelligence Overview

Artificial Intelligence (AI) is an interdisciplinary field that seeks to create machines capable of mimicking human-like cognitive abilities such as learning, reasoning, problem-solving, and decision-making.

How AI works

The building blocks of AI are **algorithms**, which are trained using data to improve their performance—this process is called **machine learning**.

In other words, AI learns from examples in the training dataset, identifying patterns and relationships. This learning forms the basis for AI to make predictions or decisions.

Note: This is the point at which most of us interact with AI, even if we aren't computer scientists. The selection and quality of the training data are crucial, as any biases or gaps in the data can surface in the AI models.

How we got here

1950
Alan Turing proposes the Turing Test

1956
Concept of AI is formally introduced.

1980s
Introduction of neural networks and natural language processing (NLP)

1990s
Integration of AI with other technologies such as robotics.

2000
AI advancements in facial recognition, medical diagnosis, etc

Present
Generative AI

Generative AI

Generative AI refers to a class of AI models that can generate new content, such as text, images, or music, by learning patterns and structures from existing data.

Note: Because these Generative AI models cannot “think,” they can also sometimes make things up, a phenomenon called **“hallucination.”**

In the context of Generative AI, "hallucinations" refer to the instances where the AI generates outputs that are not strictly accurate or factual, but are fabricated based on the patterns and structures it has learned from its training data.

AI Tools

OpenAI

Microsoft

Google

Perplexity

SCRATCH

MAGIC SCHOOL

Khanmigo

schoolai

Recent AI Industry Updates

- Changes in free vs paywalled models
- LLMs improving at math, reasoning, coding, etc
- Writing becoming more human-like
- Voice-to-voice features provide new ways to communicate with AI.
- More integrated across platforms (more unavoidable)
- More customizable
- More ways to organize your content
- Deep Research, Operator, and Sora

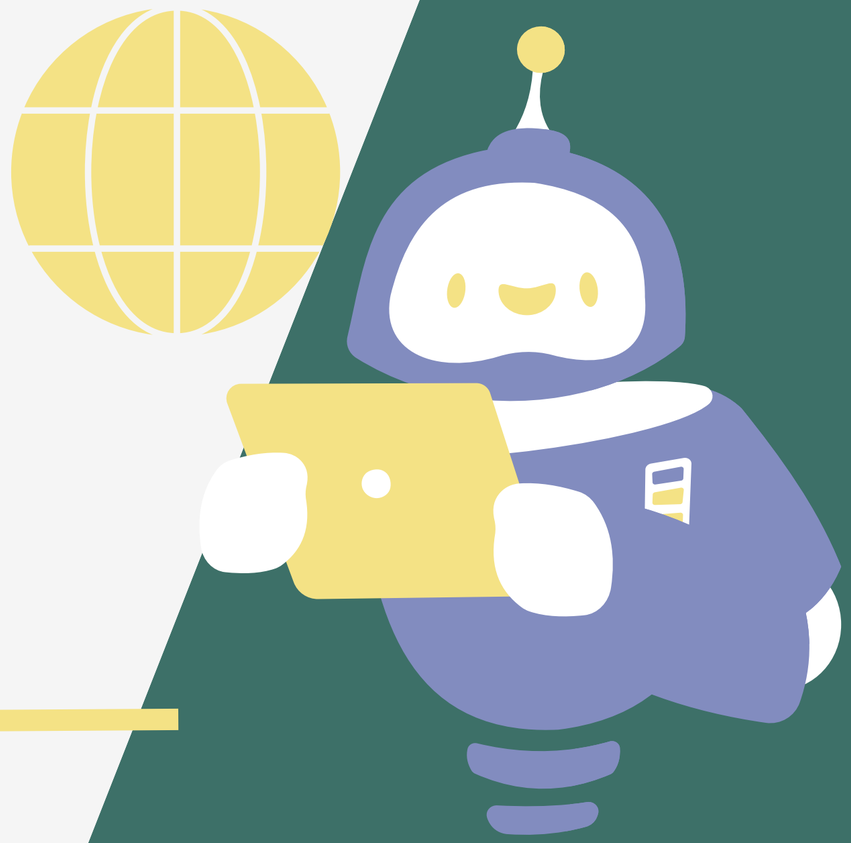
Relevance for Education

- More sophisticated models, greater need for comprehensive AI literacy education
- AI-generated content becoming harder to detect
- Added tools for teachers, researchers, administrators, and support staff
- Equity and access issues of pay-walled features

