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THE LIMITS AND POSSIBILITIES OF DATA-DRIVEN ANTITRAFFICKING EFFORTS

Jennifer Musto, Ph.D.*

INTRODUCTION

Interest in using technology to respond to human trafficking has occurred alongside the explosive growth of networked, predictive, and automated technologies over the last decade. In the United States, technological innovators have entered the antitrafficking space, a trend preceded by calls from policymakers, law enforcement agents, and some nonprofit organization advocates, to examine not only how technology contributes to human trafficking but also the ways in which it might be used to combat it.1 In 2012, for instance, President Obama described the utility of leveraging technology to fight trafficking: “[W]e’re turning the tables on the traffickers. Just as they are now using technology and the Internet to exploit their victims, we’re going to harness technology to stop them.”2

A key idea in antitrafficking discussions is that technology—particularly “disruptive” data-driven technologies—can be used to thwart traffickers and at the same time assist people assumed to be “at risk” of trafficking. More recently, technologies like algorithms, machine learning, and dark web search tools have been integrated into countertrafficking efforts.3 For some, these tools are

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seen as critical in identifying traffickers who use technology to exploit victims and evade law enforcement detection. Yet, assumptions about technology do not exist in a vacuum. Rather, conversations about what technology can and cannot do reflect fears, anxieties, aspirations, and inequalities that exist in society.4

Consider the word “disruption.” When stakeholders in the U.S. describe a new technology as disruptive, they implicitly suggest that it has the ability to positively contribute to social change. Optimistic forecasts suggesting connective technologies would have the capacity to uproot businesses and politics were commonplace in technology circles in the mid-to late 2000s, with some commentators going so far as to suggest that equality, freedom, and human rights are tied to the development of disruptive technologies.5 In 2020, the idea that disruptive technologies are uniformly positive seems naïve and even dangerous.

A much-needed public discussion has recently emerged that centers on the liabilities of digital tools and the biases, discrimination, and inequalities reproduced through them.6 Yet, less attention has centered on the ethics and harms surrounding humanitarian efforts, including data-driven antitrafficking efforts. This is despite the fact that humanitarian activities like commercial and law enforcement efforts rely on surveillance techniques developed within a “surveillance capitalist” system.7 Just as digital tools once framed as advancing democratic ideals are now viewed by many Americans as authorizing mass surveillance on an unprecedented scale, so too I would suggest that data-driven antitrafficking efforts are not as straightforward or as

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helpful as their supporters believe. Instead, those efforts carry risks that warrant public attention and debate.

Over the course of the past several years, my research has investigated how and why antitrafficking stakeholders have come to view technology as so crucial to addressing trafficking—particularly sex trafficking situations involving youths and adults. While it is evident that the goals of antitrafficking technology initiatives are well-intentioned, the impact of tech-augmented efforts is mixed at best and questionable at worst. There are several distinct reasons why antitrafficking technologies have failed to deliver on their promises. First, ideas about the benefits of technology are based on a lot of uninterrogated assumptions rooted in cultural beliefs about progress and the ability of technology to facilitate it in lieu of wider structural change. Second, discussions about how technologies ought to be used (and by whom) emerged within a global antitrafficking movement shaped by enduring political and ideological debates. Briefly, some of these concerns include but are not limited to the following: the conflation of sex work with sex trafficking and the positioning of human trafficking as a crime control issue; the circulation of “sketchy” data to describe the scale and overestimate the scope of human trafficking; and disparities between the estimated number of victims and the actual number of victims identified. These fissures predate interest in technology in the antitrafficking space. However, attention to technology has enhanced the influence of some of the most powerful


antitrafficking stakeholders, while lessening the influence of others.\textsuperscript{12} For instance, state actors like law enforcement agents, along with their nongovernmental advocate partners, are the ones who determine if “a person’s involvement in the sex industry is voluntary or coerced and whether they are entitled to protection, punishment, or some combination” of those factors.\textsuperscript{13} Yet, tech actors (i.e., nonhuman trafficking experts) increasingly wield discretionary power to decide what qualifies and ultimately counts as sexual exploitation. This suggests that ideological divisions that already surround antitrafficking efforts have become more intensified now that human trafficking is understood as a technological problem that can be “fixed” with technical solutions.\textsuperscript{14}

Moreover, in an age of surveillance where human and automated decision-making are increasingly intertwined, at-risk groups endure heightened surveillance and as a result “become prone to punishment and criminalization.”\textsuperscript{15} People seen as vulnerable to trafficking (both trafficked persons and adults engaged in consensual sex work) likewise face risks from antitrafficking efforts reliant on carceral approaches and data-driven responses.\textsuperscript{16} As antitrafficking activities have taken a decidedly sociotechnical turn, sex workers and people at risk of trafficking must not only contend with laws that still broadly criminalize sexual labor but must also navigate an antitrafficking landscape where third-party actors contribute to prevention and identification efforts that supplement and widely support law enforcement efforts.\textsuperscript{17}


\textsuperscript{13} Hoefinger et al., \textit{supra} note 11; see also MUSTO, \textit{supra} note 8, at 28.

\textsuperscript{14} MUSTO, \textit{supra} note 8, at 71–72; Musto, \textit{supra} note 1, at 127–28; Musto \& boyd, \textit{supra} note 8, at 474.

