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Researching the Fairness and Accuracy of the COMPAS and PATTERN Recidivism Tools

I gave my capstone presentation on COMPAS (Correctional Offender Management Profiling for Alternative Sanctions), and PATTERN (Prisoner Assessment Tool Targeting Estimated Risk and Needs), two tools that use black box technology to predict whether someone is likely to recommit a crime. They use a combination of historical data and survey responses from incarcerated individuals to generate a risk assessment score. This score aids judges and parole boards in determining someone's sentence/ bail/ parole time. My motivation for researching this topic stems from my father's career as a public defender within the New York Legal Aid Society's Criminal Appeals Bureau and seeing how a technology like COMPAS can have such a significant impact on someone's legal outcome. Researching and evaluating the fairness and accuracy of COMPAS can help legal professionals better understand these AI systems and help judges make more consistent and fair decisions regarding sentencing.

The major issue with COMPAS and similar artificial intelligence tools that are used for criminal justice is that they can be incredibly biased. Black box technology is particularly problematic when used in this setting because no one knows exactly how the algorithm works. It is unfair to use a tool to determine someone's prison sentence when you cannot explain to them where the sentence came from. COMPAS uses past data that is majorly biased against people of color (particularly black people) which means that future predictions are influenced by this past data. Questions on the survey that are given out ask about educational background, living circumstances, and substance abuse, all things that can have high correlation with sensitive

attributes (race, gender, economic status). The survey also asks questions about aspects of one's life that are totally out of their control, such as family arrests.

I explored the ethical implications of COMPAS and PATTERN and similar softwares in an attempt to understand the balance between new technologies and maintaining fairness in the criminal justice system.