

BOMB BODY POLITICS: ON THE TSA’S ALGORITHMIC
POLICING OF GENDER

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Abstract

Long before modern discussions of algorithmic policing, the Department of Homeland Security was using sexist and racist algorithms to determine which individuals to subject to additional screening. The algorithms are built into the Transportation Safety Administration’s advanced imaging technology, and they are used to justify the systems of policing already in place. In this Article adapted from remarks delivered at the Technology, Media, Privacy, and the Law Conference in 2022, the TSA’s discriminatory practices against transgender people serve as a cautionary tale for surveillance reformers who risk entrenching violence against the “wrong” bodies to protect the “right” ones.

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INTRODUCTION

When technology law and policy scholars talk about algorithmic policing, there are archetypal examples that we return to: Shotspotter, LASER, COMPAS, and whatever Palantir is marketing this week. I am not a scholar of policing, and my work on algorithmic harms focuses in areas quite different from those examples. But I do have a cautionary tale about how we think about this space, and it involves millimeter wave body scanners.

I. THE TSA AND ALGORITHMIC POLICING

If you were flying to attend a conference like the one that this Article was first presented at, you would have likely gone through a millimeter wave body scanner as part of a TSA screening. Many folks have had this experience—you put your hands up in cactus arms and then you stand in the tube. If you are lucky, you come out the other side and are given the “all clear,” and you walk to your gate.

* This Article is an adaptation of remarks prepared for the 2022 Technology, Media, & Privacy Law Conference at the University of Florida College of Law by Kendra Albert. Avatara Smith-Carrington is listed as a co-author because of their substantial contributions to the underlying theories and knowledge, but the words are Kendra’s. Thank you to Afsaneh Rigot for her valuable feedback, and Jessica Fjeld and Apryl Williams for the title.

Now, what some people may not know is how the advanced imaging technology of the type used in these tools works. As the Transportation Safety Administration says, it uses automated target recognition (ATR) technology to “eliminate passenger specific imagery and auto-detect[] potential threats.”¹ When you approach a TSA scanner, a TSA agent looks at you and makes a decision about what button to push—blue if they think you are a man, and pink if they think you are a woman.² That button determines the algorithm that your body is matched against.³ The algorithm then determines what is normal, and that which is not shows up as an anomaly on the screen, causing further screening—including potentially invasive pat-downs.⁴ The development of such algorithms was proprietary. We do not know who developed them, or what training data they used to produce the ultimate equations, or whether that data is up to date. What we do know is that these systems discriminate.

If you are a Black woman with natural hair, your hair may be an anomaly, as Simone Browne discussed in her book, *Dark Matters*.⁵ If you are Sikh or Muslim and wear religious headwear, like a turban or a hijab, you may be subjected to an additional pat-down, just because.⁶ God forbid if you exercise your right to religious expression under the First Amendment and wear a burqa.⁷ But that pink or blue button does a lot of

1. *TSA to Begin Testing New Advanced Imaging Technology Software at Select U.S. Airports to Further Enhance Passenger Privacy*, PR NEWS WIRE (Feb. 1, 2011, 12:34 PM), <https://www.prnewswire.com/news-releases/tsa-to-begin-testing-new-advanced-imaging-technology-software-at-select-us-airports-to-further-enhance-passenger-privacy-115022109.html> [<https://perma.cc/AY7E-M6YU>].

2. TOBY BEAUCHAMP, *GOING STEALTH: TRANSGENDER POLITICS AND U.S. SURVEILLANCE PRACTICES* 50 (2019).

3. *Id.*

4. *Id.* at 50–51.

5. SIMONE BROWNE, *DARK MATTERS: ON THE SURVEILLANCE OF BLACKNESS* 161–62 (2015); see Gaby Del Valle, *How Airport Scanners Discriminate Against Passengers of Color*, VOX (Apr. 17, 2019), <https://www.vox.com/the-goods/2019/4/17/18412450/tsa-airport-full-body-scanners-racist> [<https://perma.cc/K6NG-ZGB4>] (“[B]lack passengers who wear their hair naturally—or who wear it in styles typically associated with black culture, like braids or dreadlocks—seem to be disproportionately targeted.”).

