

# AI Bias in Facial Recognition

## *Facial Recognition in Law Enforcement*

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**Abstract**—In this report I will be discussing two articles that evaluate AI bias in Facial Recognition that is used in law enforcement can negatively affect lives. I would like to look at how these biases affect civilians quality of life and the justice system.

### I. INTRODUCTION

Facial Recognition is a basic human behavior that was necessary for normal day to day interaction with people (1). It was based on that need that the facial recognition as AI done by computers was created. The biometric identification system uses physiological characteristics to recognize an individual (1). This AI is applied in two areas; law enforcement and commercial law (1). I will be critically analysing two articles that focus on the application of facial recognition AI in law enforcement. They will specifically look at the bias that exists in the algorithm of that AI and how detrimental it is to have that in the justice system.

### II. ARTICLE 1

The first article that I will be writing about investigates is ‘*Facial recognition systems in policing and racial disparities in arrests*’. I will investigate how facial recognition technology (FRT) is implemented and whether is beneficial or detrimental.

#### A. Main Themes

The main theme of this article is that the bias in AI has led to the disproportionate arrests of black communities and in comparison, has led to a drop in arrests of white communities. It fears that a widespread deployment of police technologies, including automated facial recognition, threatens to mask, replicate, and exacerbate inequities in policing (2). The idea is that the overall process of FRT is first image detection and capture, image normalization (to remove extraneous information), and then image comparison with an existing database for a match. If enough biometric data appears similar, the software declares a match between the facial images (2).

However, that does not necessarily guarantee that the person caught in the camera is the person recognized by the FRT and so a false positive or a false negative can occur. This is clear as in a 2019 analysis of 189 facial recognition software programs found that racial minorities were up to 100 times more likely to be wrongfully identified than White males (2). This leads to unlawful arrest that can traumatize innocent civilians and fail in gaining justice for victims and their perpetrators will get away with false negatives. This article found that the cause of the bias in the algorithm is because of

skin tone detection issues in image processing and a lack of racially diverse FRT software programmers and photos used to “train” underlying machine learning algorithms (2).

#### B. Methodology

The data collected is from all around the United States. That would be a lot of data and shows a perfectly accurate representation of how FTR is used in the United States. However, FRT is used around the world so a much-integrated approach would have been to collect more data on its implementation in law enforcement around the world. We have seen that recent NIST algorithm tests have revealed recognition accuracy gains over the past few years which could indicate that the USA is in fact an outlier. This is because the USA has had a history of systemic racism in the policing system so therefore perhaps the implementation of facial recognition simply further exacerbates that. We know that there is bias to begin with the officers when they make their arrests which lead to police stopping, detaining, and arresting multiple Black “suspects” before locating the true culprit (2).

### III. ARTICLE 2

This next article looks at the bias in biometric facial recognition in law enforcement. ‘*The ethical application of biometric facial recognition technology*’. However, it takes a different approach and looks at the autonomy of those that are forced to part-take to prove their innocence.

#### A. Main Themes

The main theme that is explored in this article is that governments are suing facial recognition on social media images, photographs, and closed-circuit television to find suspects. However, the use of this without the consent of the average individual that is not under arrest is a breach of their privacy and autonomy. Privacy is a right that people have in relation to other persons, the state, and organizations with respect to their information and their observations/movements.

#### B. Methodology

This article has a much more comprehensive approach

### IV. CONCLUSION

Overall, we can argue that a bias in AI such as facial recognition creates significant hardship in people's lives and hinders personal development.

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