# No Justice, No Robots:
# From the Dispositions of Policing to an Abolitionist Robotics

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## ABSTRACT

In this paper, we examine the risks posed by roboticists' collaboration with law enforcement agencies in the U.S. Using Trust frameworks from AI Ethics, we argue that collaborations with law enforcement present not only risks of technology misuse, but also risks of legitimizing bad actors, and of exacerbating our field's challenges of representation. We discuss evidence of bad dispositions justifying these risks, grounded in the behavior, origins, and incentivization of American policing, and suggest courses of action for American roboticists seeking to pursue research projects that *currently* require collaboration with law enforcement agencies, closing with a call for abolitionist robotics.

## 1 INTRODUCTION

Two trends in American society are on a collision course. First, widespread police violence in American cities has drawn increased scrutiny of America's policing system and its continuation of centuries of American enslavement, incarceration, and violence against members of oppressed racialized groups. Second, police are increasingly acquiring robots (and using them to kill people [71]), as a direct consequence of the simultaneous (1) militarization of police forces and (2) recent advances in robotics.

Robots and other military devices are available to U.S. police under the U.S. Department of Defense (DoD) 1033 Program, which transfers excess DoD supplies and equipment to state, county, and local law enforcement agencies, contributing to the militarization of police forces. Law enforcement agencies that apply to participate in the program often receive military devices with little justification. For example, Doraville, Georgia (population 8,500), received a $750k "Mine Resistant Vehicle" and Keene, New Hampshire (population 23,000), received military equipment after citing their annual pumpkin festival as a possible target for terrorism. Other examples include a grenade launcher for Buena Vista County, Iowa, 92 pairs of snowshoes for El Paso County in Texas with an annual median snow measurement of 0 inches, and an armored truck for Lincoln County, Montana. To date, the Pentagon's Hand-Me-Down 1033 program has distributed more than $7 billion in equipment to more than 8,000 law enforcement agencies, with 700 robots alone migrating from the Pentagon to the police as of 2016 [32]. Police militarization has drawn widespread scrutiny after increased awareness of the racial violence regularly perpetrated by police, and the racist and violent origins of policing. When asked who in the Pentagon approves these equipment transfers, defense spokesman John Kirby defended the 1033 program, telling reporters in August 2014 that the equipment "is made available to law enforcement agencies, if they want it and if they qualify for it." Recent advances in robotics have resulted in new capabilities of particular interest to police forces. The inclusion of robots in equipment transfers is

especially concerning. Roboethicists have argued that decreased risk of injury to police officers may directly lead to increased rates of police violence [45]. And in fact, police robots have already led to disastrous outcomes.

This was the case for Jose Guerena, a young Marine veteran killed by robot-equipped and heavily militarized police forces in an ostensible drug raid. After two tours in Iraq, the 26-year-old veteran was shot with 22 bullets in his own home, leaving behind his wife and two children. No drugs were ever found. The somber conclusion of author David Axe [7] reads: "One thing is clear. With military-grade vehicles, armor, assault weapons, and robots, the raid on Guerena's home was all but indistinguishable from the kind of house-clearing operations U.S. forces perform every day in Iraq and Afghanistan. Guerena survived two tours in the desert only to perish in a military-style action in his own home." Since this raid in 2011, the militarization of police with robots has continued steadily, facilitated not only by transfers of military equipment to police, but also by the creation of robots explicitly designed for police and by direct collaboration between roboticists and police departments [8, 12, 14, 34, 46, 52, 57, 58, 75].

Roboticists in the United States and other places with militarizing police forces are increasingly facing decisions as to whether or not to collaborate with this new group of potential robot users. Roboticists hold substantial power in making this decision, as robots are special-purpose technologies that will be difficult for police to effectively acquire and use without the intentional cooperation of roboticists. How should roboticists face this decision? To help answer this question, we propose a decision making framework grounded in definitions of Trustworthy AI presented in the AI, Ethics, and Society community, which we use to argue that collaboration demands appropriately grounded trust and cannot be conducted under conditions of appropriately grounded distrust. By leveraging this framework at multiple levels of analysis (individual, organizational, and interpersonal) to interpret the quantitative and qualitative data available regarding both police' use of robots and the overarching dispositions of policing, we are able to effectively analyze the risks specifically posed by police-roboticist collaborations at each such level, and the ways those different types of risks problematically align with the affordances of robotic technologies (e.g., mobile face recognition).

By approaching the problem in this way, our argument goes beyond the "Deadly Design Problems" of designing explicitly violent robots for the police [5, 6], and instead suggests that *any* collaboration between roboticists and police cannot be justified. Specifically, we argue that (1) any collaboration entered into on rational grounds should be one with appropriately grounded trust; (2) based on an analysis of police dispositions at an institutional level, roboticists should distrust (or refuse to entrust) American police with robotic

technologies due to lack of appropriate positive grounding; (3) *any* collaboration by roboticists with American police cannot be rationally grounded in trust, and thus cannot be justified in good faith; (4) a change in this calculus would require significant changes to American institutions, in the form of the creation or new guidelines, policies, and regulations, the sweeping reform of existing policies and institutions, or most likely, the whole or partial abolition of existing American institutions of policing and imprisonment.