6. See SIKH COALITION, *KNOW YOUR RIGHTS AT THE AIRPORT 2* (2018), <https://www.sikhcoalition.org/wp-content/uploads/2018/11/tsa-know-your-rights-2018-1.pdf> [<https://perma.cc/8NC6-VWBQ>] (“Travelers wearing turbans may be subject to additional security screening.”). TSA harassment of women wearing hijabs is well-documented. See, e.g., Nicole Rojas, *Fourteen Women Are Claiming TSA Harassed Them for Wearing Hijabs at Newark Airport*, NEWSWEEK (June 8, 2018), <https://www.newsweek.com/fourteen-women-claim-tsa-harassed-them-wearing-hijabs-newark-airport-967771> [<https://perma.cc/69KD-VQ4U>] (discussing fourteen Muslim women who wore hijabs to the airport and were subject to two hours of pat-downs, causing them to miss their flight).

7. See U.S. CONST. AMEND. I (“Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof.”); see also Tatiana Walk-Morris, *What to Do If You Face Anti-Muslim Discrimination at Airport Security*, VICE (Sept. 10, 2021),

work. If the TSA agent reads you as a woman but you have a penis, that will present an anomaly.⁸ If you are white and non-binary and TSA agents cannot quite figure out what you are, or how to fit you into a literal pink or blue box, good luck—you are getting patted down for sure, and have fun finding a TSA agent that shares your gender identity to do so. (A promise that the TSA makes, in albeit oblique terms.⁹) Of course, if you are Black and trans, or Black and non-binary, or Muslim and trans, or Muslim and non-binary, the chances that this “routine” process will result in extensive questioning and invasive procedures increase quite significantly.¹⁰

Advanced imaging technology is not “artificial intelligence” or “machine learning,” but it is algorithmic policing, in the most literal sense.¹¹ Long before “FAccT,”¹² or ProPublica’s Correctional Offender

<https://www.vice.com/en/article/epnwjz/what-to-do-if-you-face-anti-muslim-discrimination-islamophobia-at-airport-security> [<https://perma.cc/XZ9K-LSEN>] (“According to TSA basic training documents . . . trainees are . . . made aware that hijabs and burqas are non-form fitting headwear that could conceal prohibited items, but travelers aren’t required to remove them for religious reasons.”).

8. See Dawn Ennis, *Goodbye, “Anomaly”—TSA’s New Word for Trans Bodies Is “Alarm”*, ADVOCATE (Dec. 23, 2015, 9:37 PM), <http://www.advocate.com/transgender/2015/12/23/goodbye-anomaly-tsas-new-word-trans-bodies-alarm> [<https://perma.cc/D2KU-2K3S>] (explaining that the TSA previously used the word “anomaly” whenever screening machines detected a transgender traveler).

9. See *What Can I Expect During Pat-Down Screening?*, TRANSP. SEC. ADMIN., <https://www.tsa.gov/travel/frequently-asked-questions/what-can-i-expect-during-pat-down-screening> [<https://perma.cc/8TAR-JYWC>] (last visited Mar. 23, 2023) (“The screening is conducted by a TSA officer of the same gender.”).

10. See Lucas Waldron & Brenda Medina, *When Transgender Travelers Walk into Scanners, Invasive Searches Sometimes Wait on the Other Side*, PROPUBLICA (Aug. 16, 2019, 5:00 AM), <https://www.propublica.org/article/tsa-transgender-travelers-scanners-invasive-searches-often-wait-on-the-other-side> [<https://perma.cc/5W83-ASEB>]; *Perspectives on TSA’s Policies to Prevent Unlawful Profiling: Hearing Before the Comm. on Homeland Sec.*, 116th Cong. 6, 11, 13, 17, 28, 37, 39 (2019) (statement of Hon. Shelia Jackson Lee, Cong. Rep. of Tex.; statement of W. William Russel, Acting Dir., Homeland Sec. & Just. Team; statement of Sim J. Singh, Senior Manager of Pol’y & Advoc., The Sikh Coal.; statement of Janai S. Nelson, Assoc. Dir.-Couns., NAACP Legal Def. & Educ. Fund, Inc.).