What we’re seeing and hearing

- Schools piloting various AI tools for teacher and student use
- Teachers looking for ideas and guidance around safe AI usage in the classroom
- Questions about which initiatives are worth the time, effort, and money in terms of best preparing students for the future
- Fears that AI will inhibit, rather than complement, student thinking
- Questions about how to make policy around constantly evolving technology

Policy Considerations for AI use and Integration



Some Key Issues a Policy Needs to Address

Defining standards for appropriate use
- Clearly defining fair-use while also allowing for flexibility

Defining clear goals for tech integration
- Not integrating technology for technology's sake
- Preventing over-reliance
- Addressing equity and impact

Implications for curriculum
- Comprehensive AI literacy education
- Meeting existing standards

Student Protection
- Data Privacy
- Harmful uses of AI (i.e. bullying)

Plan to adapt as technology changes

Ethical Considerations

Implementing AI Policy

Input from relevant stakeholders

- Incorporate student and teacher voices
- Policies will be stronger when informed by real-world classroom experiences

Communication strategy

- Clearly-communicated guidelines can allow for fairer implementation and enforcement
- Update language in student handbooks, syllabi, and school websites

Training and Professional Development

- Set staff up for success in implementing policy and meeting student needs

Educate caregivers and community members

- Create consistency for students

Budgeting

- Discerning which investments achieve set goals
- Tech tools, PD, infrastructure upgrades, curriculum updates

Some ethical concerns

Bias
- Non-representative data
- Language
- Use of data

Privacy and data security
- Student privacy laws
- Deciding privacy risk for students

Inequity
- Access
- Training
- Impact of AI integration

Human and environmental impacts
- Unfair labor practices
- Water and energy use

Social and civic impacts
- Relationship with information
- Impact on socialization
- Cyberbullying

Example ethical decisions around AI & Education

When deciding which AI tool or service to purchase	What if a tool stands to help high achieving students more than lower achieving students?
When evaluating the goals of investing in AI	What if a tool improves academic achievement but harms SEL?
When considering what level of privacy is worth sacrificing	Any use of technology requires some sacrifice of privacy, but are there certain lines that should not be crossed?

Asking the Bigger Questions

The education system that AI is entering has existing challenges (engagement, inequity, learning loss, budget constraints, etc)

How do we leverage AI to help improve long-standing issues rather than exacerbate them?

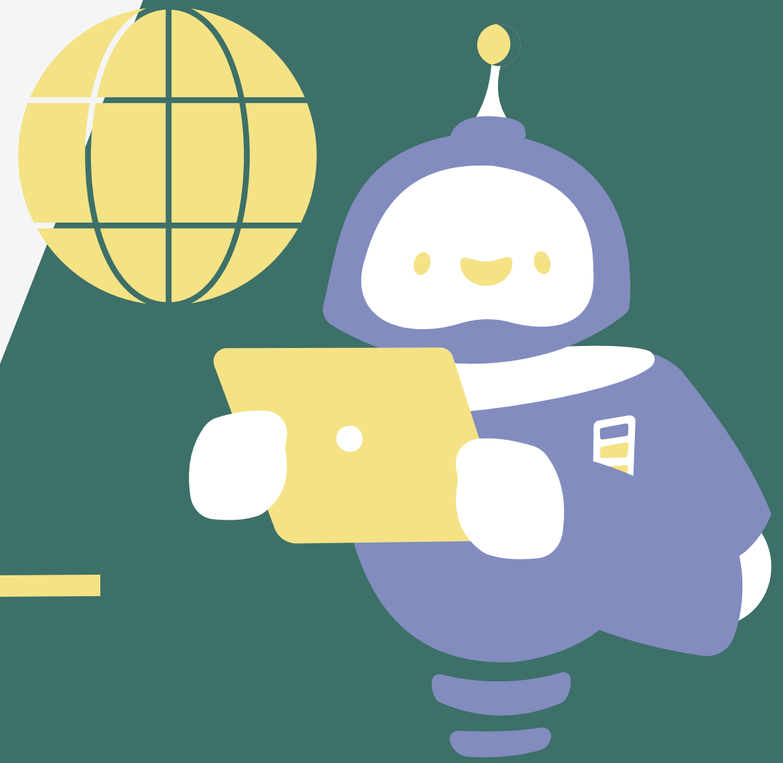
Many of the most popular AI tools today are specifically designed to mimic human thinking in various ways

How do we convince our students not to relinquish their own thinking to these tools?