\textsuperscript{15} See generally VIRGINIA EUBANKS, AUTOMATING INEQUALITY: HOW HIGH-TECH TOOLS PROFILE, POLICE AND PUNISH THE POOR (2018); Kathryn Henne \& Emily I. Troshynski, Intersectional Criminologies for the Contemporary Moment: Crucial Questions of Power, Praxis and Technologies of Control, 27 CRITICAL CRIMINOLOGY 55, 60 (2019).

\textsuperscript{16} See generally Jennifer Musto, Mitali Thakor \& Borislav Gerasimov, \textit{Between Hope and Hype: Critical Evaluations of Technology’s Role in Anti-Trafficking, ANTI-TRAFFICKING REV.}, April 2020, at 1.

\textsuperscript{17} MARK LATONERO ET AL., UNIV. S.C. ANNENBERG CTR. ON COMM’N LEADERSHIP \& POLICY, THE RISE OF MOBILE AND THE DIFFUSION OF TECHNOLOGY-FACILITATED TRAFFICKING 8, 19 (2012); Musto \& boyd, \textit{supra} note 8, at 463; Thakor \& boyd, \textit{supra} note 12.
Notably, a comprehensive empirical account of antitrafficking technology initiatives is limited. Indeed, for all of the attention and resources now focused on integrating technology into countertrafficking efforts, very little empirical research exists on these efforts or their overall impact.\textsuperscript{18} Despite limited social science research on these developments, it has become increasingly clear that a change to how scholars, policymakers, and members of the global antitrafficking community approach the topic of technology is long overdue.\textsuperscript{19} For instance, rather than asking if technology is helpful or harmful—a line of inquiry that circulates in some governmental and intergovernmental spaces and which can inadvertently frame technology as neutral and inevitable—I believe it is more productive to explore some of the presumptive expectations that surround conversations about technology.\textsuperscript{20} Unpacking assumptions about technology is crucial not only in challenging the idea that technology can solve trafficking but also in highlighting real but widely unacknowledged risks that accompany the integration of technology in countertrafficking efforts. The first step towards these ends is to broaden the focus, for instance by exploring a few animating questions:

\textsuperscript{18} DANAH BOYD ET AL., HUMAN TRAFFICKING & TECHNOLOGY: A FRAMEWORK FOR UNDERSTANDING THE ROLE OF TECHNOLOGY IN THE COMMERCIAL SEXUAL EXPLOITATION OF CHILDREN IN THE U.S. 1 (2011), http://www.indiana.edu/~traffick/_resources/_literature/_research/_assets/Human-Trafficking-and-Technology.pdf [https://perma.cc/CT8A-DNGG]. In an effort to advance empirical research in this area, I co-edited a special issue on technology and antitrafficking for the journal Anti-Trafficking Review with Mitali Thakor. See Musto, Thakor & Gerasimov, supra note 16.

\textsuperscript{19} BOYD ET AL., supra note 18, at 10.

1. What commonsense ideas shape antitrafficking technology initiatives?
2. What are the effects of these efforts?
3. What lessons can be learned from past activities in shaping future efforts?

Exploring these questions offers the chance to complicate widespread but empirically untested assumptions that circulate in many antitrafficking circles—for instance, assumptions that suggest that creating more public–private partnerships and adding automated technologies to the mix of antitrafficking efforts will invariably support people at risk of trafficking, especially individuals at risk of sexual exploitation. In addition to interrogating the dominant commonsense ethos that surrounds antitrafficking activities, this Article aims to spark discussion about future antitrafficking prevention and protection efforts grounded in notions of data ethics and transparency, as well as principles of accountability, harm reduction, and racial, gender, sexual, and economic justice.

I. Assumptions and Implications

Many assumptions lie behind antitrafficking technology initiatives in the U.S. that my and other scholars’ work seeks to unpack.21 Why focus on assumptions? First, they reveal a great deal about the ways in which precious resources are allocated and countertrafficking efforts are focused. Second, assumptions have practical implications and help to assess how antitrafficking efforts benefit some groups but constrain others. Third, in order to understand the effects of technology initiatives and to evaluate whether they are beneficial or risky, it is important to understand the ideas and values that shape them.

Two interconnected ideas undergird and arguably overshadow all others in the United States: (1) sex trafficking is a more pressing issue

than labor trafficking; and (2) dominant antiprostitution (i.e., neo-abolitionist) approaches are best equipped to address it. U.S. government policies have overwhelmingly focused attention on sex trafficking in general and the sexual exploitation of minors in particular.\textsuperscript{22} This is despite the fact that scholars note there are likely more cases of labor trafficking than sex trafficking.\textsuperscript{23} Such assumptions are baked into U.S. laws and policies.\textsuperscript{24} One of the enduring legacies of the U.S. benchmark antitrafficking legislation, the Trafficking Victims Protection Act (TVPA) of 2000 (and its subsequent reauthorizations), is its sustained focus on sex trafficking situations involving women and girls, with far less attention on exploitative labor situations that are nonsexual in nature and involve migrants.\textsuperscript{25}

