

Facial Recognition Technology in Policing: An American Experiment*

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ABSTRACT What if we evaluated the American use of FRT in policing as if it were an intentionally designed but unchecked experiment? What features and prescriptions would such a design entail? Recasting some of the problems identified in FRT use by police as features of an experimental approach helps us better understand them as predictable consequences of an unregulated surveillance technology. Those insights can clarify not just the discussion around FRT use by police in the United States, but other experimental uses of automated technologies with similarly coercive and harmful aspects as well.

KEYWORDS: Automated decision-making – Law Enforcement – Facial Recognition Technology – Artificial Intelligence

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1. Introduction

In the past decade the United States has witnessed the spread and routinization of facial recognition technology (FRT) in ordinary policing. Local police departments - where American policing is concentrated - now have access to FRT tools for common investigatory uses, such as searching for a match from surveillance images taken from a crime scene.¹ Yet there is no national legislation on law enforcement use of FRT, and only a small group of regulatory efforts from states and local governments.² In addition, more and more Americans are likely to have their images collected in databases which form the basis for FRT matches.³ What

can we infer from this state of affairs? Perhaps the absence of comprehensive regulation reflects the general slowness of the American regulatory response to new technologies. We have no comprehensive national regulation, for instance, on the use of artificial intelligence (AI), let alone accelerating technologies like generative AI. Yet critics of FRT use by the police point to a host of problems surrounding its use including secrecy, inaccuracy, bias, privacy intrusions, and corporate influence.⁴

This essay proposes a thought experiment to help us understand the largely unregulated nature of FRT tools by local law enforcement agencies in the United States. We should consider the use of FRT tools by local police as a type of *unchecked experiment on human subjects*.⁵ These deployments of FRT function as experiments because they are attempts to test out these automated systems to engage in ordinary policing in real communities: to conduct investigative stops, consensual encounters, arrests, and generalized surveillance. Local police departments have adopted the technology to see if it “works,”

* Article submitted to double-blind peer review.

¹ This essay focuses on FRT use by local police, rather than its use in identify verification or border controls, a common use in federal law enforcement. By FRT I refer to “a tool by which computers can identify individuals by an image of their face, generally using sophisticated algorithms that compare visual characteristics of any image to vast databases of other faces.” M. Fidler and J. Hurwitz, *An Overview of Facial Recognition Technology Regulation in the United States*, in R. Matulionyte and M. Zalnieriute (eds.), *The Cambridge Handbook of Facial Recognition in the Modern State*, Cambridge, Cambridge University Press, 2024, 15.

² National Academies of Sciences, Engineering, and Medicine, *Facial Recognition Technology: Current Capabilities, Future Prospects, and Governance*, Washington, DC: The National Academies Press, 2024, 92. <https://doi.org/10.17226/27397>. Maryland, for example, prohibits police from using facial recognition as the “sole basis” for legal probable cause. C. Jensen, *Maryland Policy Will Dictate Police Use of Facial Recognition*, in *Govtech*, 2024.

³ The Georgetown Law Center on Privacy and

Technology estimates that about one in two American adults can be found in a facial recognition network, typically because of their inclusion in a driver’s license database. Georgetown Law Center on Privacy and Technology, *The Perpetual Line-Up: Unregulated Police Face Recognition in America*, 2016, 2, available at: www.perpetuallineup.org.

⁴ See, e.g., Georgetown Law Center on Privacy and Technology, *Perpetual Line-Up*, 2-4.

⁵ E.E. Joh, *Police Technology Experiments*, in *Columbia law Review Forum*, vol. 125, 2025, 1.

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usually without any established basis for its efficacy or guidance as to best practices. Unlike true experiments, however, police departments do not apply the framework of experimentation, such as identifying a hypothesis, defining acceptable protocols, or collecting data for subsequent evaluation of the experiment's success or failure.⁶ Importantly, because these experiments are run on persons and communities, they are unchecked *human* experiments. Consequently, using FRT to justify coercive police actions - especially if they are the primary basis for those actions - means that ethical considerations should be incorporated into any experimental use of FRT in policing. Yet none of these conventional aspects of scientific experimentation are ever applied in the case of policing.

