

**Predictive Policing Algorithms and the Disproportionate Targeting of Underprivileged
Communities**

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Research Problem

The rapid deployment of an algorithm known as predictive policing algorithms (PPAs) finds itself intersecting the sectors of artificial intelligence and civil rights. Algorithmic tools are increasingly relied on by law enforcement agencies across the U.S. to forecast crime and direct police resources, yet their impacts fall heavily on the communities least equipped to challenge them. However, a fatal flaw can be identified that PPAs are a self-fulfilling; victim to creating its own feedback loops. PPAs are trained on historical arrest data produced by departments with long records of racially biased enforcement. The algorithm is skewed before it could ever run into place as a result of the historical data collected, directing more police to the areas of low-income communities, leading to more arrests, which henceforth reinforces its own predictions. This is a steady growing problem that has accelerated as machine-learning tools become more available to police departments.

The social implications of biased PPAs are not limited to individual encounters with police. Oversaturation of law enforcement on the basis of flawed algorithms erodes community trust, increases the prison pipeline steadily, and subjects residents to not only long-lasting economic harm, but psychological harm as well. This includes lost employment, educational opportunities and even housing as a result of early records of arrest. Further aggravating the issue, the implementation of proprietary PPA systems often forecloses the transparency necessary for accountability and impedes the equal protection warranted by 14th amendment.

To address these issues, this research will investigate four parameters: the role of biased training and socioeconomic data internal to algorithmic models, the self-reinforcing feedback loop, and the transparency framework across selected jurisdictions. Investigation of these

parameters will provide a deeper analysis of the scope of the problem and the structural interventions necessary to address them.

Literature Review

In “Predictive Policing and Algorithmic Fairness”, Hung and Yen address how PPAs disproportionately impact underprivileged communities, arguing that it is not at the fault of flawed algorithms but rather in the deeply biased social and institutional structures that generate the data that these systems rely on (Hung & Yen, 2023). A case study on Chicago’s Crime and Victimization Risk Model (CVRM) demonstrates how disadvantaged, yet heavily policed communities, become trapped in these self-reinforcing feedback loops. The algorithms imposed systematically reproduce and increase the existing disparities by training PPAs on arrest records rather than convictions. The study highlights that fairness cannot be resolved through technical algorithms alone but rather is dependent on the context in different social environments that requires negotiation through a democratic process to agree on what is fair.

This structural critique is echoed by Meloni (2026) in “Facial Recognition on Trial” who traces the roots of algorithmic bias even further back, revealing how facial recognition technologies are continuations of outdated biometric tools designed explicitly for racial control and classification of marginalized communities. Meloni argues that technological bias was intentional and necessary for maintaining racial control through intensification of inequality (Meloni, 2026). By referring to training data, the historical pattern of these algorithms support over policing of communities that are treated unequal, which inadvertently enhances the ongoing discrimination that are tied into these products.

Gupta and Mathiyalagan studies from the literature "Artificial Intelligence and the Judiciary” further examines how AI tools are used in judicial decision-making, operating as a “black box” that obscures the decision making processes from those that rely on them (Gupta & Mathiyalagan, 2025). This is the lack of transparency that Hung and Yen also addressed in their

research, where the lack of transparency heightens automation bias, where AI-generated decisions go unquestioned despite inheriting the structural bias present in policing data. Together, all three sources meet the same critical findings: that the current regulatory and technical fixes employed currently are insufficient due to the fact that the root cause is institutional racism embedded in the data, design, and deployment of these systems.

When we combine the information gathered from these articles, it is clear that technology carries a weight in the environment it is used in. Gupta and Mathiyalagan (2025) express that courts are using AI as a “quick fix” for massive backlogs which unfortunately result in a “block box” system that judges can not evaluate directly. This becomes even more dangerous, Hung and Yen (2023) emphasize that these systems are trapping neighborhoods in feedback loops by using biased arrest records instead of actual convictions. Meloni (2026) dives further, reminding us that it is not bugs in the code, it is the modern version of racial control. These AI driven tools are supposed to assist with underfunded policing, while research shows that we can not just “code” our way out of this system, one must re-asses the policies and norms that let biased data dictate these policies in the first place.

Research Question

How do predictive policing algorithms (PPAs) disproportionately target underprivileged communities?

V2: To what extent do predictive policing algorithms contribute to disproportionate enforcement in underprivileged communities?

References

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