Antitrafficking laws also promote an antiprostitution or “neo-abolitionist” agenda in the U.S. and globally.\textsuperscript{26} As the legal scholar Janie Chuang observes, when the U.S. anointed itself as the “global sheriff” of antitrafficking policy in the 2000s during the George W. Bush Administration, it used the TVPA and the “economic sanctions regime” that accompanied it as a “vehicle for the neo-abolitionists to promote their anti-prostitution agenda worldwide.”\textsuperscript{27} Twenty years after the passage of the TVPA and following the 2018 passage of the Allow States and Victims to Fight Online Sex Trafficking Act (FOSTA), the effects of U.S. antitrafficking laws and attendant countertrafficking efforts have come into even sharper focus: laws to address human trafficking still conflate sex work with sex trafficking and still frame trafficking as a crime control rather than a social justice issue.\textsuperscript{28} Just as the TVPA stretched its antitrafficking policy reach beyond U.S. borders, so has

\begin{thebibliography}{99}
\bibitem{22} Musto, supra note 8, at 114; Chuang, supra note 10; Weitzer, supra note 11, at 73.
\bibitem{23} Vance, supra note 11, at 936.
\bibitem{24} \textit{Id.} at 933.
\bibitem{25} Musto, supra note 8, at 37; Vance, supra note 11, at 933, 939.
\bibitem{26} Chuang, supra note 10, at 1679.
\bibitem{28} Elizabeth Bernstein, \textit{Carceral Politics as Gender Justice? The “Traffic in Women” and Neoliberal Circuits of Crime, Sex, and Rights}, 41 \textit{Theory \\& Soc’y} 233, 253 (2012); Hoefinger et al., supra note 11.
\end{thebibliography}
FOSTA redrawn boundaries too, in this instance by advancing a model of governance that de facto deputizes internet providers as third-party, nonstate enforcers of antiproduction policy, a form of networked neo-abolition.29

What FOSTA and attendant sociotechnical efforts to address trafficking reveal is a distinct yet understudied form of governance in development: an antitrafficking approach and enforcement strategy that blurs the boundaries between state and nonstate authority.30 Yet, integrating technology into countertrafficking efforts also muddles the lines between prevention and protection efforts. In earlier work, I argued that youth and adults seen as at risk of sex trafficking sometimes experience a combination of punishment and protection—what I referred to as “carceral protection.”31 This arrest-to-assist model of collaborative intervention brings law enforcement agents together with nonstate actors in new ways that blur the lines between state and nonstate authority. Yet as the concept quite literally suggests, the protective part of carceral protectionism is temporally specific and occurs after state and nonstate authorities identify people determined to be in exploitative situations, which is to say after the exploitation occurred.32 What I failed to fully appreciate until recently is that ideas about risk in general and the production of the at-risk sex trafficking subjects in particular authorize an array of activities on the front end too, which is to say on the prevention side. This is where technology and a form of collaborative, algorithmic governance comes into play and coheres in discursively producing at-risk victim–survivor subjects.

For instance, tech-mediated efforts to identify victims and assist investigators may utilize web scraping, indicator mining, and the amassment of data in the development of algorithms.33 Data collection,

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30. MUSTO, supra note 8, at 70.
31. See generally id.
32. Id. at 141–42.
33. MAYANK KEJRIWAL ET AL., FLAGiT: A SYSTEM FOR MINIMALLY SUPERVISED HUMAN
aggregation, and sorting practices can, in turn, construct representations about exploitation with predictive potential, including predicting where future exploitation may occur. This gives rise to an array of surveillance prevention efforts, activities that indeterminately monitor persons assumed to be at risk but whose identities remain unknown to authorities alongside efforts to monitor people identified as “trafficked,” irrespective of whether they themselves identify as such. Heightened monitoring is justified on the grounds of curtailing exploitation in the first place (prevention) and limiting future harm (protection).

Fulfilling twin prevention and protection aims means that government actors form partnerships with nongovernmental tech innovators and academic researchers and utilize automated tools in their countertrafficking efforts. This raises pressing questions about the effects of a nascent data-driven, carcerally-oriented collaborative model of governance in development, one that crowdsources the protection and prevention of vulnerable populations from different state and nonstate actors. In the sections that follow, I draw on questions featured earlier to elaborate on my argument. In exploring each question, I share some findings from my own and others’ research findings and highlight questions and challenges that surround data-driven, antitrafficking efforts.

The following is a provisional list of some of the most common assumptions I have encountered in the context of my research and the practical effects resulting from each one:

34. Henne & Troshynski, supra note 15, at 64.
35. See, e.g., MUSTO, supra note 8, at 53, 64–65.
a. **Assumption:** Traffickers use technology to facilitate sex trafficking and evade law enforcement detection.\(^{37}\)

- **Implication:** Law enforcement can leverage technology to gather data, investigate suspected traffickers’ activities, and identify persons at risk of trafficking.

b. **Assumption:** Law enforcement lack sufficient resources and technical capacity to respond to challenges posed by technology.\(^{38}\)

- **Implication:** Law enforcement efforts must be enhanced through the assistance of nonstate actors and by integrating automated technologies and artificial intelligence into countertrafficking efforts.

c. **Assumption:** Antitrafficking interventions are uniformly helpful.\(^{39}\)

- **Implication:** By supplementing state efforts with technology and collaborative partnerships, people in trafficking situations or those seen as at risk of trafficking will be better assisted.

My aim in listing these assumptions is not to categorically deny their validity. Indeed, they often reflect commonsense notions behind antitrafficking initiatives and are grounded in the daily, practical needs of some antitrafficking actors. For instance, law enforcement agencies

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\(^{38}\) See BOYD ET AL., supra note 18, at 8.