**Overall, our article thus echoes the public calls for roboticists to refuse collaborations with the police, captured in the 2020 open letter and petitioning campaign *#NoJusticeNoRobots,* calls for a commitment within the robotics community to an Abolitionist Robotics agenda.**

## 2 APPROPRIATELY GROUNDED TRUST AND DISTRUST

Our argument focuses on the trust required for collaboration. Trust is a useful framework not only for reasoning about robots and human-robot interactions, but also for engaging in practical moral deliberations about the *practice* of Robotics and HRI. In his keynote talk at *AI, Ethics, and Society* 2019, Danks [25], for example, defines *appropriately grounded trust* as: "The willingness of a trustor to make themselves vulnerable based on justified beliefs that the trustee has suitable dispositions."

This definition implies *distrust due to lack of appropriate positive grounding*, which we define as: "An unwillingness of a trustor to make themselves vulnerable based on a lack of justified beliefs that the trustee has suitable dispositions." And, it implies *appropriately grounded distrust*, which we define as: "An unwillingness of a trustor to make themselves vulnerable based on justified beliefs that the trustee has unsuitable dispositions." Using these three concepts, we argue that roboticists should have appropriately grounded distrust for American police, or, at minimum, distrust due to lack of appropriate positive grounding, whereas any collaboration entered into on rational grounds should be one with appropriately grounded trust.

We argue that police and policing do not have the dispositions necessary to justify the risks imposed by collaboration. To advance this argument, we begin by identifying the sources of vulnerability to the HRI and Robotics communities that are presented by collaborations with police. Next, we identify the different trustees to whom researchers make themselves vulnerable and the different types of trust associated with these trustees (interpersonal, organizational, and institutional) that would be undermined by unsuitable dispositions. Next, we articulate the unsuitable dispositions that should render roboticists unwilling to make themselves vulnerable to those risks, and the sources of evidence that serve as justifications for those dispositions. Finally, we argue why these risks fail to outweigh any potential benefits.

## 3 VULNERABILITY

When researchers choose to collaborate with someone else, be it another researcher, an industry partner, or a police department, they make themselves vulnerable in multiple ways. The most obvious risk is that their research outcomes or technology will be misused. Misuse in this context describes the use of robot technology in an improper way or for the wrong purpose, for socially detrimental purposes the researchers did not envision or intend. In our experience, this is the primary risk that comes to mind for both roboticists and the general public, in part because it is the main risk we teach students to guard against, and in part due to the science fiction portrayal of robots in popular culture.

The dominant narrative around police robots thus focuses on how robots could (and in some cases, do and will) increase the unjust use of force and surveillance, the risks of robots physically and psychologically distancing police officers from the direct outcome of robot use, and the disproportionate impacts of police robots on communities already oppressed by the police. However, while technology misuse might be the most salient risk to researchers, risks are also imposed by the very act of collaboration.

In recent work, Bretl et al. [16] discuss other categories of risk imposed by collaboration, relating to the nature of the collaborator rather than the topic of collaboration. These include the risk for scandal and reputational harm, negative influence on researchers, and, critically, legitimization of bad actors. As a key example, Bretl et al. [16] analyze the funding relationship between Massachusetts Institute of Technology (MIT) and alleged pedophile and child trafficker Jeffrey Epstein. As they point out, regardless of the nature of the technology Epstein funded, the collaboration between MIT and Epstein clearly had negative consequences: not only did the collaboration harm the reputations of MIT, but the collaboration was used by Epstein as a way to launder his reputation and demonstrate his legitimacy. Collaborations with the police may similarly risk laundering their reputations and manufacturing their legitimacy.

As an example, one of our institutions recently highlighted an alumnus' police training technology. In doing so, the university implicitly suggested that the police are a solution to societal problems; that public funds should be spent on training technology; and that the police using those technologies should be supported as worthy collaborators. Furthermore, because the university itself was highlighted in this reporting on police technology, the technology was given a false veneer of scientific credibility and authority.

We further argue that the public's view of such collaborations should be particularly concerning to roboticists due to our field's existing demographic challenges. The field of robotics currently has a severe problem with underrepresentation, being overwhelmingly dominated by white and Asian men. Meanwhile, many members of the very demographic groups the field of robotics is hoping to encourage to join our field have been historically oppressed by the police and as such may be justifiably reticent to join a lab, major, department, or school that is collaborating with their oppressors. Inherently flawed technologies like facial recognition are systematically deployed in low-income and minority neighborhoods while avoiding white neighborhoods [60], leading directly to discrepancies in benefits, employment, and policing [76], and thus justifiably increasing mistrust among those communities towards those creating and deploying those technologies [76, 78]. This may in turn feed into a cycle of systemic racism as fewer students of color choose to go into robotics, leading to decreased sharing of their perspectives within our field and thus increased risk of roboticists building technologies that serve as tools of oppression.