Indeed, we might go further: what if we evaluated the American use of FRT in policing as if it were an intentionally designed but unchecked experiment? What features and prescriptions would such a design entail? Recasting some of the problems identified in FRT use by police as *features of an experimental approach* helps us better understand them as predictable consequences of an unregulated surveillance technology. Those insights can clarify not just the discussion around FRT use by police in the United States, but other experimental uses of automated technologies with similarly coercive and harmful aspects as well.

2. Features of the American Policing FRT Experiment

While the unregulated use of FRT by police may not be a true scientific experiment, we use the term "experiment" because the emphasis on design, protocol, and evaluation in the scientific context provides a useful framework. A foundational principle of scientific research is the scientific method: engaging in experimentation in ways that can be verified, refuted, or repeated to further knowledge in the field.⁷ We expect scientific research to test a falsifiable hypothesis by gathering data according to set protocols.⁸

⁶ E.E. Joh, *Police Technology Experiments*, cit., 27.

⁷ See, e.g., 45 C.F.R. § 46.102(l), 2023 (defining research as "a systematic investigation, including research development, testing, and evaluation, designed to develop or contribute to generalizable knowledge.").

⁸ See, e.g., U.S. Office of Research Integrity, *HHS, Module 1: Introduction: What Is Research?*,

These results can then be evaluated to refute or support that hypothesis and then to form a conclusion about the validity of that hypothesis.

In American policing, technological experiments have taken the form of untested uses of automated systems for surveillance and intervention on human subjects and populations. When local police adopt a technology like FRT to see if it performs as promised - rather than rely on proven or existing policing methods - they engage in experimentation. Moreover, because police use FRT in ways that can result in material harms to individuals and communities - such as wrongful arrests and burdensome surveillance - we can consider such projects as experiments on human subjects as well. But because the police do not apply the conventional framework of experimentation, they apply FRT technologies to communities without meaningful controls: a working hypothesis, strict protocols to maintain consistency and to minimize harms, and metrics for evaluation.

If we recast the use of FRT in local policing as if it were an intentional experiment, what would the instructions for such an experiment look like? What follows are some of its features.

2.1. Exploit the American political structure

Experimentation with FRT exploits the political structure of American policing. In the United States, policing is local, largely organized at the city, county, and state levels.⁹ As a consequence, local governing bodies have far more influence on the day-to-day operations of police than the U.S. Congress. The availability of federal funds can influence local policing priorities, but detailed regulation on policing occurs locally, not nationally.¹⁰ The U.S. Supreme Court's

<https://ori.hhs.gov/module-1-introduction-what-research> ("A hypothesis is an informed and educated prediction or explanation about something."); see also *U.S. Office of Research Integrity, HHS, Basic Research Concepts: Additional Sections*, <https://ori.hhs.gov/basic-research-concepts-additional-sections-0> (defining protocols as the "research plan developed by the researcher that should be followed when carrying out the study.").

⁹ R. Harmon, *Federal Programs and the Real Costs of Policing*, in *New York University Law Review*, vol. 90, 2015, 876. ("As a matter of both law and tradition, policing in the United States is overwhelmingly local.").

¹⁰ R. Harmon, *Federal Programs and the Real Costs of Policing*, 877-78.

decisions on federal constitutional restrictions on the police do impose national standards on police investigatory conduct, but these arise on a case-by-case basis. None of their decisions have yet had a significant impact on FRT use.

Consequently, the burden of regulating surveillance technologies like FRT falls to local bodies like city councils and state legislatures. This means that regulating FRT use by the police depends on local political initiatives to regulate these tools, either as a standalone subject, or as part of a broader regulatory approach to municipal agency use of surveillance equipment. These attempts have seen mixed success. In 2016, the city of Oakland, California became the first in the country to establish a Privacy Advisory Commission to advise the city on its use of surveillance technologies like FRT.¹¹ In the years since, however, only a very small number of American cities have followed suit, and the Oakland Commission itself has faced difficulties in accessing information to fulfill its mandate.¹² With respect to FRT itself, the relatively small number of state and local governments that do regulate FRT vary in their approaches, from outright bans to laws that regulate FRT broadly or ones that regulate very specific use cases, like the implementation of FRT in police body cameras.¹³ Even when regulations restrict FRT use by some agencies, they may rely on neighboring law enforcement partners to use the technology on their behalf.¹⁴ For most police departments, there are no requirements to disclose use of FRT, nor are requirements to keep records on FRT use common.¹⁵ The American approach, given the background of minimal regulation, is to encourage maximal experimentation.¹⁶

¹¹ J. Pattison-Gordon, *Why Your City Probably Needs a Local Privacy Commission*, in *Governing*, 2022.