\(^{39}\) See id. at 1.
are tasked with enforcing antitrafficking laws.\textsuperscript{40} It is therefore sensible that law enforcement agents are interested in learning about how suspected traffickers use technology and that some see clear benefits of having more technical tools at their disposal to pursue investigations.\textsuperscript{41} Likewise, if law enforcement agencies lack sufficient training and resources to investigate trafficking situations facilitated by technology or to gather information on suspected traffickers’ digital footprints—as some in law enforcement argue—it is logical that many also believe that creating partnerships with nonstate actors and using innovative tools can be supportive of their work.\textsuperscript{42} Yet taken together, what this list of assumptions and implications reveals is the kinds of activities and the particular actors who have come to play a powerful, if not \textit{the} most powerful, role in antitrafficking technology initiatives: law enforcement and nonstate actors interested in assisting law enforcement through technical innovation.

It is important to stress that competing agendas and divergent approaches to countertrafficking efforts are not new. However, growing attention to technology has enhanced the influence of powerful stakeholders, like law enforcement actors, as well as nonstate partners, with technical expertise.\textsuperscript{43} The rise of public–private partnerships, together with the entrenchment of the dominant criminal justice-oriented, prosecution-focused approach to addressing trafficking is significant because it expands crime control approaches through technology.\textsuperscript{44}

\section*{II. Leveraging Technology, Gathering Data}

Data is valuable to antitrafficking work. In the context of different research projects, I interviewed several nongovernmental advocates

\begin{itemize}
\item \textsuperscript{40} Id.
\item \textsuperscript{42} Id. at 4.
\item \textsuperscript{43} Haavikamp, supra note 11, at 68; Thakor & boyd, supra note 12, at 288.
\item \textsuperscript{44} MUSTO, supra note 8, at 36.
\end{itemize}
and law enforcement agents who argue that technology, and more specifically data, is crucial in building cases. Other scholars find that law enforcement view digital evidence as important to their investigative work.\textsuperscript{45} For example, if the internet allows suspected traffickers to advertise victims and “connect more easily with a large market of users[,]” then “leveraging technology” provides the tools and techniques to collect and analyze data about suspected traffickers’ activities.\textsuperscript{46} Examples of valuable data include mobile phone calls, text messages, financial transactions, GPS patterns, automatic license plate readers, geolocation data, etc.\textsuperscript{47} A police officer I interviewed for my book saw data as an “evidentiary goldmine,” describing it as an invaluable asset to investigators. Another officer suggested that gathering suspected traffickers’ digital traces offers a “treasure trove of material” that can make cases for investigators.\textsuperscript{48} Law enforcement also see data as critical in corroborating relationships between traffickers and the people they are alleged to exploit.\textsuperscript{49} For some law enforcement, data is beneficial on the grounds of victim protection; digital evidence takes pressure off of victims to testify against people accused of trafficking them.\textsuperscript{50} An alternate public defender I interviewed in 2017 lamented this trend, noting that though letting digital evidence like text messages stand in for victims is beneficial for prosecutors, it invariably complicates his work and the work of defense attorneys. As he explains:

I think what is a more interesting issue that should be publicized is what we’re seeing more of now is DAs are proceeding to trial without the victims, and allowing the liberal interpretation of the penal code and the evidence code to allow all the text messages to come in, and not even have anyone on the stand . . . It is definitely being utilized

\textsuperscript{45} Syl\textipa{v}ia Walby et al., Study on the Gender Dimension of Trafficking in Human Beings 165 (2016).
\textsuperscript{46} ICAT, \textit{supra} note 41, at 2.
\textsuperscript{47} See Latonero et al., \textit{supra} note 17, at iv–v.
\textsuperscript{48} \textit{Id.} at 29; Musto, \textit{supra} note 8, at 49–50.
\textsuperscript{49} Latonero et al., \textit{supra} note 17, at 29.
\textsuperscript{50} Musto, \textit{supra} note 8, at 66; Musto, \textit{supra} note 1, at 131–32.
more... Yes, from a prosecution standpoint, it works lovely, because [there is] no one to question. The police officer is just a conduit for the information.51

Moreover, as enthusiasm about the integration of data-driven antitrafficking efforts grows, another assumption has emerged too, chiefly, that law enforcement agencies do not have sufficient resources or the technical capacity to respond to challenges posed by technology.52 Enter nonstate actors and tech innovators.

III. Creating Partnerships and Building New Tools

The widely held assumption that police and law enforcement agencies do not have sufficient resources, capacity, or training to rigorously pursue human trafficking investigations opened the door to researchers, tech innovators and moral entrepreneurs eager to supplement law enforcement work in this area. For example, a nongovernmental advocate I interviewed noted the value of data from escort and online classified ad sites, explaining “[t]hey provide a lot of data, and can that data help us address this issue? This is a role for... machine learning.”53 Data scraped from sites are used to train machine learning algorithms and may be used to assist law enforcement in identifying trafficked persons.54 A growing number of antitrafficking stakeholders agree that data scraped from open and dark web sources can be analyzed to assist law enforcement.55 A new field of research has developed that aims to use artificial intelligence (AI) to respond to human trafficking. This work includes machine learning, computer vision, and natural processing.56 AI countertrafficking initiatives require data—and massive amounts of it. For researchers seeking to develop innovative tools, online advertisement sites are also