## 4 TRUSTEES

The above discussion delineates three key categories of risk: (1) Risk of technology misuse (due to unsuitable dispositions *related* to the technology), (2) Risk of actor legitimization (due to unsuitable dispositions (potentially) *unrelated* to the technology), and (3) Risk of underrepresentation (due to roboticists' explicit or implicit support for those unsuitable dispositions leading people from populations oppressed by the police choosing not to enter our field). Each of these categories of risk can be presented by different types of risk-presenting actors, each of whom demands a different type of trust. We refer to three risk-presenting actors:

(1) Risk-presenting individuals (requiring interpersonal trust regarding individual dispositions)
(2) Risk-presenting organizations (requiring organizational trust regarding organizational dispositions)
(3) Risk-presenting institutions (requiring institutional trust regarding institutional dispositions)

Here we use the Searlian notion of institutions in which $W$ names an institution if $W$ is defined by a set of constitutive rules, which determine collectively recognized and accepted status functions, which are performable in virtue of that recognition and acceptance, and which, critically, carry recognized and accepted deontic powers [69]. As Searle points out, institutions are central to understanding society because they create desire-independent reasons for action [69]. We consider institutions that serve as *categories of organizations*, which impose desire-independent dispositions on *individual members* of their constituent organizations. This includes institutions such as governments, public services, legal systems, healthcare systems, schools, hospitals, universities, and research communities. For example, Mount Sinai Health is an organization within the institution of hospitals and Stanford University is an organization with the institution of universities.

These categories of risk and categories of risk-presenting actorstogether define a risk-assessment context, as we will now describe (see Figure 1). When the researcher $R$ chooses to engage with the agent $A$ in a collaboration surrounding a technology, $R$ must trust that $A$ will not misuse the technology. This required interpersonal trust between $R$ and $A$. $R$ also must trust that they will not help $A$ to launder a deservedly bad reputation or discourage students from joining $R$'s field. Collaboration between researcher $R$ and agent $A$ thus requires justification of the dispositions necessary for $R$ to have appropriately grounded interpersonal trust in $A$.

In collaborating with agent $A$, the researcher $R$ also makes themselves vulnerable to $A$'s *organization*: $R$ must trust that others in $A$'s organization will not be willing or able to misuse the technology. $R$ also must trust that $A$ is not a well-meaning agent working within a bad organization whose reputation $R$ would be helping launder and association with which would discourage students from joining $R$'s field. Collaboration between the researcher $R$ and the agent $A$ thus also requires justification of the dispositions necessary for $R$ to have appropriately grounded organizational trust in $A$'s organization.

Finally, researcher $R$ is also making themselves vulnerable to the *institution* of which $A$'s organization is a part. $R$ must trust that other agents within that institution will not be able to misuse the technology, but more importantly, must trust that $A$'s organization is not a well-meaning organization within an inherently bad

institution whose reputation $R$ would be helping to launder and association with which would prevent students from joining $R$'s field. Collaboration between the researcher $R$ and the agent $A$ thus also requires justification of the dispositions necessary for $R$ to have appropriately grounded institutional trust in $A$'s institution.
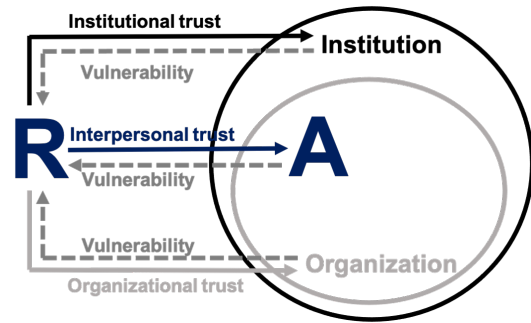


**Figure 1: Collaboration requires trust at multiple levels.**

We now have a framework for analyzing the different types of risk that might be posed by developing robots for, or otherwise collaborating with, the police. However, our selected definition of trust makes clear that trustworthiness depends not only on the mere existence of risks, but also on the interaction between those risks and the dispositions of the trustee.

## 5 DISPOSITIONS

To understand the role of dispositions in our risk calculus, consider a simple example. Rita is a roboticist who has developed a robot for delivering goods in hospital settings. She is considering working with Anton, who works at St. Osmund's hospital. This robot may present a number of theoretical risks of technology misuse. The robot could, hypothetically, be used to push patients down stairwells. However, Rita can safely dismiss this risk due to analysis of dispositions: it is likely not justifiable to suspect that Anton desires to push patients down stairwells; it is likely not justifiable to suspect that there are other hospital administrators who would have access to the robot who would have such a desire; and it is likely not justifiable to suspect that the system of American hospital care was designed and continues to operate for the purposes of pushing patients down stairwells. Thus, Rita is probably well justified in making herself vulnerable to this source of risk.