¹² D. DeBolt, *Lauded as a national model, some question whether Oakland's privacy commission is working*, in *The Oaklandside*, 2021.

¹³ The organization Fight for the Future counts 25 local governments in the U.S. that have passed bans in facial recognition. Fight for the Future, *Ban Facial Recognition*, www.banfacialrecognition.com/map.

¹⁴ D. MacMillan, *These cities bar facial recognition tech. Police still found ways to access it*, in *The Washington Post*, 2024.

¹⁵ D. MacMillan, D. O'valle, and A. Schaffer, *Arrested by AI: Police ignore standards after facial recognition matches*, in *The Washington Post*, 2025.

¹⁶ M. Fidler and J. Hurwitz, *An Overview of Facial Recognition Technology Regulation in the United States*, in *The Cambridge Handbook of Facial*

2.2. Encourage the private market's influence

The widespread use of FRT by local police depends on the growth of technologies developed and offered by the private market. Many surveillance technologies are first developed privately, then marketed, sold, or licensed to law enforcement agencies.¹⁷ Thus, important decisions about technology design, including whether to integrate facial recognition into existing technology products like body cameras, are left to the private, not the public sector.

In a lightly regulated environment, private companies have exerted considerable influence over police department choices about how to use technologies like FRT. A dominant police technology company like Axon may decide voluntarily to ban FRT from its products after public criticism, but these self-regulatory measures are unenforceable and may be changed at any time.¹⁸ Such decisions may also yield to market pressures, including when other companies like Clearview AI offer free trials of their own FRT software to police agencies, one that includes a database of 50 billion images scraped from the internet.¹⁹ Future uses of FRT like incorporation into existing tools are likely to arise not as a result of democratic deliberation but as new product features sold to customers that happen to be law enforcement agencies.

Private firm influence exacerbates unchecked experimentation. These tools are marketed to local police directly, with no requirements of independent testing nor, in many jurisdictions, restrictions on their use. Local police departments, most of which have limited technological expertise, may not be able to distinguish accurate from mediocre algorithms, nor differentiate FRT suggestions from definitive facts. In addition, private firms offering FRT products can keep the details of their FRT software secret, even from their

Recognition in the Modern State, 227: "Outside limited circumstances, however, more expansive regulation of FRT in the United States is unlikely in the foreseeable future."

¹⁷ See, e.g., E.E. Joh, *The Undue Influence of Surveillance Technology Companies on Policing*, in *New York University Law Review*, vol. 92, 2017, 102.

¹⁸ M. Purdue, *Axon body-camera supplier will not use facial recognition in its products—for now*, in *USA Today*, 2019.

¹⁹ K. Hill, *The Secretive Company That Might End Privacy as We Know It*, in *The New York Times*, 2020.

police clients, by claiming that their algorithms are proprietary.²⁰ In turn, police departments experimenting with FRT often do not disclose they have used it to persons targeted by its use. Unchecked experimentalism can thus mean that no one entity has complete knowledge of FRT use.

2.3. Amplify Human Discretion

By ignoring or minimizing protocols, FRT experimentation can increase the risks for harms and mistakes in policing. In scientific research, protocols provide researchers with guidelines to follow as they carry out a study.²¹ When police have no guidance, the use of FRT tools can lead to preventable harms. The case of the police department in Detroit, Michigan is illustrative.²² One of the first known cases of wrongful arrest based on FRT took place when Detroit police arrested Robert Borchak-Williams for shoplifting after he was identified as a possible match. Rather than treat the possible match - based on Williams's driver's license photo - as an investigative lead, the police sought no further evidence other than showing his photo as part of a photo array to a witness before his arrest. Two other people would also later be arrested by the Detroit police under similar circumstances.

