HW 5

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This homework is meant to give you practice in creating and defending a position with both statistical and philosophical evidence. We have now extensively talked about the COMPAS [1] data set, the flaws in applying it but also its potential upside if its shortcomings can be overlooked. We have also spent time in class verbally assessing positions both for an against applying this data set in real life. In no more than two pages [2] take the persona of a statistical consultant advising a judge as to whether they should include the results of the COMPAS algorithm in their decision making process for granting parole. First clearly articulate your position (whether the algorithm should be used or not) and then defend said position using both statistical and philosophical evidence. Your paper will be grade both on the merits of its persuasive appeal but also the applicability of the statistical and philosohpical evidence cited.

The COMPAS algorithm should not be used as a determinant in granting parole. While the algorithm has potential benefits in assessing recidivism risk, its significant flaws undermine its reliability and ethical implications, making it inappropriate for such critical decisions. To explore the reasoning behind this claim, it is best to look at the statistical and philosophical evidence. The primary concern regarding the COMPAS algorithm lies in its accuracy and the potential for bias. ProPublica's analysis revealed that the algorithm incorrectly labeled a substantial number of defendants as high-risk who did not re-offend, while also misclassifying many low-risk individuals as high-risk. Specifically, the analysis found that 61% of those who were predicted to re-offend did not do so, highlighting a false positive rate of 45% (Larson et. al). Additionally, in the same article, it was found by researchers that "Black defendants were often predicted to be at a higher risk of recidivism than they actually were. Our analysis found that black defendants who did not recidivate over a two-year period were nearly twice as likely to be misclassified as higher risk compared to their white counterparts (45 percent vs. 23 percent)". Such high error rates can lead to unjust outcomes, where individuals are denied parole based on flawed predictions. COMPAS has been shown to disproportionately affect marginalized groups. Studies indicate that Black defendants are often assigned higher risk scores than their White counterparts, even when controlling for similar criminal histories. This raises serious concerns about racial bias embedded within the algorithm, which can perpetuate systemic inequalities in the justice system. The statistical implications of these biases are profound; reliance on COMPAS could result in discriminatory practices that violate principles of fairness and justice. This information further affirms the conclusion that COMPAS should not be heavily relied on in judicial decision making. Additionally, the data is "black box", meaning that is not open to the public. This means that it is difficult for other researchers to replicate the results and findings of the algorithm, making it difficult to pinpoint the cause of the bias. A lack of reproducibility shows a lack of transparency, and a key part of fairness in statistics as a discipline is transparency. Knowing the limitations of a model is important, especially if other individuals who are not statistically equipped are going to be using it, such as judges. It is clear that Northepointe failed to educate judges on the limitations of the model, causing damage to the lives of citizens and their families.

Touching on this idea delves further into the philosophical evidence against using the COMPAS algorithm. From a philosophical standpoint, the use of the COMPAS algorithm raises significant ethical questions. The notion of justice in the legal system is predicated on the idea of treating individuals equitably and making decisions based on their actions rather than extraneous factors. Although the algorithm does not directly use

[1] https://www.propublica.org/datastore/dataset/compas-recidivism-risk-score-data-and-analysis

[2] knit to a pdf to ensure page count

predictors such as race and gender, it uses proxy variables in order to make its decision, such as zip codes, which has historic ineherent bias within them (redlining, gerrymandering, etc.). Furthermore, the use of predictive algorithms in sentencing and parole decisions brings to the forefront the debate on determinism versus free will. By relying on statistical predictions, there is a risk of undermining the notion of individual agency. The COMPAS algorithm does not have the capability of sympathizing or understanding the situation of any one defendant; only a human judge does. Individuals should not be defined solely by the statistical likelihood of re-offending; their circumstances, rehabilitation efforts, and potential for reintegration into society should play a significant role in parole decisions. In addition, the societal implications of using such an algorithm are troubling. The perception that parole decisions are driven by algorithmic calculations could erode trust in the judicial system. Citizens may begin to view justice as an automated process rather than a human-centered one, potentially leading to decreased public confidence in legal outcomes. This relates to the school of ethics called Deontology, and specifically with Kant's two maxims. Looking at his first maxim, it states that "an act is only correct if it can be generalized to everyone in every situation". It would be very difficult and not ideal to universalize the usage of COMPAS in every court room, as it is only spitting out decisions based on the biased data it was trained on. Without the input of a judge with years of experience and human empathy, it would not be advisable to universalize the use of such an algorithm. Looking at the second maxim, it proposes that "an act is permissible if it, at all times, treats moral agents as ends and never merely as means to an end". This maxim states to not use people, but that is exactly what the COMPAS algorithm does. It uses the data of other inmates, without releasing that information to the public, to decide if they should grant parole to other inmates, which is a serious and life changing decision. It can be assumed that since the data is not open sourced, the individuals in the data set are not informed about the fact they are in their in the first place. This delves into the idea of consent, and its many definitions. For situations like these, explicit consent is preferred, but is clear that Northpointe never requested such consent.

While the COMPAS algorithm offers some potential advantages in assessing recidivism risk, its shortcomings in accuracy, bias, and ethical implications outweigh any benefits. The statistical evidence indicates that the algorithm produces unreliable and discriminatory outcomes, while philosophical arguments highlight the ethical dilemmas associated with delegating critical judicial decisions to opaque algorithms. Therefore, I strongly advise against the use of the COMPAS algorithm in parole decisions, advocating instead for a more nuanced, human-centered approach that prioritizes fairness and individual assessment.