Although this analysis may allow Rita to establish that the levels of trust needed to collaborate with Anton are well grounded *with respect to the risk of technology misuse*, Rita may still have concerns about actor legitimization. Consider, e.g., the fact that some doctors have refused to treat patients from LGBT communities [19, 44, 84, 85]. This presents additional sources of risk. If Anton is a doctor of this sort, then Rita's decision to collaborate with him could launder his reputation, thus facilitating his ability to harm vulnerable communities. This same risk may be present even if Anton would never discriminate in this way, e.g. if St. Osmund's allows or encourages its other employees to do so. And this risk may be present even if St. Osmund's as an organization would never allow such discrimination, e.g. if St. Osmund's is a type of private hospital (institution) that has historically been used to enable this

type of discrimination. If this is the case, then even though Rita's technology is socially beneficial, and even though Anton and St. Osmund's are both unlikely to misuse her technology and overall well-meaning, Rita may yet need to decide not to collaborate, if it is justifiable to suspect that her collaboration would be used to bolster the reputation of a fundamentally discriminatory type of institution that simply should not exist, and if this collaboration would be likely to discourage LGBT students and scholars from joining her laboratory or university.

Now suppose that Rita is considering developing a bomb disposal robot in conjunction with police lieutenant Anton, who works for the St. Osmund Police Department. The intended use of this technology (defusing bombs) is likely to be viewed as positive. But what risks does the collaboration present? First, Rita should consider risks of technology misuse. Does Rita suspect, for example, that Anton could be prone to misusing the robot, by strapping explosives to it and using it to bomb the home of a mentally ill resident, as the police in Bangor, Maine did in June 2018 [66], or to tear-gas peaceful protesters, as police across the country have already been doing without the help of robots? Does Rita suspect that, while Anton would never do such a thing, others in his department might? And does Rita suspect that her technology could be misused in this way if acquired by other departments, due to the role of American Policing as an institution of oppression? Second, Rita should consider risks of legitimization. Does Anton have a history of brutality? Does his department? Does the institution of American Policing have its origins in, and continue to actively facilitate, perpetrate, and justify such violence? If any of Rita's answers are "yes", would she be legitimizing a bad actor, and would her collaboration discourage students and scholars from underrepresented communities from joining her laboratory and university?

## 6    JUSTIFICATION

We have defined *appropriately grounded distrust* as the unwillingness of a trustor to make themselves vulnerable based on the justified belief that the trustee has unsuitable disposition. And we have argued that for roboticists to engage in collaborations, they *should* earn appropriately grounded trust, and *must* avoid appropriately grounded distrust. Within this framework, decisive argument against collaboration would require justification for the belief that collaborators have unsuitable dispositions that present untenable sources of risk. Evidence of unsuitable dispositions might take the form of individualized or systemic sources of risk, grounded, respectively, in individual and institutional dispositions. While individualized sources of risk may be used to justify distrust in individual actors and their organizations, systemic sources of risk may be used to justify distrust in institutions as a whole, providing arguments against collaboration with any individual actors within such institutions, regardless of those individual actors' dispositions.

In this section, we provide examples of sources of evidence in each category, using the running example of potential concerns regarding collaboration with police. First, we will present justifications for our belief that there exist *individualized* sources of risk based on unsuitable dispositions among individual police and police departments (many of which are based on the Campaign Zero

Police Scorecard initiative [86], which systematically evaluated California's 100 largest police departments), and types of evidence that would prevent researchers from collaborating with *particular* individuals and organizations on the basis of the dispositions implied by those sources of risk. We will then present *systemic* sources of risk stemming based on unsuitable institutional dispositions, and catalog evidence that, we argue, should prevent researchers from collaborating with *any* individuals or organizations in the institution of American Policing,

### 6.1    Individualized Sources of Risk Grounded in Likeliness of Technology Misuse

Individualized sources of risk are closely related to the risks of technology misuse or concerns over dual-use technology that have been substantially explored in the robot ethics community and the broader technology ethics literature.

Justification for unsuitable police dispositions can be found in the specific ways that police already misuse robotic technology, such as strapping explosives to robots in order to kill suspects [66, 71], or using robots to destroy property [54], and could also include patterns of police violence with or without the aid of technology, such as the 500 videotaped incidents between May 30th and June 15th 2020 collected by criminal defense lawyer T. Greg Doucette [61], including incidents on May 30th alone of police beating, pepper-spraying, trampling, grenading, shooting, and committing hit-and-run assaults on peaceful protesters, children, elected officials, journalists, and bystanders. Alternatively, one could rely on anecdotal or the prevalence of white supremacist, neo-Nazis [43, 73], and other racist ideologies within U.S. police forces [29, 35, 40], or the use of iconography such as the "thin blue line" flag by American police forces (see critique by Wall [81, 82]). Similarly, justification for unsuitable dispositions can be found in data collected by organizations such as Campaign Zero, which in the case of the LAPD, as a single example, provides substantial evidence of racially biased violent tendencies grounded in statistics regarding use of force, use of force against communities of color, racial biases in arrest rates, evidence of overpolicing of misdemeanors, and inattention to crimes against people of color.