11. See MEREDITH BROUSSARD, *ARTIFICIAL UNINTELLIGENCE: HOW COMPUTERS MISUNDERSTAND THE WORLD* 89 (2018) (“[C]omputer scientists know that machine ‘learning’ is more akin to a metaphor in this case: it means that the machine can improve at its programmed, routine, automated tasks. It doesn’t mean that the machine acquires knowledge or wisdom or agency, despite what the term *learning* might imply. This type of linguistic confusion is at the root of many misconceptions about computers.”); see also Emily Tucker, *Artifice and Intelligence*, CTR. ON PRIV. & TECHN. GEO. L. (Mar. 8, 2022), <https://medium.com/center-on-privacy-technology/artifice-and-intelligence%C2%B9-f00da128d3cd> [<https://perma.cc/V8ZA-QPL7>] (“Whatever the merit of the scientific aspirations originally encompassed by the term ‘artificial intelligence,’ it’s a phrase that now functions in the vernacular primarily to obfuscate, alienate, and glamorize.”).

12. “FAccT” is the Association for Computing Machinery (ACM) Conference on Fairness, Accountability, and Transparency which “brings together researchers and practitioners interested

Management Profiling for Alternative Sanctions (COMPAS) reporting,¹³ or Andrew Ferguson's book,¹⁴ the Department of Homeland Security was using sexist, racist algorithms to determine who would be subject to additional screening. The algorithms that are built into these technologies are used to justify the systems of policing already in place. These algorithms mirror the systems that I and others, most prominently Sasha Constanza-Chock, have written about, in that they assume a binary of gender and bodies, a concordance between sex and appearance, and punish those who may not conform.¹⁵ It is the algorithmic decision of what bodies are normal, acceptable, and safe versus which ones are deviant.¹⁶ It is the production of the tools of policing that are algorithmically incapable of respecting the diversity of the people who encounter them. Forms of violence are targeted by algorithms, albeit on a level different than drone strikes or additional police stops.¹⁷

It is easy to pretend that debiasing these algorithms could somehow fix them. As a result of years of activism, the TSA announced on Transgender Day of Visibility in 2022 that they were developing an algorithm that does not require a pink or blue box checking exercise.¹⁸ In my work with Maggie Delano on medical devices, I have called such

in fairness, accountability, and transparency in socio-technical systems." It was founded in 2018. See ACM CONF. ON FAIRNESS, ACCOUNTABILITY, & TRANSPARENCY, <https://facctconference.org> [<https://perma.cc/CQC6-PJNQ>] (last visited Mar. 23, 2023).

13. See Julia Angwin et al., *Machine Bias*, PROPUBLICA (May 23, 2016), <https://www.propublica.org/article/machine-bias-risk-assessments-in-criminal-sentencing?token=TiqCeZlj4uLbXl91e3wM2PnmnWbCVOvS> [<https://perma.cc/QF6E-3TAW>] (reporting that the risk assessment tool COMPAS is intended for use by judges to determine which criminal defendants are eligible for probation or treatment programs but that the tool disproportionately identifies Black individuals as being a high risk to the community).

14. ANDREW GUTHRIE FERGUSON, *THE RISE OF BIG DATA POLICING: SURVEILLANCE, RACE, AND THE FUTURE OF LAW ENFORCEMENT passim* (2017).