AI will continue to integrate into the systems used in various realms of life: school, work, civic engagement, and social interaction

How do we prepare students to be informed users and give them the tools to push back against nefarious uses of AI?

An Ethical Framework for AI Implementation: Priciplism



What is Principlism?

- Ethical framework based on four fundamental principles
- Developed by Tom Beauchamp and James Childress for biomedical ethics
- Balancing and applying ethical principles in context
- No single principle always takes precedence
- **Strengths**
  - Provides a clear framework for ethical analysis
  - Balances simplicity with comprehensive coverage
- **Limitations**
  - Potential for conflicting interpretations
  - Requires stakeholders to make nuanced decisions

The Four Principles

Respect for Autonomy

- Recognizing individual self-determination
- Informed consent and decision-making rights

Non-maleficence

- Avoiding harm
- First, “do no harm" principle

Beneficence

- Promoting well-being and benefit
- Active steps to help others

Justice

- Fair distribution of benefits and risks
- Equal treatment and access

Adapting Principlism to AI in Education

- Respect for Autonomy
  - Student agency in AI integration
  - Informed consent for data collection and use
- Beneficence
  - Enhancing learning outcomes through AI
  - Supporting student well-being and growth
- Non-maleficence
  - Preventing bias and discrimination in AI algorithms
  - Safeguarding student data and privacy
- Justice
  - Ensuring equitable access to AI resources
  - Fair treatment in AI-assisted assessments

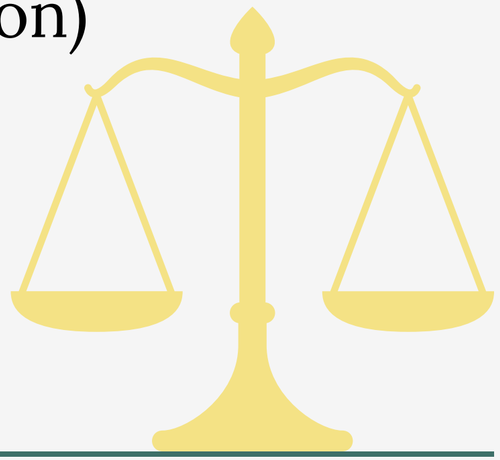
Framework for Applying Principlism

- Identify the Ethical Problem
- Gather Relevant Information
- Apply the Four Principles
- Consider Alternatives
- Weigh Principles and Options
- Make a Decision
- Implement with Care
- Evaluate Outcomes
- Review and Reflect

Balancing Principles

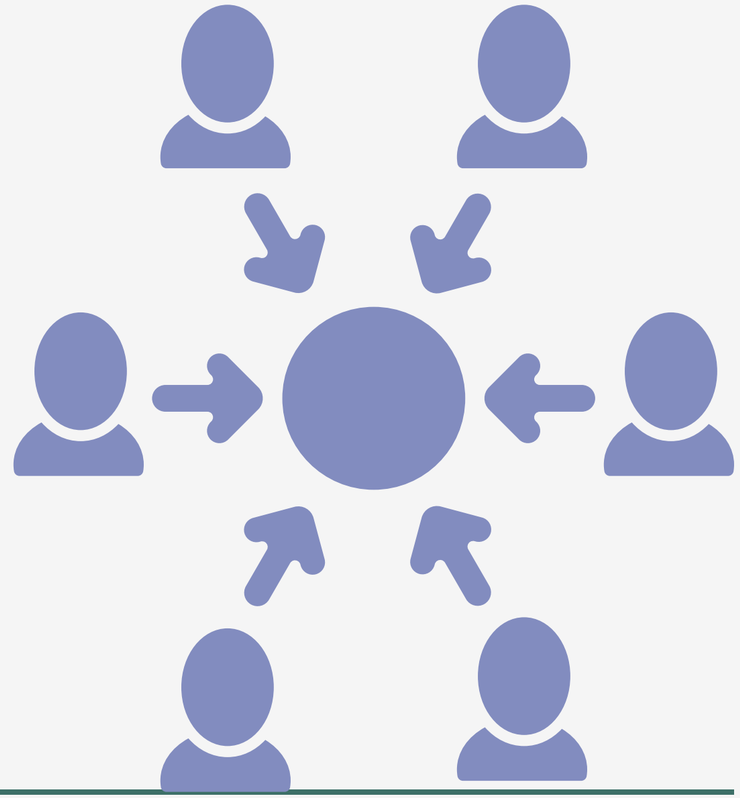
Identify situations where principles may contradict