There is also evidence that many US police departments have been infiltrated by white supremacist organizations. In 2006, the FBI's internal intelligent assessment indicated that white supremacist groups have been "infiltrating law enforcement communities or recruiting law enforcement personnel" for some time. As an example, in 1991, it was found that the LA Sheriff's department had "formed a neo-Nazi gang and habitually terrorized Black and Latino residents" [43, 73]. Critically, local police departments have no standard procedure for recruiting new members, and there are little to no training procedures available to help prevent such infiltration of police departments, as there are in the US Military where this threat is taken more seriously, although it is criticized that it is often not taken seriously enough [30, 41]. These racist tendencies have also been observed in the exposure of emails, texts, and social media groups in more than 100 police departments in more than 40 states, in which officers have gathered to share racist, sexist, and/or homophobic sentiments [35]. In Philadelphia (where such a group of 72 Philadelphia police officers was uncovered [29]), the Plain

View Project revealed that of the 1,000 police profiles identified on Facebook, one in three had posted troubling content and of this third, one in three had had one or more federal civil rights suits filed against them [40].

## 6.2 Systemic Sources of Risk Grounded in Origins and Incentivization of Policing

As we have argued, simply justifying the dispositions of particular individuals or organizations is insufficient. Unless the dispositions of the *institutions* those individuals and organizations are part of can also be justified, it will be impossible to minimize risks of reputation laundering and risks of association. While individuals and group dispositions are grounded in individual and group goals and motivations, so too are institutional dispositions grounded in institutional goals and motivations. And, we argue, the fundamental mission and motivation of American policing are unjustifiable.

To advance this argument, we will examine both (1) the origins of American policing, which defined its original mission and motivation; and (2) the current role of policing in modern American society, including the way that particular types of policing are financially incentivized by the US federal government, which demonstrate that those original (indefensible) missions and motivations continue today.

*6.2.1 Past Policing: Origins of American policing.* As Alex Vitale [79] shows, even outside the confines of America, formal policing is a relatively recent phenomena, with what is regarded as the first modern police force in metropolitan London founded less than 200 years ago, in part as a means of exerting political control over and suppressing working-class citizens protesting the loss of jobs due to industrialization (a parallel to concerns over automation that should not be lost on the HRI community) [64].

These anti-labor origins directly informed the origins of police forces in the Northeastern US, where police forces were formed to deal with unrest amongst exploited working class immigrants [50], for exerting control over religious minorities [33], while working *with* local petty criminals to help fence stolen goods [31]. Corruption, extortion, brutality, and killing of unarmed working-class civilians served as central elements not only of of Northeastern American policing [79] but also of the US-trained police forces set up in Central America [48]. Meanwhile, Vitale highlights how Policing in other US areas originated in similar oppression on both class- and, critically, race-based grounds [79]. In the American Southwest, American policing originated from the creation of the Texas Rangers, a group created to protect the interests of white colonists through the violent oppression, massacre, and segregation of local Native and Mexican residents [22], a mission that continued long after Texas' annexation with oppression of union leaders and enforcement of "Juan Crow" segregatory policies (including discouraging of voting or registering to do so in Mexican-American communities) added to the mission of the police [67]. Similarly, in the American South, Policing grew out of Slave Patrols organized to hunt down runaway slaves, prevent slave revolts, and prevent fraternization amongst Blacks [38, 80]. Post-abolition, these police forces shifted to focus on forcing Blacks into sharecropping and prisons where they could be enslaved [13], often in coordination with the KKK [70].

The institutional dispositions of these groups, as evident from their missions and tactics, were morally indefensible. As such, collaboration with these groups would not only come with high risks of technology misuse, but would directly lead to unavoidable risks of reputation laundering. While several decades have passed since the events described above, there is no evidence that the institutional dispositions of American police, and their associated risks, have fundamentally changed.

*6.2.2 Current Policing: Incentivization and Systemic Impact of Modern American Policing.* As detailed by Michelle Alexander, the oppressive roots of American policing interact with the incentivization of modern policing to create a cycle of systemic racism that condemns many Black Americans to a permanent racial undercaste [2].

First, Alexander explains how America's War on Drugs was designed and has authoritatively served as a means for police to round up and imprison a vast number of Black men. In essence, the War on Drugs happens along the following three steps:

(1) Police departments are financially incentivized by federal grant programs to round up as many people as they can on drug-related grounds, through (a) explicit federal incentives wherein federal funding to police departments was explicitly tied to number of drug arrests and (b) the ability to raise department budgets through civil forfeiture [10].
(2) Police can essentially stop, interrogate, and search anyone they choose on drug-related grounds, and are allowed to use race as a factor in these operations [1].
(3) Thus, as designed and incentivized, most of those swept up for drug offences are Black and Brown.

Once swept up by the police, the criminal justice system then exerts formal control.