51. Skype Interview with a Public Defender, in Cal. (Oct. 19, 2017) (on file with author). The public defender’s name is withheld for confidentiality and ethics reasons.
52. Musto & boyd, supra note 8, at 468.
53. MUSTO, supra note 8, at 75.
54. Id.
55. Id. at 69.
56. STYLIANOU ET AL., supra note 33.
rich sources of data.\textsuperscript{57} For instance, the Department of Defense Advanced Research Project Agency’s Memex program supports “research into domain-specific search,” and “has collected hundreds of millions of online sex advertisements, a significant (but unknown) number of which are believed to be sex (and human) trafficking.”\textsuperscript{58}

Research initiatives like those advanced by Memex are premised on the idea that law enforcement efforts are strengthened by integrating innovative technical tools with investigators’ toolkits.\textsuperscript{59} Cooperation between state and nonstate actors is also framed by authorities as crucial in helping law enforcement pursue investigations more efficiently and effectively.\textsuperscript{60} Nonstate actors, some of whom have developed tools to scrape and sort data, aid this work—even if indirectly. And in some jurisdictions, law enforcement personnel have begun to integrate software developed by nonstate actors into their investigative work.

Memex software, for example, is used by the Manhattan District Attorney’s Office in their Human Trafficking Response Unit.\textsuperscript{61} In researching antitrafficking efforts in California, I learned of a human trafficking unit where detectives were using software developed by nonstate actors. An officer I interviewed from the unit saw the integration of software as unambiguously helpful, and a way for officers to focus on building cases.\textsuperscript{62} Yet, what is often missing from discussions about these protocol shifts are the legal questions that arise as law enforcement come to more heavily rely on automated tools.

The absence of context in antitrafficking matters is another issue.\textsuperscript{63} Having contextual insight may mean that investigators and the

\textsuperscript{57} Id.
\textsuperscript{58} KEJRIWAL ET AL., supra note 33.
\textsuperscript{59} MUSTO, supra note 8, at 75.
\textsuperscript{60} EXEC. OFFICE OF THE PRESIDENT, BIG DATA: SEIZING OPPORTUNITIES, PRESERVING VALUES 29 (2014).
\textsuperscript{62} Interview with a Law Enforcement Agent on a Human Trafficking Task Force, in Cal. (Sept. 21, 2018) (on file with author). The agent’s name is withheld for confidentiality and ethics reasons.
\textsuperscript{63} CHRISTINA BAIN ET AL., HOW TO RESPONSIBLY CREATE TECHNOLOGICAL INTERVENTIONS TO ADDRESS THE DOMESTIC SEX TRAFFICKING OF MINORS 4 (2013), http://www.danah.org/papers/TechnologistsCSEC.pdf [https://perma.cc/TDT7-GGSG]; MUSTO, supra
technologists they partner with understand the differences between voluntary sex work and sex trafficking. For instance, an ad scraped from an open or deep web source is not, on its face, a clear indicator of sex trafficking. Some researchers and antitrafficking actors in the United States recognize this. However, as research on these trends suggests, the value afforded to “millions of online sex advertisements” remains, and the indicators created from it hinge on its size, scalability, and presumed ability to identify patterns, connect dots, draw inferences, and make visible phenomena that would otherwise be hidden. Yet context is lost when trafficking is treated solely as a technical problem and its complex features are reduced to signals and indicators.

Moreover, automated technologies are also framed as efficient, objective, and thus uniquely equipped to aid law enforcement in their efforts. However, a lot is still unknown about the precise ways in which technologists design these tools and about the ideological assumptions on which their functionality rests. Some of this has to do with the fact that tools developed to support countertrafficking technology efforts are proprietary, their features and technical design are opaque, and the methods used to define their parameters are a black box. And like other technologies of measurement and classification, data-driven tools are not neutral; rather, they function to “legitimize certain forms of knowledge and experience, while rendering others invisible.” Anthropologist Sally Merry’s insightful observations about the rise of indicators in the human rights field is instructive in complicating the idea that indicators are objective. Though indicators may be viewed by some antitrafficking actors as reflecting “objective” reality and truth, they are imbued with ideological assumptions and “embedded [within] theories and values that shape apparently objective information and influence decisions.”

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64. Kejriwal et al., supra note 33.
67. Id. at S84–85.
indicators make knowledge claims about social and political phenomena and such claims underwrite a “technology of governance.”

In applying this idea to antitrafficking efforts augmented by technology, what emerges is a governance strategy that relies on amassing data and enhancing law enforcement efforts. This strategy produces notions of risk that in turn authorizes technologies of control (for instance, enhanced surveillance of all forms of commercial sex) that unsettle neat distinctions between prevention and protection and state and nonstate authority. Paying attention to the ideologies that undergird antitrafficking efforts and mapping which bodies and whose experiences are rendered invisible is crucial, both in terms of assessing if these efforts are actually effective and whether they contribute to harms.

IV. Collateral Consequences of Networked Neo-Abolition

Another assumption that circulates among antitrafficking stakeholders in the United States is that law enforcement focused, nonstate assisted interventions are uniformly helpful. In the technology space, a corollary assumption is that by supplementing law enforcement efforts with collaborative partnerships and technologies, people in trafficking situations as well as people at risk of trafficking will get help and assistance as a direct result of the technology. Yet this is not the case in the United States. Absent from public and stakeholder discussions are the ways in which seemingly protective antitrafficking policies, now supplemented with innovative tools, contribute to the arrest and criminalization of both victims of sex trafficking and voluntary sex workers, which can further contribute to an uptick in prostitution arrests in jurisdictions where these innovative approaches have been introduced. Though troubling, this is not