- Autonomy vs. Beneficence (AI determinism vs student learning gains)
- Beneficence vs. Non-maleficence (Data use vs misuse)
- Justice vs. Beneficence (Who benefits?)
- Autonomy vs. Justice (Personalization and Standardization)

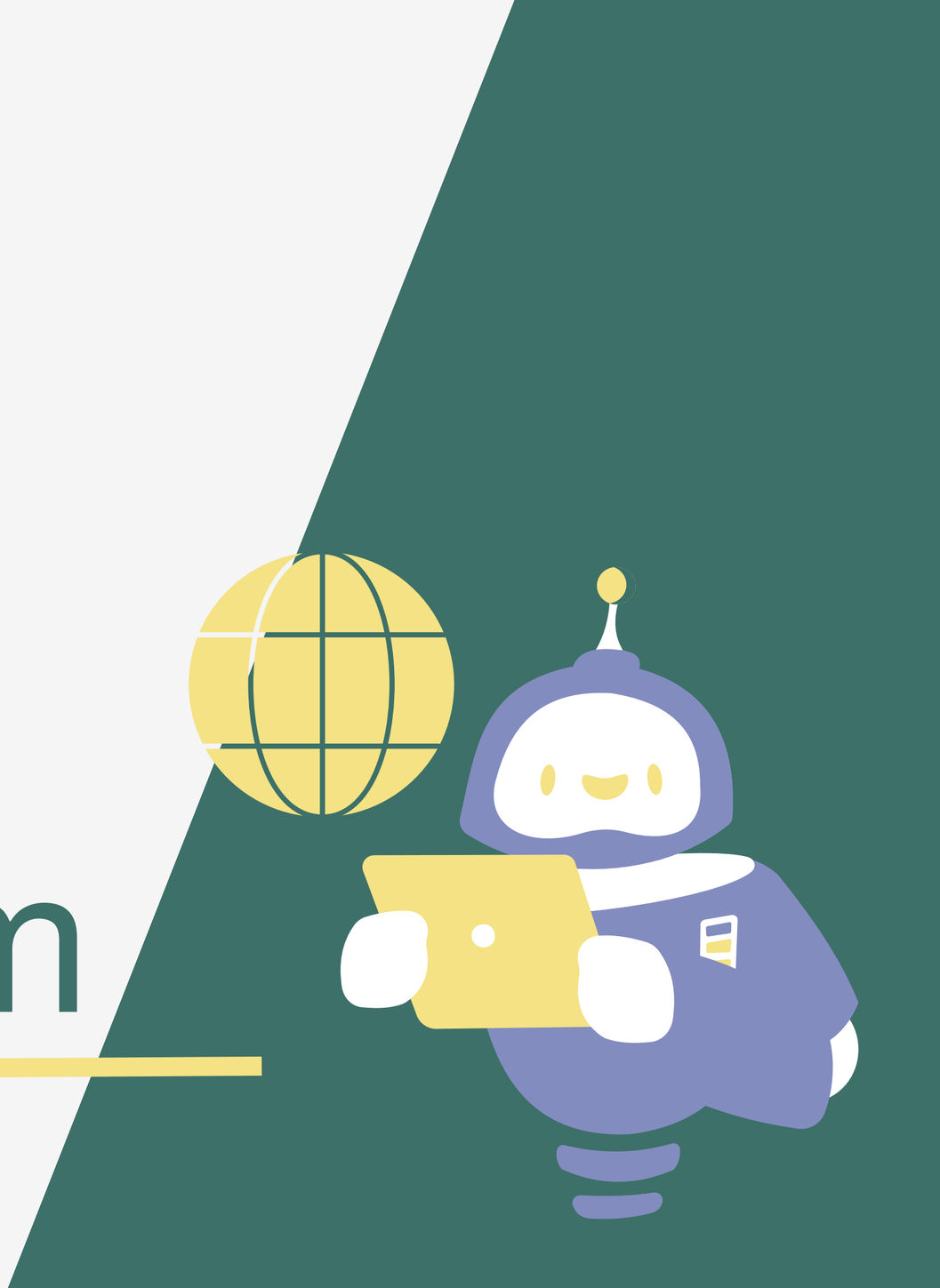


Stakeholder Involvement

- All Key Stakeholders
  - Students and their families
  - Faculty and staff
  - Administrators and policymakers
  - Technology developers
- Provide AI Ethics Education
  - Students can use the 4 principles too!
- Feedback Mechanisms