(1) Once arrested, defendants are generally denied legal meaningful representation and pressured to plead guilty through prosecutorial techniques that cannot be challenged on a basis of racial discrimination [9].
(2) Once sentenced, people are subject to far longer and harsher sentences for drug charges than anywhere else on earth [56].
(3) Prison sentences can be for life even for minor nonviolent drug charges [51].
(4) Black Americans are subjected to significantly worse treatment at every stage of the process [68].

Once drug offenders have "paid their debt" to society, they are forced into a permanent undercaste in which they are legally discriminated against for the rest of their lives. They are:

(1) Prevented from obtaining employment, both formally (many occupations are legally barred from hiring felons) and informally (many employers illegally discriminate and will not hire felons).
(2) Denied housing, both formally (unable to live in public housing) and informally (many in public housing are unwilling to let felons stay with them, because you can be evicted from public housing if someone who is staying with you is arrested elsewhere).
(3) Denied education and other public benefits, and in many places, unable to vote.

Many people arrested on drug charges are thus released into a society in which they have no means of making a living, nowhere to live, and no way of bettering their situation otherwise, effectively forcing them into illegal activities and crime in a vicious circle.

The incentivization and use of modern American police to incarcerate and enslave large portions of America's communities of racial minorities presents vulnerability not only to high risks of technology misuse but also to unavoidable risks of reputation laundering. Roboethicists have in fact argued that police robots, especially when paired with racist predictive policing algorithms, may reinforce social inequality, accelerate mass incarceration, and worsen ties with communities [42]. And the mere act of collaboration on such technologies may suggest to the public either that the police and police' use of these technologies are legitimate solutions to societal problems – or, at minimum, that the collaborating scientists believe this to be the case. This serves to cast a false veneer of scientific legitimacy over these technologies and institutions. And, at the same time, this serves to cast a shadow of complicity over academia for the communities hurt by these technologies: collaborating with those responsible for incarcerating and enslaving members of communities underrepresented in robotics is unlikely to encourage members of those communities to join our field.

What is more, Alexander's account emphasizes the role of the police within America's larger carceral and caste systems, which involve multiple institutions, including the elements of the criminal justice that systematically discriminate against black defendants and extract profits from the incarcerated through legalized slavery. This means that collaboration with the police also means trusting the dispositions of the justices in charge of sentencing those rounded up by the police, the dispositions of those running prisons into which many incarcerated are placed, and the institutional dispositions of the prison-industrial complex as a whole. There are obvious reasons to doubt these dispositions [26], including the statistical bias of the criminal justice system against black defendants [36, 72], and this is especially true for for-profit prisons given their perverse incentives [23], the statistical influence of for-profit prisons on sentencing decisions [28], and reports of judges sending children to for-profit prisons in exchange for bribes [62].

## 7 POLICING FUTURE: OPPORTUNITY FOR REFORM?

Some researchers have argued that the critiques discussed in this paper represent reasons to avoid collaboration with *current* police, but that collaboration with *future* police may be possible if appropriate reforms are adopted. In this section, we argue that the dispositional risks of policing are unlikely to be reduced by such reforms. As discussed by [79], reform initiatives like community policing are ultimately ineffective, as they typically (1) divert *more* money towards policing (and thus, away from the government programs that actually prevent crime, such as affordable housing, income supports, and community health initiatives), (2) ingratiate the police into *more* elements of society [74], opening new opportunities for corruption, discrimination, and abuse [39] without yielding any demonstrable improvements, (3) can *exacerbate* existing problems with overpolicing [53], and/or (4) are rendered ineffective (especially for accountability efforts) due to incentive

structures and organizational challenges that render other elements of the government or criminal justice system unwilling or unable to comply.

One reform proposed as a more humane role for the police in Drug policy is the use of *Drug courts* in which those picked up on drug offences are diverted to specialized diversion programs rather than traditional courts. Unfortunately, these diversion programs are not typically successful at encouraging drug users to actually participate in and complete their treatment programs, with most participants immediately returning to streets [3]. Moreover, this approach places control over access to critical social services is controlled by police, as these diversion programs are only accessible for those who are arrested, leading to (1) *incentivation* of crime to access such programs and withholding treatment from those who commit crimes [63], (2) increasing of the role of the criminal justice system in the lives of drug users [74], and (3) leading to opportunities for police corruption.

Another proposed reform is Decriminalization. In New York, for example, possession of marijuana is classified as a "violation" rather than a felony, ostensibly reducing the risk of overly harsh sentences for drug crime [4]. Unfortunately, New York police nevertheless used this to target minorities, *ramping up* drug (non-felony) arrests through stop-and-frisk policies [53], and by exchanging some arrests for "summonses" to appear in court for these minor violations, forcing poor minorities to choose between losing their jobs vs. facing criminal charges for failure to appear. Furthermore, focusing police attention on large-scale drug operations is not without risks, as it provides opportunities for drug-oriented police corruption that is rampant among police agencies (see, e.g., the Rampart Scandal in which the LAPD reportedly stole drugs from evidence rooms and sold them on the streets [39].

