

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 and 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 philosophical evidence cited.

The COMPAS algorithm is an algorithm developed by Northpointe to assess the likelihood that a parolee will recidivate. Courts and parole offices have used this algorithm to make decisions about bail, sentencing, and parole. This has led to controversy as COMPAS is far from a perfect predicting algorithm and it is contributing to life-altering decisions for these defendants.

In my opinion as a statistical consultant, I believe that judges should not use COMPAS in any form when making courtroom decisions. This is because COMPAS has statistical and philosophical shortcomings that do not outweigh the benefits of using it.

In the following paragraphs, I will outline the statistical shortcomings of COMPAS. To start off, the COMPAS algorithm only had a 65% accuracy rate when determining whether a parolee reoffended within two years. As we had mentioned in class, this percentage is only marginally better than making a decision by flipping a coin. This rate may be acceptable with some theoretical models, but these are real people facing real consequences. I would feel more comfortable having a judge who can use their human discretion to determine my fate than an algorithm that is 65% right of the time.

In the ProPublica article, they found that the COMPAS algorithm had higher false positives for black defendants compared to white defendants. This means that the algorithm would classify black defendants as having a higher risk of recidivism than their

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

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true values. Adding to this, COMPAS had 2x higher false negative rates for white defendants compared to black defendants. This means that the algorithm would classify white defendants as having a lower risk of recidivism than their true values. Again, there are real world consequences to this statistical shortcoming. Black defendants might have been wrongfully denied parole or been given harsher sentences compared to their white counterparts.

Along with having significant statistical flaws, COMPAS also has some damning philosophical flaws. Using the justice as fairness argument, COMPAS denies each defendant an equal right to an impartial decision. Using an algorithm to determine a very important life decision rather than an individual's actions would not be fair at all. They would be treating defendants on group statistics rather than an individual's merits. Predetermining an individual's fate based on group statistics would only perpetuate harmful biases and lead to a vicious cycle for some defendants.

Using virtue ethics and basing our virtue in honesty, there can be an argument made against COMPAS. It is a black box algorithm meaning that we cannot see the inputs and operations of the algorithm. If the processes determining freedom or detention are not transparent, it undermines public trust in the justice system. How can a judge trust an algorithm that no one outside of its owner actually knows how it functions? We cannot in good judgment use COMPAS until it is fully transparent and accessible to the public. Once it is accessible, we can then make our own judgment based on its inner workings.