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## ethics

- 1. The Introduction states, "...attempting to reduce human behavior, performance, and potential to algorithms is no easy job." The parents loved Sarah Wysocki, but the algorithm did not. For this algorithm, Sarah was an "instance" and there were several attributes used to describe her. These attributes were weighted to produce an IMPACT score. What do you think some of the attributes were? Can you think of attributes that could better represent "human behavior, performance, and potential"? Is it possible to fully code a teacher's impact on student learning? What might a feedback loop look like for the IMPACT WMD?
  - a. Some of the attributes could have been how quickly the teacher can write, number of words spoken, meaning how fewer words to explain a problem is better than more, or perhaps even how large they write. Clearly, many of these attributes do not necessarily measure the effectiveness of a teacher's ability to teach. Better attributes could include if students actually understand material at the end of the lecture, or the number of examples or amount of relevant information they incorporate to enhance learning. I don't think it's fully possible to code a teacher's impact on learning because it's difficult to measure charisma, student enthusiasm in the classroom, or other factors that are not reducible to a number, but contribute to student comprehension and success. The IMPACT WMD might loop through a recording of a lecture and count stutters or small mistakes made in a lecture. It would return these numbers to a test and if the teacher meets the threshold of being considered "good", then they pass. You can score highly on this automated test, but still be a bad teacher, or you could score poorly and be a great teacher who students learn so much from, so I don't think there is a productive way to make this worth half of teachers' evaluation.

- 2. The Introduction also states, "...data scientists all too often lose sight of the folks on the receiving end of the transaction." What is an example of an automated data-based system where you were on the receiving end of the transaction? Do you think the output from the system used to label you was accurate and fair? Try to think of an example not mentioned in the Introduction.
  - a. In the SAT and ACT for college admission, I think the scores are arbitrary and do not necessarily reflect four years of hard work in high school and how prepared you are for college. However, not receiving a near perfect score often signals to universities that you are not fit to attend their school. I think that this is an unfair process in admissions because it reduces a student's capabilities to a number, and does not take into account creativity, test-taking abilities, accessibility, or financial status.
- 3. What else struck you about this introduction?
  - a. I found it interesting that on page 10, it details that often programmers will write this rigid code for a test of teacher qualification, and are not required to revise the algorithm, despite logical conclusions that disprove it. This score can easily turn your life upside down, and it's insane to think that you can do nothing to change it, even if every other thing is pointing you to the opposite conclusion. All coders do is say "Hey, what can we do?".