68. Id. at S85, S89.
69. Musto & boyd, supra note 8, at 469–70.
70. MUSTO, supra note 8, at 66; WALBY ET AL., supra note 45, at 167.
71. MUSTO, supra note 8, at 81.
72. ALEXANDRA LUTNICK, DOMESTIC MINOR SEX TRAFFICKING 30 (2016); MUSTO, supra note 8, at 54; Foy, supra note 61.
completely surprising. Adults and youth viewed by authorities as victims of sex trafficking have long endured arrest and detention and been treated like “victim–offenders.” Moreover, because the criminal justice approach to countertrafficking in the United States is often based on the conflation of voluntary sex work with sex trafficking, there are punitive consequences for both sex trafficking victims and adult voluntary sex workers. Sex workers in the United States and globally have actively highlighted the health risks and human rights violations that accompany antiprostitution efforts framed as antitrafficking initiatives.

While this topic warrants a more in-depth discussion than space permits, a key point I want to make is that because antitrafficking initiatives conflate sex work with sex trafficking and because these same efforts prioritize criminal justice interventions, when augmented by technology and retooled by collaborative partnerships, this approach can create vulnerabilities for victims of sex trafficking and voluntary sex workers. Consider a few examples. Law enforcement have long posted fake ads and used various decoy strategies to identify (and sometimes arrest) people selling sex online. More recently, efforts to prevent sexual exploitation online have utilized automated tools with a focus on exploiters (i.e., what is oft referred to in antitrafficking circles as targeting the “demand side” of the sex trade). For instance, as part of an AI-augmented end demand campaign, the New York Police Department used “women”—presenting bots in human drag to target unsuspecting sex buyers. Some nonprofit agents masquerading as antitrafficking moral entrepreneurs have likewise pursued similar strategies, for instance by posting fake ads on sites where sexual services are known to be needed.

73. MUSTO, supra note 8, at 29; Haverkamp, supra note 11, at 64.
74. MUSTO, supra note 8, at 54.
75. Hoefinger et al., supra note 11, at 23.
76. MUSTO, supra note 8, at 57–58.
77. Id. at 138.
78. Tina Rosenberg, A.I. Joins the Campaign Against Sex Trafficking, N.Y. TIMES (Apr. 9, 2019), https://www.nytimes.com/2019/04/09/opinion/ai-joins-the-campaign-against-sex-trafficking.html [https://perma.cc/7223-D33P]. Though deterrence, not arrest appeared to be the goal of the campaign, it is unclear if data about people approached by the NYPD was kept or used for other purposes. Id.
advertised. The nonprofit agency Seattle Against Slavery is behind one recent disruptive AI-enhanced effort to deter sex buyers and uses chatbot sex worker decoys. Robert Beiser, the organization’s Executive Director, conceded, “not everyone selling sex online was a trafficking victim.” Nonetheless, he argues that the strategy his organization uses was developed based on the experiences of some trafficking survivors who had “reported . . . transactions [related to their trafficking situations] were typically initiated online.”

Prevention efforts that focus on ending male demand for commercial sex may appear to signal a move away from policy and enforcement strategies that myopically target sellers (i.e., people, though particularly women engaged in commercial sex either by choice or force). Yet, efforts to prevent trafficking do not focus solely on prospective exploiters; similarly, intensified efforts to pursue criminal prosecutions as a strategy of deterrence do not only implicate people alleged to have facilitated trafficking. Rather, in an antitrafficking environment that prioritizes criminalization strategies, people assumed to be at risk of trafficking can also experience arrest, detention, and mandated court participation. Others may experience law enforcement surveillance and different types of monitoring, screening, and filtering. For instance, some may have their images and content scraped and their digital footprints amassed in datasets to develop algorithms designed to investigate places where trafficking occurs (hotels for example). Still others may have their content risk-assessed. Nick Shapiro of Airbnb and Bradley Myles of Polaris, an antitrafficking organization, described their joint efforts as taking a “modern approach” to antislavery efforts, which hinges on developing enhanced screening, scoring, and risk-assessment methods to “mine

79. Id.
80. Id.
81. See Devlin, supra note 37.
82. Id.
84. MUSTO, supra note 8, at 29; Hoefinger et al., supra note 11, at 6; Majic, supra note 83.
85. STYLIANOU ET AL., supra note 33; Sean Captain, This AI Can Spot Signs of Human Trafficking in Online Sex Ads, FAST COMPANY (Nov. 4, 2019), https://www.fastcompany.com/90424645/how-image-recognition-ai-is-busting-sex-traffickers [https://perma.cc/3R7N-NGAS].
for signs of human trafficking in real time.”

Yet it appears that efforts to prevent sexual exploitation online and identify prospective victims are not without consequence, evidenced by sex worker reports about restricted access to seemingly pedestrian activities (for example, making an Airbnb reservation).

Not only do these examples aim to highlight the fact that data-driven antitrafficking efforts do not solely target prospective exploiters or leverage cooperative partnerships and automation to identify a trafficking survivor “in real time.” They produce notions of risk and “ways of seeing and knowing . . . that minimize individual complexity.”

The sociotechnical production of at-risk victims in tech-oriented antitrafficking efforts are shaped by quantification and experts’ selective filtering of the exploitative experiences of some to broadly authorize the surveillance of many. Notions of risk further authorize technologies of control, for instance, enhanced surveillance techniques, that unsettle neat distinctions between prevention and protection and state and nonstate authority.

