Counter Data Activity

In this activity, you will critically analyze a series of real-world scenarios where data and algorithms are used in ways that impact society. Your task is to think about possible counter examples or alternative data that could challenge or provide a more comprehensive view of each situation. Consider how different data perspectives might reveal hidden biases or highlight inequities and explore how these counter examples could lead to more inclusive and fairer outcomes.

**Instructions:**

1. Read your scenario carefully.
2. For your scenario, think of alternative data sources or counter examples that could challenge the claims being made or provide a more nuanced understanding of the situation.
3. Reflect on how the inclusion of these counter data examples could change the conclusions or decisions being made in the scenario.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A city uses a predictive policing algorithm that helps law enforcement decide where to deploy officers based on crime reports and 911 calls. The system relies on historical crime data to identify "high-risk" neighborhoods and allocate police resources accordingly. Officials claim this method is "data-driven" and improves public safety.
2. A national census survey asks respondents to select their gender, offering only two options: Male or Female. The data is used for policymaking, funding allocations, and social research. Government officials say the binary categories make the data more "consistent and comparable" over time.
3. A government maternal mortality database tracks pregnancy-related deaths based on hospital records and official death certificates. Reports based on this data claim that maternal health is improving nationwide. However, some public health researchers believe the numbers don’t tell the whole story.
4. A major social media platform has policies in place to prevent misinformation and hate speech. Automated moderation tools remove content that violates these rules. Recently, activists and journalists have reported that certain posts discussing specific political events and views are disappearing or getting flagged as violations. The company insists that its content moderation policies are fair and neutral.
5. A national employment survey collects data on jobs, wages, and workforce participation. The report is used to shape labor policies and economic programs. However, some economists argue that this data does not fully capture the experiences of all workers in society.
6. In a bustling urban hospital, a team of data scientists has developed an algorithm designed to predict patient outcomes based on a wide range of factors—age, gender, race, and socioeconomic status. The hospital has been struggling to manage limited resources, and the algorithm was created to help prioritize care for those most in need. However, as the team begins to analyze the algorithm’s predictions, they notice troubling trends: it appears that women and people of color are less likely to be recommended for certain life-saving treatments, even when their medical conditions are like others who receive the care.
7. At a growing tech company, hiring decisions are increasingly influenced by a new software system that analyzes resumes to recommend candidates based on a set of predefined criteria. The algorithm scans a resume for keywords—prestigious university degrees, years of experience in high-profile positions, and even salary history—and ranks applicants accordingly. On the surface, it seems like a perfectly efficient way to streamline the hiring process. But as the hiring manager starts reviewing the results, something feels off. The software seems to favor candidates who come from affluent backgrounds or who have worked at certain well-known companies.

Group: Kristen, Caroline, Yvo

Scenario 6

Data on how women and BIPOC disproportionately receive less adequate treatment compared to men and white patients

Data on how women and BIPOC are impacted by illnesses and how those symptoms manifest differently

Removing gender, race, socioeconomic data from algorithm in determining who needs the most care

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group: Tess, Bailey, Morgan, Suzanna

**Scenario 7**

What claims are being made? Someone from a more prestigious university is more qualified.

Counter data:

* University demographics
* Socioeconomic status,
* Top tech company demographics/hiring processes
* How applicants got their last job (familial connections etc.)
* Ask for transcript and extracurricular experience
* Consider things like caring for family members as work experience

Inclusion of counter-data could expose bias in the hiring algorithm.

* University demographics may reveal biases that transfer to hiring pool (ex. More affluent students at these institutions -> more affluent candidates offered job)
* Asking candidates to speak about previous experience and hiring processes (i.e. “That is such a cool experience, how did you hear about it?”) [might be illegal in an interview?]
* Considering the kind of companies people worked for (ie a person in a high position at Google would have a higher salary than a high position at a non-profit)

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group: Allison, Bianca, Kripa

Scenario 7:

Assumptions/shortcomings:

* Prestigious university degree is earned solely through merit, perpetuating existing class disparity and power imbalances
* Resume may not read all resumes equally – can't recognize different GPA scales or ways of formatting
* GPA is the same at all schools – some schools have grade inflation/deflation
* People who work in startups may have a difference in how their pay is than a salary as the algorithm favors – pay isn’t necessarily correlated with merit

Counter data:

* Allowing applicants to have a larger role in how their resume is read– very short personal statement
* Which universities are deemed as prestigious
* Scan for specific skills within resume
* Increase transparency in hiring process and metrics
* Search through data of selected applicants for patterns – continue the accountability
* Average GPA within the school
* Work experience in general – progress within one company – cashier to manager
* Time spent at one workplace, a long time shows loyalty and trustworthiness

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group: Amuthini, Shriya, Maha, Grace, and Rebecca

Scenario 1:

* Relies on past policing record- doesn't account for racial bias
* Take into account the news reports and family encounters to get a full understanding of whether incidents are being racially profiled
* Choosing to bring a social worker instead of a police officer
* Collect data post incident to get an idea of what was helpful
* Reevaluate what their understanding of what a “high risk neighborhood” and specifically categorize what kinds of crimes are occurring
* Think about the underlying causes of why the crimes are occurring
* Think about how you can bring better aid to the communities

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group: Amelie, Emma, Anna, Jamie

Scenario 6

Most of the way we know how symptoms of issues manifest is how they look on white men, so an algorithm (and even people trained on incomplete data) cannot accurately identify what an ailment would look or feel like on different people. We need to change how we’re getting data about these things in the first place, it needs to be more diverse. Only use data hospitals with similar demographics in a similar area

Both 3 and 6 don't take into account pre-labor care,

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group: Hannah, Anna, Fiona (Scenario 2)

* Counter data: data that includes people who do not fall under the gender binary (nonbinary, intersex, etc.) and how these identities affect research, policies, and funding needs
* Impacts: Social research done only allows options for M and F attempts to fit social situations to a gender binary, which will ignore marginalized groups, and fail to understand the complete social contexts they are studying. If you’re not studying certain data for the sake of “consistency,” you are only covering up the issue. Policymaking will be exclusionary and discriminatory.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Group: Jadyn, Cynthia, Valencia ~ Prompt 4

1. Alternative data sources/counter examples: reported hate speech/misinformation, random checking by actual humans, checking by humans after it is flagged by ai, employing minoritized humans affected by hate speech/misinformation to develop algorithms and check posts, review the rest of the person’s account
2. How counterdata would change the situation: gets actual opinions rather than skewed view from algorithm, less posts would need to be taken down, people would be more aware of what they’re posting, random checking prevents echo chambers of extreme content that doesn’t get flagged

Group: Nayera Hasan and Everly Prostka

Scenario 6

* Data on the type of care that people were/were not getting
* Health insurance data
* Collect external data on treatment outcomes from other hospitals or regions with different algorithms.
* Include qualitative data from patient experiences to assess how care decisions were perceived.
* Compare predictions with actual health outcomes to identify discrepancies.
* Data colelction without genders, and race