Police reforms in general are difficult to enact and enforce due to poor mechanisms for police accountability. Police departments have few mechanisms for oversight, or refuse to hold officers accountable for their actions, and the data needed to provide the assurances described above is rarely made publicly available by police departments. Additionally, the numbers reported by the police are often inaccurate or untrustworthy. In Campaign Zero's analysis of the LAPD, they found that LA's policies allow complaints against the LAPD to be ignored after a year, limit the ability to interrogate police in misconduct cases, allow officers to record their own interrogations, and allow the chief of police to ignore the results of misconduct hearings. Moreover, only 5% of civilian complaints against the LAPD rule in civilians' favor, with only 1% of use-of-force complaints ruling in favor of civilians, and 0% of discrimination complaints ruling in favor of civilians.

These lack of accountability measures also create challenges in the collection of statistical information that could be used to provide evidence of unsuitable dispositions of individual departments. In many cases, the only opportunity for police behavior to be tracked is by the police themselves, and the police are typically neither inclined, incentivized, nor required to compile and make available about their own conduct. In one recent year, data provided by the Baltimore police department claimed that there had been *zero* police stops that year[83, p.154] This underreporting is especially stark in cases of police misconduct. Those who are assaulted by the police (especially those sexually assaulted by the police) are disinclined to

report police misconduct back to the police; in many cases police misconduct (sexual or otherwise) occurs explicitly because the police victims know that they are at risk of arrest or deportation if they attempt to speak out[65].

The asymmetric power relationships inherent to policing means that when data on police behavior are available, it should be taken with a grain of salt and assumed to underrepresent the true state of affairs. And when this type of data is simply not available, researchers may well be justified in relying on anecdotal evidence to justify beliefs of appropriately grounded distrust of the police (thus precluding collaboration with such police departments in good faith); or use the lack of available information as itself evidence of unsuitable dispositions.

However, ultimately, the evidence suggests that regardless of the motives of individual police departments, the origins and nature of police departments represent a substantial risk that cannot be avoided. To summarize, (1) the police were created to exert social control over racial minorities and lower classes, (2) the police (and criminal justice system more broadly) are currently used in America to perpetuate a racial underclass, and (3) Police reform efforts are ineffective because they generally (a) keep the levers of social control in the hands of police and frame public health and welfare concerns as criminal justice issues, (b) create opportunities for corruption (economic, drug-related, and sexual) that police have been demonstrated to regularly exploit, and (c) are difficult to implement and enforce due to the lack of any meaningful accountability for the police. These make it impossible for robotics researchers to work with police without laundering an indefensible system of racial and social control.

## 8 SPECIFIC RELEVANCE TO ROBOTIC APPLICATIONS

The unsuitability of police dispositions and the inadequacy of police reform is especially relevant to roboticists for several key reasons, grounded in the specific application domains in which police robots stand to be used, the specific risks and harms that accompany those domains, and the specific ways in which robots exacerbate those risks and harms.

On the one hand, there are a number of robotics applications being pursued by policing that actively reinforce significant risks of policing. Police are a force of racializing violence; and the use of police robots can exacerbate this racialization of people and spaces [37, p. 257]. A key historical purpose of the police is to surveil people of color; and robots represent mobile surveillance platforms, which allow those in power to surveil those without power, while precluding those without power from sous-veiling in return [55]. As Brayne reports, even without cheap disposable drones, the LAPD has already made frequent use of their expensive helicopters (which they call "ghetto birds") to terrorize perceived "hotspots" through overt yet anonymous surveillance [15, p.72]. Police are unreformable on partial account of their unaccountability; and robots can facilitate "moral buffering" [37], providing "an additional layer of ambiguity [and] diminishment of accountability and responsibility" [24]. Moreover, police exert substantial effort propagandizing false narratives about (a) the necessity of police, (b) the unique specialized professional authority of police, and (c) the

apparent accountability of the police [21, p. 5]; tasks that they have a long history of using advanced technology to facilitate, through "techwashing" [15, p. 5-6]. As such, we argue that the unsuitable dispositions and unreformability of the police should provide clear motivation for roboticists to obviously avoid the development of technologies whose dominant use would be technologies of violence or surveillance.

In contrast, there *are* plenty of socially beneficial applications for social robots that currently require working with the police, ranging from robots to more accurately collect child eyewitness testimony [11, 49] to bomb disposal robots [27]. Our argument suggests, however, that while some robotics projects currently requiring collaborations with police may be viewed as socially beneficial from a hypothetical "view from nowhere" [59], their risk becomes apparent when situated within the broader context of institution-driven risks and vulnerabilities. That is, while these robotic applications may not pose *direct* risks, the implementation of these robotic applications poses clear *indirect* risks, by legitimizing the police, facilitating the influx of police budgets, and supporting the creep of police missions in increasing segments of our society. For the prosocial applications to be pursued without the risks discussed in this paper, we argue that they would need to be rethought as collaborations with alternative institutions, such as social workers. This would require dramatic defunding, or wholesale abolition, of existing policing organizations.