Technological experimentation occurs not just when the underlying technology is unproven or untested, but also when human agents rely on its results without guidelines or restrictions. In other technological contexts, researchers have identified the difficulties that arise when people must act upon machine-made decisions as the "human handoff problem."²³ Similar issues occur when police

are left to apply FRT results with little training or guidance. The results may be used as a conclusive basis for an arrest, as in the case of Mr. Borchak-Williams. FRT matches might also lead to unexpected changes in police conduct, such as inferring that a high degree of matches arising from a geographic area suggests such places are more criminogenic and warrant further surveillance.²⁴

2.4. Ignore Evaluation Metrics

FRT reliance in ordinary law enforcement functions as an unchecked experiment because basic information about its use remains nonexistent or unavailable even as its popularity among these agencies grows. As the U.S. Civil Rights Commission noted in a 2024 report, there is no comprehensive data collected on whether actual use of FRT by police departments is accurate, including false positives that result in wrongful detentions or arrests.²⁵ Nor is there any consistent data collected on how FRT is used in ordinary policing: how often it is used, for what types of crimes, on what populations, and to what result.²⁶ No picture emerges from the proliferation of FRT use in ordinary American policing because there are no metrics mandated or collected.

Thus, even if FRT experimentation in policing were governed by a working hypothesis, there would no means to perform any evaluation. Without regular, mandated collection of data about the accuracy, use, and performance of FRT, it is difficult if not impossible to conclude that its use is justified, whether its benefits outweighs its costs, or whether regulatory controls should be increased or modified or imposed in the first

²⁰ Clearview AI, which claims to have the "world's largest facial network," refers repeatedly in its terms of service to its own "proprietary technology." See Clearview AI, *Terms of Service*, www.clearview.ai/terms-of-service; see also Clearview AI, *Clearview AI*, www.clearview.ai/clearview-2-0: "Our platform includes the largest known database of 50+ billion facial images sourced from public-only web sources, including new media, mugshot websites, public social media, and many other open sources."

²¹ U.S. Department of Health and Human Services, The Office of Research Integrity, *Basic Research Concepts: Additional Sections*, <https://ori.hhs.gov/basic-research-concepts-additional-sections-0>: "Protocol: the research plan developed by the researcher that should be followed when carrying out the study."

²² K. Hill, *Wrongfully Accused by an Algorithm*, in *The New York Times*, N.Y. Times, 2020.

²³ In the development of autonomous cars, engineers have identified both a human-handoff problem and an

"overtrust" problem that parallel issues in police technology. J. Markoff, *Robot Cars Can't Count on Us in an Emergency*, in *The New York Times*, 2017.

²⁴ In its 2021 review of the Chicago Police Department's use of automated gunshot technology, the Chicago Office of Inspector General found that the use of the technology changed police behavior in unexpected ways, including relying on the informal perception that some areas known for frequent alerts as a part of the legal calculus for investigative detentions. See E.E. Joh, *The Unexpected Consequences of Automation in Policing*, in *Southern Methodist University Law Review*, vol. 75, 523-526.

²⁵ U.S. Commission on Civil Rights, *The Civil Rights Implications of the Federal use of Facial Recognition Technology*, Washington, D.C., 2024, 4.

²⁶ U.S. Commission on Civil Rights, *The Civil Rights Implications of the Federal use of Facial Recognition Technology*, 33.

place.

2.5. Burden vulnerable populations disproportionately

With few restrictions in most places, unchecked FRT experimentation also imposes disproportionate and preventable burdens on vulnerable populations. First, there may be racial disparities in the accuracy of the FRT tool being used. A widely cited 2019 test of FRT vendors by the U.S. National Institute of Standards and Technology (NIST) reported higher error rates for non-white faces compared to white faces.²⁷ These issues are attributable both to the design of the algorithms applied as well as inadequately diversified training data.²⁸ Second, faulty matches can trigger a cascade of issues: human operators who are marked by “automation bias” rather than exercise their own judgment and who lack proper training to evaluate FRT results as possible leads rather than the primary basis for an arrest. That bias can include racial and ethnic bias, whether conscious or unconscious. Of the known U.S. cases of wrongful arrests based on faulty FRT matches, nearly all of these persons were Black.²⁹ These racially disproportionate effects compound existing racial inequalities in the American criminal justice system. An extensive literature has documented the racial and ethnic disparities found at every stage of the criminal process, beginning with investigation, to prosecution, sentencing, and post-incarceration surveillance.³⁰ Unchecked FRT experimentation contributes to that problem.

