Alana Robinson & Qianhui Vanessa Zou
Final Project: Unit Plan
SEDC 73600 Curriculum Design
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Impacts of Artificial Intelligence and Machine Learning: How the A.I. BOTS in Our Lives Learn

Lesson 7: Training Data and Bias (Vanessa):

Learning Target:

- Students will learn about how AI will learn with a different set of data.
- Students will learn how AI creates bias with limited data.
- Students will learn AI can learn from images.
- Students will learn how human bias can play a role in machine learning.

Standards:
K-1.CT.2 Computational Thinking - Data Analysis & Visualization
Identify different kinds of data that can be collected from everyday life.
2-3.IC.1 Impacts of Computing
Identify and analyze how computing technology has changed the way people live and work.

2-3.IC.3 Impacts of Computing
Discuss and explain how computing technology can be used in society and the world.

2-3.IC.5 Impacts of Computing
Identify and discuss how computers are programmed to make decisions without direct human input in daily life.
4-6.CT.1 Computational Thinking - Modeling & Simulation
Develop a computational model of a system that shows changes in output when there are changes in inputs.

Introduction/Hook:

Game: "Find the Common Trait"

Students will gather in a group by making groups of number of people announced by the teacher. The teacher will choose to give a number between 2 to 5. For example, the teacher announces "Make a group of 3." The students will move to create a group of 3. Within the group the students will talk amongst themselves to find something they have in common, from physical traits to interests to family related. When a commonality has been found with everyone in the group, the group will tell the teacher the commonality. After each group has decided on their commonality, the groups are mixed again with the number of people announced by the teacher. The new groups will repeat the same process of finding something they have in common.

Source: [Recognizing Bias]

OR

Game: "Snowball Fight" (Get to know each other activity)

Students write 3 things about themselves on a piece of paper. The written paper is crumpled up into a snowball and the students get into a snowball fight for 1 minute. When the time is up, each student will grab the closest snowball and find the person who wrote it.

(I Do): Bias

After the game, the teacher briefly go over what went on during the game. A discussion is lead on why it is easy to find differences with others and how finding things in common between diverse people help them in a conflict. The teacher tells the students that they are all diverse individuals with different perspectives and their experiences and personalities form who they are and what they believe.

Introduce the word bias and define the word. Bias is prejudice in favor of or against one thing, person, or group compared with another in a way that is considered unfair. Everyone has bias and sometimes we are not aware of the bias. We all develop different biases due to the different experiences we have

(We Do): Bias

Students will read the provided paragraph as examples of how a bias can create an unfair situation. The paragraphs might need paraphrasing or read by the teacher.

Paragraphs: Blind Auditions

> Google Photos Algorithm biased against black people
> Source: 5 Algorithms that Demonstrate Artificial Intelligence Bias - GeeksforGeeks

Students discuss what the bias is in the paragraph and what solutions were used to discourage or limit bias.

Independent Activity (You do):   New Training for AI

Students will partner up and review lesson 6's data set of the New Training for AI slide. The students will discuss the bias in the images provided to the AI and look closely at the AI for Oceans #2 - Code.org training. The students will discuss how the training decreases bias, how there is still bias and what type of data set should be used to decrease bias more. New Data Set for AI for Oceans

Wrap-Up-Debrief/Reflection: How do you want to be assessed? Peer or Self Assessment

Conversation Talk about the activity with your peer (Peer Assessment)

- What did you learn about A.I. from this activity?
- What are you still confused about or have a question about?
- What did you enjoy about the activity?

Exit Ticket (Self-Assessment)
Choose one question to answer

- What did you learn about A.I.?

- What did you enjoy about this activity?
- List 3 examples of A.I. in your life and what makes it A.I.?
- What do you still have a question about or are confused about?