15. SASHA COSTANZA-CHOCK, *DESIGN JUSTICE: COMMUNITY-LED PRACTICES TO BUILD THE WORLDS WE NEED* 1–5 (2020); see Kendra Albert & Maggie Delano, *Sex Trouble: Sex/Gender Slippage, Sex Confusion, and Sex Obsession in Machine Learning Using Electronic Health Records*, 3 PATTERNS 1, 1 (2022) (discussing how machine learning datasets used for healthcare applications can ignore the complexities of gender).

16. For more on the construction of social deviance through these systems, see Merav Amir & Hagar Kotef, *In-Secure Identities: On the Securitization of Abnormality*, 36 ENV'T & PLAN. D: SOC'Y & SPACE 236 *passim* (2018).

17. Compare Angwin et al., *supra* note 13 (describing an algorithm used to predict the likelihood an individual will commit another crime), with ALASDAIR MCKAY ET AL., *REMOTE WARFARE: INTERDISCIPLINARY PERSPECTIVES* 187 (2021) (describing an algorithm used to choose where to launch drone strikes), and NAT'L ACADS. OF SCIS., ENG'G, & MED., *PROACTIVE POLICING: EFFECTS ON CRIME AND COMMUNITIES* 109–10 (David Weisburd & Malay K. Majmundar eds., 2018) (describing an algorithm used to identify neighborhoods as crime hotspots for increased policing).

18. Arli Christian, *Four Ways the TSA Is Making Flying Easier for Transgender People*, AM. CIV. LIBERTIES UNION (Apr. 5, 2022), <https://www.aclu.org/news/lgbtq-rights/four-ways-the-tsa-is-making-flying-easier-for-transgender-people> [<https://perma.cc/C3CD-T8YP>].

fixes “rainbow band-aids” because they fail to actually disrupt the normative assumptions about gender, sex, and bodies that algorithmic designers make.¹⁹ In policing contexts, I am not sure a “rainbow band-aid” covers it, unless we imagine an adhesive bandage placed over a gaping, festering wound. As Toby Beauchamp argued in his book, *Going Stealth*, it is easy to use such technologies to foreground “questions of gender, vulnerability, and individual privacy rather than [those] of citizenship and structural racism.”²⁰ In fact, that is partly how we ended up with advanced imaging technologies in the first place. The widespread backlash to millimeter wave scanners and their ability to produce detailed “naked” images of travelers, which invaded their privacy, explains the move to the algorithmic anomaly standard, ATR, and the requirement of TSA-assigned gender based on presentation.²¹ In short, the urge to reform the system to fit the privacy needs of White, upper middle class, cisgender Americans created forms of targeted violence against others.²²

That is why transgender folks like me must resist the urge to make this a conversation about how the TSA’s security apparatus can become more welcoming or friendly to just us. As Avatara Smith-Carrington has pointed out, such proposals by White transgender people end up reinforcing the hold of policing systems. Here, I also builds on the arguments of Stop LAPD Spying and the Carceral Tech Resistance Network, who have pointed out that those arguing for the reform of surveillance technologies often end up legitimating their use.²³ As Stop

19. Kendra Albert & Maggie Delano, “*This Whole Thing Smacks of Gender*”: *Algorithmic Exclusion in Bioimpedance-Based Body Composition Analysis*, YOUTUBE (May 5, 2021), <https://www.youtube.com/watch?v=JcLvBFqjqo4&list=PLXA0IWa3BpHkdkCkbcUpm2im-rjoVvj4&index=35> [<https://perma.cc/CBT7-VRM3>]; see Kendra Albert & Maggie Delano, “*This Whole Thing Smacks of Gender*”: *Algorithmic Exclusion in Bioimpedance-Based Body Composition Analysis*, 2021 FACCT ‘21: PROC. 2021 ACM CONF. ON FAIRNESS, ACCOUNTABILITY, & TRANSPARENCY 342, 349 (explaining that eliminating the use of sex or gender as a proxy in bioelectrical impedance analysis equations does not remove the “pervasive assumptions about sex and gender” in clinical research).