Experimentation with FRT also raises special ethical concerns because of its potential to exacerbate existing racial and ethnic disparities in policing. In the context of medical experimentation, such concerns have been identified when there is the possibility

for unjust “distribution of the burdens and benefits of research” that can result in “unjust social patterns.”³¹ FRT presents a similar concern: the technology itself can be less accurate on non-white faces, and in context, wrongful FRT-based arrests, while a small number, have already shown to have affected Black Americans disproportionately. Explicit acknowledgment that we have engaged in police experimentation with FRT foregrounds the necessity of balancing benefits and burdens, especially on marginalized populations.

Applying the lens of experimentation to algorithmic technologies has been proposed before. In its 2022 Blueprint for an AI Bill of Rights, the White House Office of Science and Technology Policy (OSTOP) proposed that some uses of artificial intelligence, including in criminal justice, should be considered particularly “sensitive” given the “intimate” nature of the data used, the inability of people to “opt out,” and the “historical discrimination that has often accompanied data knowledge.”³² The Blueprint’s authors emphasize the need to protect not just the interests of individuals but communities as well.³³

3. FRT Police Use: An Unchecked Experiment

If the American experience with FRT in local policing were recast as a deliberate experiment, it would be one that would not pass any measures of conventional experimentation. Restrictions vary from state to state, city to city, assuming there are any in place at all. Private firms often take the lead in directing the capabilities and terms by which police department customers use their products, including matters such as retaining control over the data generated. Because police are not required to posit a working

²⁷ National Institute of Standards and Technology, U.S. Department of Commerce, Face Recognition Vendor Test (FRVT) Part 3: Demographic Effects, 2019, 2-3, <https://doi.org/10.6028/NIST.IR.8280>.

²⁸ U.S. Commission on Civil Rights, *The Civil Rights Implications of the Federal use of Facial Recognition Technology*, especially 23-25.

²⁹ U.S. Commission on Civil Rights, *The Civil Rights Implications of the Federal use of Facial Recognition Technology*, especially 111.

³⁰ National Academies of Sciences, Engineering, and Medicine, *Reducing Racial Inequality in Crime and Justice: Science, Practice, and Policy*, Washington, D.C., The National Academies Press, 2023, 1, <https://doi.org/10.17226/26705>.

³¹ The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research*, 44 Fed. Reg. 23192, 1979, 23196.

³² U.S. Office of Science and Technology Policy, *Blueprint for an AI Bill of Rights: Making Automated Systems Work for the American People*, 2022, 36.

³³ U.S. Office of Science and Technology Policy, *Blueprint for an AI Bill of Rights*, 18: “Identified risks should...include those to impacted communities that may not be direct users of the automated system, risks resulting from purposeful misuse of the system, and other concerns identified via the consultation process.”

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hypothesis for FRT use, there is no means to develop protocols nor to gather data for evaluations. The very lack of a conventional experimental framework means there is no contemplated evaluation for its use, and no potential to end its use based on efficacy or the balancing of risks and harms.

4. Conclusion

That police agencies might experiment with algorithmic technologies like FRT is not by itself concerning. What is troubling, however, is the situation we find in American policing. In the United States, we have experienced the functional equivalent of a national experiment in police use of FRT. Often encouraged by private companies, local police departments have adopted FRT technologies in a regulatory climate of few restraints to test out the technology in criminal investigations. Yet because these are not acknowledged as experiments, police agencies proceed with none of guardrails of experiments: a working hypothesis, mandated data collection, require protocols, or assessment. As a result, predictable errors and harms occur, in ways that can disproportionately affect vulnerable populations. The resulting ethical questions in the American FRT experiment demand review.