In describing how ideas about youth at risk turn complex situations and nuanced life experiences into equations, calculations, and algorithms, the sociologist Max Greenberg deftly explains how past experiences of violence and trauma shape predictions of the future:

“Experiences become prophecies that can be applied to a different set of people . . . . Stranger’s experiences with violence and trauma can cause someone whom they have never met to be labeled as at risk. Crime data is used to mark noncriminals as at risk and injury data is used to mark healthy people as at risk. The meanings jump between arenas.”

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89. MUSTO, supra note 8, at 71; WALBY ET AL., supra note 45, at 167.
Risk data are, in a sense, a map of the past that is used to predict the future. Data about at-risk trafficked persons in a neo-abolitionist, networked landscape similarly lumps and jumps; it lumps a wide range of people’s experiences who trade sex into the categorical confines of a victim “at risk.” Ideas about risk and attendant cooperative efforts that utilize automated tools also jump between different kinds of sexual arrangements, flattening the diverse ways people arrange and facilitate sexual labor, while also foreclosing more nuanced discussions about ways people experience exploitation or develop different (noncarceral) strategies to address it. Past harm endured by some (e.g., survivors of trafficking who identify as such and whose exploitation was facilitated by technology) is selectively culled to predict future harms for many. Still, the accuracy of this prediction at scale is unknown.

Heightened monitoring by nonstate actors and automated tools may aim to identify (and protect) prospective victims and deter or prevent exploitation altogether. Yet here again, this erases the experiences of a vast array of voluntary sex workers who do not identify as survivors of trafficking. It also subjects them to state and nonstate surveillance efforts that constrain their ability to mitigate the harms of a criminal legal system that still widely criminalizes sexual labor and their ability to function productively in society by earning an income, securing housing, and engaging in harm reduction strategies. And notably, in a networked neo-abolitionist landscape, harms are not limited to the criminal legal system nor exclusively perpetuated by state actors tasked with enforcing antitrafficking and prostitution laws (e.g., police officers). Sex workers and even self-identified trafficked persons face vulnerabilities from nonstate actors too—the “powerful adjacent”—including third-party intermediaries whose work supports and sometimes expands carceral agendas. Harms may also result

from automated systems in ways that have yet to be fully accounted for.

For several years I have sought to identify and document harms resulting from data-driven efforts. This is challenging because what I call harms are seldom recognized or counted by officials. The harms people in sex trafficking situations may experience include having their mobile phones searched as well as contending with heightened online and offline monitoring by law enforcement and their nonstate partners.93 One person I interviewed for my book, Kiara, self-identifies as a victim of sex trafficking. Though she eventually received help from law enforcement, prior to that, she was arrested multiple times, put on probation, and required to complete a mandatory prostitution diversion program. In addition to all of that, she continues to endure other harms too. For example, every time she applies for a job, tries to get an apartment, or is required to submit to a background check, the data trail left from her history of arrests serves as a reminder that negotiating life after trafficking means dealing with a digital record about her past that limits her current and future choices.94 Sex workers, trafficked persons, and people labeled as at risk of sexual exploitation must contend with laws that still widely criminalize sex work while also navigating human-orchestrated, tech-augmented antitrafficking activities that police and algorithmically constrain their activities and behavior.95 Some of these tools rely on crowdsourced data and seem to rely on technical experts (but not necessarily human trafficking domain experts) who appear to unquestionably expect that their efforts will be welcomed and uniformly helpful.96 Too little empirical research exists to know for sure. But what is clear is that these activities raise questions about privacy, safety, and how to meaningfully protect trafficked persons not only from exploitative traffickers but also from the harms of tech-oriented antitrafficking interventions. And because vulnerabilities do not directly emanate from the criminal legal system, more typical criminal justice remedies (for instance, expunging a

93. MUSTO, supra note 8, at 53–55.
94. Id. at 116–119.
95. Id. at 77.
96. Id.
criminal conviction) are insufficient, raising questions about how to document and meaningfully ameliorate such vulnerabilities.

Another trend I have been following is the application of big data and the integration of facial recognition technologies in antitrafficking and border-enforcement activities.\textsuperscript{97} While there are clearly benefits to law enforcement, these technologies may also carry risks for those subjected to it, not only because the technology relies on people’s images to create data sets but also because this work commonly occurs without people’s knowledge or consent.\textsuperscript{98} In a 2016 paper titled, The Role of Technology in the Fight Against Human Trafficking, researchers note that “technology has facilitated the recording, storage and exchange of victims’ information . . . .”\textsuperscript{99} Paradoxically, the tools aimed at protecting victims may also subject them to invasive forms of surveillance, a trend that has the capacity to “undermine the fundamental rights of both the victims and other individuals who may be collaterally affected.”\textsuperscript{100} In addition to privacy risks, another concern centers on the ways in which automated technologies create what scholar Ruha Benjamin describes as a “digital caste system” that entrenches inequalities and increases discrimination.\textsuperscript{101} Taken together, these trends matter not only because of the effect on people who have experienced or who are vulnerable to trafficking but also because these tools cast a wide net and can adversely impact migrants and sex workers who do not self-identify as trafficked but are directly affected by countertrafficking efforts nonetheless.