Meeting the Mandate in the Classroom



Digital literacy, the technological and human dimensions*

Technological dimension

"Learning about AI"

- Types of AI technologies
- Development
- Statistics
- Algorithms
- Coding

Human Dimension

"Preparing for AI"

- Ethical concerns
- Impact on jobs
- Social and civic impacts
- Everything that people need to know to prepare for AI's impact on their lives

*Council of Europe, 2022

Issues with AI Detection

Types of detection tools

- Apps that claim to determine if a piece of writing was completed by a human or a chatbot
- Screen tracking software that records typing

Why they’re ineffective

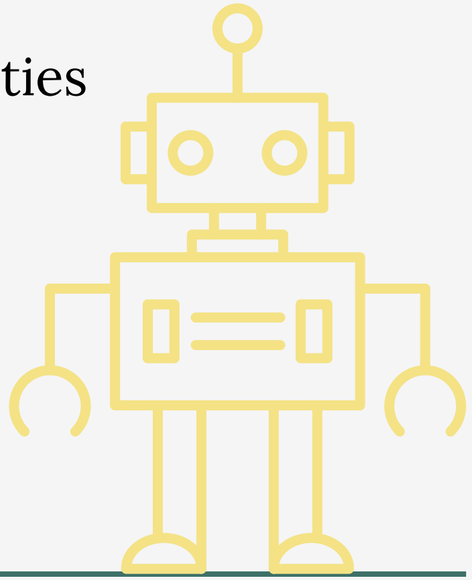
- False positive and false negative results are common
- Can be evaded with minimal efforts
- Other software can circumvent detection

Ethical issues

- Who gets caught?
- Increased surveilance
- Creates a punitive environment for students
- Restricts student autonomy

“AI-Proofing” Education

- Updating Assessments
  - Assessments that students cannot complete entirely by using AI
  - Assessments that include an in-class, live, or presentation components
- Creating opportunities for students to use AI tools creatively and productively
- Creating opportunities for students to think critically about the capabilities of AI tools and critique AI-produced content
- Creating opportunities for students to grapple with the civic and social implications of AI’s development and use



The human dimension of education

- AI will undoubtedly change the job market
  - What skills will be needed
  - It may effect the amount of jobs available
- This presents an opportunity to embrace the human dimension of education
  - Education for the sake of personal growth and development, not just job preparation

Soft skills for the age of AI

- Empathy
- Decision making
- Critical thinking
- Problem solving
- Rhetorical skills

Why soft skills? Because they make us human!

The issues students will need to grapple with

- Job Displacement: Should governments regulate AI to prevent job loss?
- Policing: Is the use of AI in predictive policing ethical?
- Healthcare: Is using AI to diagnose diseases or predict health risks ethical?
- Advertising: Is using AI to create personalized ads an invasion of privacy or a convenient feature?
- Deep Fakes: Is the creation and use of deep fakes ever ethical?
- Face Recognition: Is using AI-powered facial recognition systems by governments and private entities ethical?
- Justice: Should AI be used to predict criminal behavior and assist judgments?
- Self-driving Cars: How should AI be programmed to make decisions?
- Privacy: What level of privacy should we expect in a society powered by AI?

What this might look like

- Learning through real-world scenarios
  - Simulations
  - Case studies
- Assessments and activities that build the requisite skills
  - Debates
  - Speeches, videos, and podcasts
- Work with AI-Generated content
  - Fact checking, looking for bias and misinformation, compare/contrast
- Using AI responsibly, creatively, and productively

Questions

Recent and Upcoming Projects

New course: AI & Education Essentials

Upcoming webinars

- The Human and Environmental Impact of AI
- The Importance of Bottom-Up AI Policy Developments

Upcoming courses

- AI for ELA
- The Ethics of EdTech
- AI, Human Rights & Education (Live this summer)

Socrat.ai updates

- Increased Socrat Collab and Socrat Write functionality
- Student AI literacy course (upcoming)

Thank You!

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