HW 5

Ruby Ashman

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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.

No matter how much time, money, and labor the COMPAS algorithm can save, as a statistical consultant, I, in good conscience, cannot recommend the use of this algorithm as a supplemental resource to aid in parole decisions. From a statistical standpoint, the process by which the COMPAS algorithm determines if a defendant will recommit is inaccessible. Due to its black-box development, it is impossible for users to both evaluate the coding language used, and recommend changes to the algorithm. No just judge should feel comfortable utilizing a resource that they are completely unaware of the innerworkings of, and in cases where the judge's intuition and the algorithm's determination don't align, there is not an outlined process of evaluation and correction for the judge to carry out. With no checks and balances between the judge's decision and the COMPAS algorithm's prediction, the algorithm will likely only be "useful" when both parties agree, which contradicts the point of the program.

When evaluated for statistical fairness utilizing the equalized odds method, it was determined that COMPAS did not generate roughly equivalent false positive rates between different groups. From this failure to satisfy the statistical test of separation, I have concluded that greater proportions of incorrect predictions among marginalized groups will have drastic and disparate negative effects for these populations, who already face significant discrimination within the justice system specifically. By perpetuating this cycle, the COMPAS algorithm, even if more often right than wrong, will still be an obstacle slowing the longstanding efforts to eliminate wrongful and prejudiced assumptions within the justice system.

Upon evaluation of the independence fairness criteria, the COMPAS algorithm did not satisfy the necessary conditions of roughly equivalent probabilities of prediction between groups, indicating the algorithm was significantly more likely to claim higher chances of further criminal conviction within a protected group, as opposed to a non-protected group. To clarify the cumulative results of both of the previously explained examinations, not only was the COMPAS algorithm significantly more likely to incorrectly predict a defendant within a protected group would recommit as opposed to a defendant outside of a protected group, but the algorithm was also significantly more likely to predict a defendant within a protected group would recommit generally, no matter what their true trajectory after parole was, as opposed to a defendant outside of the protected group. Based on these two tests, it is not statistically justifiable to rely on this algorithm, even for supplemental assistance.

From a philosophical perspective, the negative outcomes and positive outcomes that come from the use of the COMPAS algorithm in courts have drastically different weights, and should be evaluated as so. According to

[1] https://www.propublica.org/datastore/dataset/compas-recidivism-risk-score-data-and-analysis
[2] knit to a pdf to ensure page count

the guidance of J.S. Mill, who firmly emphasized that there is a higher and lower order to all pleasures and pains, the extremely heavy pain that results from wrongfully predicting a single defendant will recommit over powers any pleasure that will come from the convenience of utilizing this algorithm. Upon taking a step back and humanizing the situation, the verification that each defendant is given an equal and thoughtful hearing is much more valuable than a streamlined process only benefiting those running the court system, instead of the individuals it was constructed for. Therefore the minimization of "pain" is more essential than attaining the simple "pleasure" of convenience.

Lastly, from the perspective of famous deontologist, Immanuel Kant, the use of COMPAS could not be implemented as a universal law, and should therefore not be conducted completely. Universalizing the use of COMPAS would mean referencing the algorithm in every single hearing, even those with which the most vital details of the case are not implemented in the algorithm's decision process. We do not live in a world free of exceptions, especially in situations as complex and delicate as determining if a defendant is fit for parole. It is absolutely impossible for the COMPAS algorithm to intake all of the factors a human judge can comprehend, and evaluate a fair decision, because the standards for a fair decision are not set in stone, and should waver by the humanity of the judge. The COMPAS algorithm does not have the statistical or ethical backing to enact good change within the parole court system, and therefore should be left out of it's hearings completely.