

ENEL 682: Assignment #5

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Question 1:

What does AI Ethics mean to you?

Based on my observation, AI ethics entails considering issues like accountability, justice, openness, and privacy while designing and deploying AI systems. For example, ensuring AI systems don't reinforce or magnify already-existing social prejudices, being transparent about how AI systems make decisions, protecting user data and privacy, and putting accountability measures in place when AI systems go wrong or harm people.

In a nutshell, because it attempts to ensure that the development and use of AI is consistent with our shared human values, AI ethics is an important area for research and action. This will enable us to take advantage of the numerous opportunities it brings while limiting any potential risks or negative impacts.

Question 2:

a. How did you feel after watching the video?

To explain, Joy Buolamwini claimed in the video that the face detection algorithm did not recognize her face during her demo session in competition, which really had me wondering if there are any so-called "Classic" machine learning techniques and, if so, what are they and how this issue can be solved.

I felt there were many facets of machine learning that I was unaware of after watching the entire video, and I intend to study them in the future by utilizing the pedagogical information I have acquired from this course.

b. List three things that you learned from the video.

Well, there were quite a few interesting topics that I have learned from this video, however, to name the top three,

1. **Transparency and accountability:** It entail being aware of how AI systems operate, who is in control of their development, and what uses they are put to. To ensure that AI systems are developed and used in a manner that respects human rights and enhances both individual and social well-being, it also includes the establishment of explicit norms and legislation.
2. **Diversity and inclusivity:** She revealed that many facial recognition algorithms have higher error rates for women and people with darker skin tones due to biased training data and algorithms that fail to consider the range of human appearances.

3. **Equal rights and social justice:** By recognizing and removing bias in AI systems, we can ensure that these technologies are used to advance social justice and equality rather than aggravating existing imbalances.

Question 3:

a. Online link to information about your example:

<https://www.aclu.org/news/privacy-technology/algorithms-in-health-care-may-worsen-medical-racism>

b. Summarize the example you have chosen:

A shocking study published in 2019 revealed that a clinical algorithm used by many hospitals to determine which patients needed care displayed racial bias: Black patients had to be judged to be significantly sicker than white patients to be recommended for the same care. Due to historical wealth and income differences, Black patients historically had less to spend on their healthcare than White patients, which led to this. This is because the algorithm was trained on historical data on health care spending.

The second example which has been talked about to determine how many hours of assistance disabled Arkansans would receive each week, was criticized for drastically reducing in-home care. Numerous locals blamed the abrupt cutbacks for severe interruptions to their life, including hospitalization. Following a lawsuit, it was determined that several algorithmic mistakes in how it classified the medical requirements of people with disabilities were responsible for the erroneous reductions in funding.

c. Why did you pick this example?

The primary reason why I chose to this topic is due to a lack of accountability, hospitals and state public health systems may use a lot of biased algorithms, which could exacerbate discrimination against Black and Brown patients, people with disabilities, and other vulnerable communities. In some instances, this lack of regulation can result in money being spent and lives being lost.

Almost 170 hospitals and health institutions employ one such AI tool that was created to detect sepsis early. Nevertheless, a recent study found that the tool misdiagnosed hundreds of patients who did not have sepsis and failed to detect this fatal infection in 67% of those who did.

d. Describe one-way that you could fix this issue.

A civil rights concern is the healthcare system's equitable treatment of patients.

To overcome these gaps and inefficiencies, policy adjustments and collaboration among important stakeholders including state and federal regulators, medical, public health, and clinical advocacy groups and organizations are required.

They can do several things to accomplish this, like:

1. Demographic data should be reported publicly, as should be the case.
2. As part of the clearance or approval process, the FDA should demand an impact analysis of any variations in device performance by racial or ethnic minority.
3. The findings of this impact evaluation should be reflected on device labels.
4. To reduce the possibility of racial or ethnic bias in devices manufactured by companies not subject to FDA regulation, the FTC should work with HHS and other federal agencies to create best practices.