

Unit – Ethics in CS

Essential Questions:

How should ethics play a role in our decisions when using computers?

What is an individual's responsibility to act ethically?

What is the government's responsibility to define ethical behavior?

Lesson #3 – A Racist Algorithm

Objectives - SWBAT argue for or against the ethics of using an algorithm that creates inequity.

Supporting EQ: Can an algorithm be racist?

Standards (Rhode Island Computer Science Standards)

3-RC-CU-1 Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices.

3-RC-CU-2 Design and analyze computational artifacts to reduce bias and equity deficits.

Overview

Do Now: Can a computer be racist? (This could be the daily attendance question)

Activity: Students will read an article and analyze the results of the High School choice matching algorithm, which was designed to reduce racial inequity by disassociating racial identifiers from data, but ended up causing even more inequity. Students will discuss in groups alternatives to the current matching algorithm with the goal being to reduce inequity.

Notes

Students will read this article to prepare for class: <https://www.fastcompany.com/90331368/nyc-students-take-aim-at-segregation-by-hacking-an-algorithm>

They will answer the following questions based on the article:

1. What is one potential ethical issue with the way the High School Matching Algorithm works?
2. What alternatives have been proposed to place students in NYC High Schools?
3. What do you think is the best way to reduce inequity in NYC High Schools?

After, potentially, a whole group discussion (depending on setting) where students come up with “goals” for the High School matching algorithm. What is the algorithm trying to accomplish, and is it effective at what it does?

Students will be broken up into groups of 3-4 and tasked with “fixing” the algorithm, either by adding different measures to it, changing the way students are matched, or scrapping the algorithm altogether and making high school admissions into a lottery for the sake of accomplishing one of the “goals” outlined in the previous discussion. Students are encouraged to do research to support their decisions.

Handouts

The article can be sent to students via link. The questions can be answered via a Google Form, or a Desmos activity that allows students to see a selection of other students' responses to the same questions.

In-Person Learning Alternative:

Students can write their answers to these questions on paper and bring them in for small group discussion.

Resources

<https://www.fastcompany.com/90331368/nyc-students-take-aim-at-segregation-by-hacking-an-algorithm>

Assignment/Assessments

Students will submit their idea/proposal for altering the algorithm to increase equity via a Google Doc to Google Classroom.

