

Lesson 14: AI Code of Ethics

45 minutes

Overview

In small groups, students conduct research using articles and videos that expose ethical pitfalls in an Artificial Intelligence (AI) area of their choice. Afterward, each group develops at least one solution-oriented principle that addresses their chosen area. These principles are then assembled into a class-wide "Our AI Code of Ethics" resource (e.g. a slide presentation, document, or webpage) for AI creators and legislators everywhere.

Question of the Day: What are guidelines we can use to create ethical machine learning apps?

Standards

Full Course Alignment

CSTA K-12 Computer Science Standards (2017)

- IC - Impacts of Computing

Agenda

Warm Up (5 minutes)

Journal

Activity (35 minutes)

Research and Reflect

Draft "Our AI Code of Ethics" Resource

Wrap Up (5 minutes)

Journal

Extension Activities

Ethics in AI

Critically Conscious AI

Objectives

Students will be able to:

- Create at least one guiding principle that addresses an AI ethics issue.
- Define artificial intelligence (AI) in their own words, using technologies they encounter in their daily lives as examples.
- Describe at least one example of an ethical issue pertaining to AI, along with its impact on society.

Preparation

- Prepare to share online one **AI Ethics Research Areas** handout per group.
- Print or prepare to share online one **AI Ethics Research Reflection** handout per group.
- Prepare a shareable web document, slide presentation, video template, or any other form of media to be used to comprise your class' "Our AI Code of Ethics" resource.
- Check the "**Teacher's Lounge**" forum for verified teachers to find additional strategies or resources shared by fellow teachers

Links

Heads Up! Please make a copy of any documents you plan to share with students.

For the teachers

- **AI Code of Ethics** - Slides
▼ Make a Copy
- **Our AI Code of Ethics [Template]** - Slides
▼ Make a Copy

For the students

- [AI Ethics Research Areas](#) - Activity Guide [▼ Make a Copy](#)
- [AI Ethics Research Reflection](#) [▼ Make a Copy](#)
- [Ethics & AI: Equal Access and Algorithmic Bias](#) - Video

Vocabulary

- **Ethics** - guidelines for good behavior.

Teaching Guide

Warm Up (5 minutes)

Journal

 **Discuss:** *What are examples of artificial intelligence you've seen either in real life or in fiction, like movies or music or television?*

Have students record their responses in their journals, then share with a neighbor. Before having a full-group discussion, transition to the next prompt.

Discuss: *Can you think of times when these examples were used for good? Can you think of times when these examples were used for bad, even if unintended? Are there things they do we might consider "right" or "wrong"?*

Have students think to themselves first, then discuss with a neighbor before asking students to share as a full group. Have students share the example they thought of, then the situation they thought of that could be used for good or bad.

Discussion Goal: This prompt is intentionally open-ended and vague with how we define "good", "bad", "right", and "wrong". Give students space to explore how they would describe artificial technology and find examples of "good" or "bad". Try to hear from a wide variety of voices in your classroom. When ready, advance to the next slide and use the remarks below to wrap up the discussion.

Vocabulary:

- **Ethics:** guidelines for good behavior.

Remarks

When we discuss right and wrong, good and bad, we are discussing "ethics". As we create our own apps using machine learning and AI, it's important to consider the ethical impact of our decisions. No matter how "intelligent" machines may appear, they are still tools that humans create. If created or used without the right guidelines, machines with AI can easily make unethical decisions, such as being biased against someone's gender or race. The more aware we are of ethical issues involving AI, the better we will be able to make sure that AI benefits everyone in society.

 **Question of the Day:** What are guidelines we can use to create ethical machine learning apps?

Activity (35 minutes)

 **Video:** Show students the [Ethics & AI: Equal Access and Algorithmic Bias](#) video to setup the activity they will complete today.

Teaching Tip

To encourage active engagement and reflection, use one or more of the strategies discussed in the [Guide to Curriculum Videos](#).

Research and Reflect

Groups: Place students in groups of three or four.

Remarks

Roleplay time! Today you are a group of AI experts. Each group specializes in a particular area of AI ethics. You are holding a meeting to write an “AI Code of Ethics”, which will be a set of rules for people who work on AI machines and lawmakers worldwide! One example of a rule might be, “AI must treat all people fairly.” Before you begin writing these rules, you will research your area and discuss it with your group members.

 **Distribute:** Digitally share the [AI Ethics Research Areas](#) document with each group.

 **Do This:** Explain that this document lists research areas in AI ethics, along with sample articles and videos students may read and watch. Have groups choose an area of specialization. Encourage students to pick different topics if possible.

 **Distribute:** Provide each group with one copy of the [AI Ethics Research Reflection](#) handout.

Assessment Opportunity

The responses in the activity guide can be used to formatively assess how well students have met the objectives of the lesson.

AI Ethics Research Reflection

Work: Have groups research their area with their fellow group members, answering questions on the handout along the way. Encourage students to skim longer articles for key ideas, take notes, pose additional questions, and use a search engine to investigate further if time permits.

 **Share:** Ask groups to share what they learned, along with a few answers to the questions on the handout.

Draft “Our AI Code of Ethics” Resource

 **Display:** Once students have completed their research, share an example of an AI code of ethics similar to what they will be creating, such as those by [Microsoft](#) and [Google](#).

 **Discuss:** *Your next task is to create a similar resource, an “AI Code of Ethics”. Based on what you’ve read and discussed, what are the most important ethical principles (rules) you believe all current and future AI must follow?*

Work: Allow groups time to write at least one principle for the class code of ethics. Ideally, their principles should be written as a sentence followed by a short paragraph that provides more context to the reader (see Google’s page). The format of the resource is completely up to you and your students. For example, you might ask groups to

create a poster, or for each take a single slide from a shared presentation, or a page from a shared document. You might even ask students to use their webcams to record short video clips that you can compile and publish as a single video. Be as creative as you wish!

Wrap Up (5 minutes)

Journal

 **Prompt:** *How would you describe "AI ethics" to a family member or friend who didn't participate in today's lesson?*

Extension Activities

Ethics in AI

Ethics in AI is a large, complex topic that is invaluable for students to experience, discuss, and wrestle with their own understandings of artificial intelligence. In fact, this topic may overflow beyond just a single lesson and require more time and attention with students.

If you would like to extend the focus on ethics in AI, consider adapting some of the resources from the [MIT AI + Ethics curriculum](#), which is an ethical AI curriculum specifically designed for middle school and many of the activities can be done without a computer if needed.

Critically Conscious AI

This lesson provides an opportunity for students to be critical of existing AI programs, developing a Code of Ethics as a potential solution to existing issues in the industry. This critical lens can be extended to additional learning objectives and activities as outlined in the [Artificial Intelligence](#) chapter of the [Critically Conscious Computing: Methods for Secondary Education](#) online textbook from Dr. Amy Ko.

This chapter provides an overview of additional concepts related to AI and Machine Learning, and ends with a "unit sketch" which outlines additional lessons and activities that could be introduced in a unit on AI and Machine Learning from a critical lens. These activities could be appropriate if you would like to continue exploring artificial intelligence from a critical lens with your students.



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