\begin{itemize}
\item \textsuperscript{99} Felicity Gerry QC et al., The Role of Technology in the Fight Against Human Trafficking: Reflections on Privacy and Data Protection Concerns, 32 COMPUTER L. & SECURITY REV. 205, 206 (2016).
\item \textsuperscript{100} Id.
\item \textsuperscript{101} RUHA BENJAMIN, RACE AFTER TECHNOLOGY: ABOLITIONIST TOOLS FOR THE NEW JIM CODE 13–14 (2019).
\end{itemize}
V. Lessons and Future Directions

Efforts to transform technology from a “liability into an asset” undoubtedly open up new opportunities for law enforcement and technology innovators. However, the collaborative partnerships and tools used to support countertrafficking efforts also create risks, including but not limited to privacy risks for people vulnerable to trafficking. Not only is it rare in the United States for these risks to be publicly discussed, we also do not currently have a meaningful way to assist people if and when these tools get it wrong. For instance, how does a person flagged by an automated system as at risk of trafficking go about removing data about them from a database they may not even know exists? Data about actual people involved in vulnerable and possibly exploitative labor situations is the source material on which entire data sets are based; yet, who owns and controls the data? Do people vulnerable to trafficking get a say in how data about them is used? For instance, can they contest if they are categorized as a victim or a criminal offender? Do trafficked persons or people adversely impacted by countertrafficking efforts have the right to be forgotten? In the absence of a U.S. policy equivalent to the European Union’s General Data Protection Regulation (GDPR), current U.S. antitrafficking laws might not be sufficiently equipped to remedy reputational harms and risks that may accompany data-driven interventions. Asking these questions and interrogating the assumptions behind the development and use of new technologies are important first steps in uncovering the limitations of the current countertrafficking landscape and in thinking about how to learn from the past to effectuate change in the future. The following ideas offer a tentative framework that could serve as a working platform to guide future innovation.

103. Id.
104. MUSTO, supra note 8, at 132–33.
105. Id.
106. Id.
A. Come for the Tech, Stay for the Data

This first idea, “come for the tech, stay for the data,” riffs on a message I heard from sex worker activists in the late 2000s advising members of the public drawn to the topic of sex trafficking to “come for the sex, stay for the labor.” In my reading of it, this message aims to move public attention away from sensationalized depictions of sex trafficking and towards an understanding of the structural factors and inequalities that contribute to exploitation across different labor sectors. Inspired by sex worker rights activist insights, and the work of scholars and advocates tracking the detrimental impacts of mass surveillance and automated decision-making in all facets of social and political life, the slogan I want to propose is “come for the tech, stay for the data.” Staying for the data means understanding the immense value of data in counter-trafficking projects while at the same time acknowledging that the benefits of this data are not equally shared or evenly distributed. Staying for the data also means that as more trafficking survivors, migrants and sex workers encounter tech-mediated antitechnology efforts and the different (human) actors and automated systems behind it, stakeholders must not only be attuned and responsive to risks that come with these efforts but proactive in preventing them in the first place.

B. Apply Sunshine to “Shadow” Data Sets and Practices

The premise behind applying light to “shadow” data sets and those otherwise hidden from public view connects to the first point but extends it further by calling for the advancement of victim-centered data-protection principles. To apply sunshine to proprietary systems and data means thinking about the processes by which antitrafficking actors, including but not limited to law enforcement, decide to (or decide not to) collect, analyze and make use of data about victims. Applying sunshine also entails asking questions about data-driven antitrafficking efforts and evaluating who benefits and who is harmed when nuanced experiences of vulnerability and exploitation are transformed into decontextualized indicators and data points, and then
used to authorize all sorts of activities with all kinds of very real consequences. To apply sunshine means centering the experiences of end users (i.e., people viewed by tech experts as vulnerable to trafficking), who currently have little control or say over how their data is used. Finally, to apply sunshine to data practices invites us to think more broadly about transparency and the data protection strategies most suitable to protecting all people—especially individuals and groups vulnerable to labor exploitation as well as heightened state, corporate and humanitarian surveillance. The GDPR guidelines to support transparency, data protection, and privacy offers one example and seems like an interesting framework to consider and possibly build upon in future efforts.107

C. Do No Harm: Ethics and Accountability in Antitrafficking Technology Work

In addition to considering the policies and regulatory strategies that support transparency and data protection, a final idea, “do no harm,” is inspired by my conversations with colleagues from the Vienna Institute for International Dialogue and Cooperation and LEFÖ as part of a workshop we organized in Vienna, Austria, in October 2019, focused on ethics and accountability in antitrafficking work as well as earlier work centered on a trauma-informed model of care for survivors of human trafficking.108 To do no harm is premised on an uncomfortable but plain truth: antitrafficking activities can cause harm. The cost of data-driven antitrafficking efforts are not necessarily monetary but rather can be calculated in terms of inequities that result from state-orchestrated initiatives augmented by nonstate actors that perpetuate or even exacerbate extant structural vulnerabilities. To do no harm may mean that community initiatives, with or without


technology, are prioritized over law enforcement approaches (i.e., anticarceral, community-based approaches instead of law enforcement approaches) and that people in trafficking and exploitative labor situations have more control over how data about them is used and in what context.

An examination of technology in the countertrafficking space reveals recurring tensions between law enforcement and rights-based approaches. It also illuminates assumptions, such as the one that posits more law enforcement-focused, nonstate-actor-supported data-driven efforts are necessary to securing justice for people in trafficking situations. However, a closer look at how technology is used and by whom also invites us to ask different questions and to leverage the power of our all-too-human creative potential in thinking about how to value and prioritize data ethics, transparency, and accountability in future countertrafficking work.