Finally, regardless of the specific use case for which robots are intended, robots represent special-purpose technologies that largely (with the exception of cheap, general-purpose drones) need to be developed with and/or for specific domains in order for them to be used. While any robot technology, of course, stands to be misused by police, it is difficult to create a robot technology that "accidentally" wields a taser, recognizes, classifies, and matches faces to suspect databases, or integrates with Palantir's predictive policing software. This grants roboticists a unique degree of control over their work and power over how it is used.

## 9 CONCLUSIONS AND RECOMMENDATIONS

We conclude this paper with recommendations for paths forward. First, we make short-term recommendations for the current practice of research ethics that account for the issues raised in this work. Second, we make longer term recommendations for the research community, arguing for an abolitionist computing agenda.

### Research Ethics Recommendations

Most obviously, we hope that the framework presented in this paper has clearly demonstrated the need for roboticists to refuse to develop robot technologies for or in collaboration with the police. This seems like a minimal first step – literally the least we can do – that is justified through the trust-theoretic framework presented in this work. Moreover, this simple first step represents an action that robotics researchers are uniquely capable of taking on. While regulators are slow to act, reticent to pre-emptively regulate technologies without substantial and dramatic harm already having been caused, and largely incapable of regulating collaborative relationships, robotics researchers have the freedom and agility to head off harms before they are inflicted, merely by taking a moral

stand to avoid collaborations whose harmful effects can be readily predicted. Furthermore, we hope that the framework presented in this paper can be used by robotics researchers to make similar decisions about collaborations in other morally fraught but less clear-cut domains, such as collaborations with national defense organizations [47], or with surveillance capitalist corporations [87].

However, we further hope that the framework presented in this paper provides a useful tool for assessing and responding to *others'* proposed forays into policing robots. That is, even if we have convinced the reader themselves not to pursue collaborations with the police, they may well encounter others who have not yet been convinced, in the context of IRB Applications, Paper Reviews, and Grant Reviews. When encountering police collaboration in these external capacities, we encourage readers to ask hard questions of those prospective or actual collaborators, including at minimum the following considerations.

(1) Researchers proposing to perform or publish on collaborations with police should be asked to provide documentation of the origins of the agency with whom the researchers are collaborating and their justifications for collaboration based on those origins.

(2) Researchers proposing to perform or publish on collaborations with police should be asked to identify whether there is documented evidence (e.g., from websites such as Mapping Police Violence[1], the Police Scorecard[2], or the Use of Force Project[3] of violence or racism observed in collaborating departments over the past ten years and for their justification for the acceptability of that evidence.

(3) Researchers proposing to perform or publish on collaborations with police should be asked to explain whether their project team includes researchers qualified to attest to the strength of the above documentation, especially scholars from Black, LatinX, and Indigenous communities, and scholars from fields like sociology that have a deep understanding of the role of systemic racism in policing and the criminal justice system.

(4) Researchers proposing to conduct or publish collaborative research with police should be asked to provide evidence of the approval and participatory design in coordination with members of the communities in which the designed technologies would be used.

Although these four sources of evidence will not address all the risks discussed in this paper, requiring discussions about them may be a helpful first step.

## Toward an Abolitionist Robotics

Finally, we argue that substantively responding to the concerns raised in this work requires a long-term commitment to an agenda of **abolitionist robotics**. As we showed in this article, the evidenced dispositions of American policing organizations, their constituent officers, and the American institution of Policing justifies a default stance of appropriately grounded distrust toward these officers, police organizations, and institution. As such, we have argued that roboticists *should not be collaborating with the police* in any way. This argument echoes calls from members of the robotics community in the 2020 *#NoJusticeNoRobots* open letter and petitioning campaign[4].

We have also pointed out that there are many truly socially beneficial actions that our society currently assigns to police, that researchers rightfully wish to support. As such, we suggest that researchers who wish to work in domains that currently require police collaboration should *actively push for police abolition* [20][5] and replacement of the police with new social systems. In parallel, researchers should, in parallel, pursue similarly oriented research projects in collaboration with alternative organizations such as mental health professionals, social workers, and non-police emergency first responders. Similarly, we encourage roboticists to work on topics that do not require collaboration with the police but who are concerned their technologies could be misused if acquired by police, to pursue similar advocacy, and to advocate for laws (especially at the city, and possibly state levels) formally restricting police use of robotics (going beyond the informal guidelines proposed by other roboethicists [18, 77]).

Overall, while collaboration with police may present new use cases for robots, especially given the increased militarization of the police, we suggest that researchers should carefully strive not only to reject the urge to view of policing as a blanket solution to society's problems, but also to reject technochauvinism [17] – the urge to view technology (especially those technologies we have expertise in developing) as a blanket solution to society's problems.

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[1]https://mappingpoliceviolence.org/

[2]https://policescorecard.org/

[3]http://useofforceproject.org/

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[4]https://nojusticenorobots.github.io

[5]Resources for learning about Abolition can be found at http://criticalresistance.org.

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