20. BEAUCHAMP, *supra* note 2, at 64.

21. See Scott Neuman, *TSA: No More Graphic, Full-Body Airport Scans*, NPR (May 30, 2013, 7:19 PM), <https://www.npr.org/sections/thetwo-way/2013/05/30/187376559/tsa-no-more-graphic-full-body-airport-scans> [<https://perma.cc/P37D-BZS4>] (“[A]s of May 16, [2013,] all U.S. airport scanners that had been equipped with the offending Advanced Imaging Technology, or AIT, have been loaded with software called [ATR], which shows only generic images of the passengers.”). The Author is grateful to the research efforts of Zoe Kaiser and Arabi Hassan, who helped them fully understand the relationship between the privacy backlash and ATR, albeit for a different context.

22. See generally Christian, *supra* note 18 (discussing how harassment and mistreatment of trans individuals in the airport led the TSA to develop new policies that move away from assumptions about the binary of gender and bodies).

23. Stop LAPD Spying Coal., *Co-Optation and Counterinsurgency in Surveillance Reform*, LPE PROJECT (Mar. 15, 2022), <https://lpeproject.org/blog/co-optation-and-counterinsurgency-in-surveillance-reform/> [<https://perma.cc/T3SA-FURS>]; *Our Practice // Our Community*

LAPD Spying articulated in a recent piece on the Law and Political Economy (LPE) blog, “[t]his ecosystem of nonprofit reform advocacy must be understood as a form of counterinsurgency, helping the state absorb the shocks generated by abolitionist organizing.”²⁴

As we play around the margins, rather than pointing out the fundamental racism of American efforts to police “terrorism,” we provide cover for policing the “right” people (read: Muslim, Black, Brown, radical, mad, poor, disabled) instead of the wrong ones. The choice of which bodies to normalize and proclaim safe is not an accident—it is the system working as intended. White transgender people’s fight for the right to be seen as part of that body politic comes at the rejection of a solidarity with those who will never be “safe” enough.

CONCLUSION

The use of ATR is a cautionary tale for privacy advocates and others who see the use of algorithmic technologies as a panacea against the vagaries and harm of human judgment. Although there are undoubtedly forms of bias and harm that have been eliminated by the shift to millimeter wave scanners with ATR algorithmic tools, they come at the cost of engraining forms of discrimination into the literal code of the tools that are theoretically meant to protect certain people. The failure to meaningfully center the most impacted in discussions of how to change the TSA’s practices, as my colleague Afsaneh Rigot has described in her work on “design from the margins,” results in algorithms that fundamentally cannot ever be fair, even aside from the illegitimate context of American imperialist views on terrorism.²⁵

We already know the future of algorithmic policing. To quote William Gibson, “[d]ystopia is already here, it’s just not . . .”²⁶ evenly distributed.

Commitments, CARCERAL TECH RESISTANCE NETWORK, <https://www.carceral.tech/practice> [<https://perma.cc/W5BA-MKR7>] (last visited Mar. 25, 2023).

24. Stop LAPD Spying Coal., *supra* note 23. See generally Sarah T. Hamid, *Community Defense: Sarah T. Hamid on Abolishing Carceral Technologies*, LOGIC MAG. (Aug. 31, 2020), <https://logicmag.io/care/community-defense-sarah-t-hamid-on-abolishing-carceral-technologies/> [<https://perma.cc/R4TJ-X6ES>] (“There was an intentional move . . . to push back on these technologies by presenting surveillance as a generalized harm This was a well-intentioned move. But it muted much of what directly impacted communities needed to talk about.”).

25. AFSANEH RIGOT, BELFER CTR. FOR SCI. & INT’L AFFS., *DESIGN FROM THE MARGINS passim* (2022).

26. William Gibson (@GreatDismal), TWITTER (Aug. 22, 2015, 4:26 PM), <https://twitter.com/greatdismal/status/635186310550962176> [<https://perma.cc/8YLA-Z9J7>].