NELP NATIONAL EMPLOYMENT LAW PROJECT

When 'Bossware' Manages Workers:
A Policy Agenda to Stop Digital Surveillance and Automated-Decision-System Abuses

By Irene Tung, Paul Sonn, Maya Pinto, Sally Dworack-Fisher, and Josh Boxerman

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Executive Summary

In recent years, businesses and employers[1] have turned to digital technologies for a wide variety of management functions.[2] (See **Appendix 1** for a summary of increased employer powers related to these technologies.) In many instances, these technologies act as hidden bosses. This report details the harms and threats to workers posed by excessive and inappropriate use of these technologies and highlights promising proposals for protecting and empowering workers to ensure that technology enhances job quality instead of degrading it.

In this report, we focus on two kinds of tools**:** (1) workplace **digital surveillance** technologies that businesses use to collect data on workers' activities, and (2) workplace **automated decision systems** that businesses use to assist in managing their existing workforce. We refer to these two types of tools collectively as "**bossware.**" While the term "bossware" sometimes refers narrowly to employee monitoring systems, this report uses it as an umbrella term to describe a range of interrelated digital surveillance and automated decision tools used for many kinds of workforce management functions, including scheduling, task allocation, wage-setting, performance evaluation, and discipline. (See page 4 for more detail on terminology.)

The increased use of bossware harms workers and requires multiple policy responses. We focus on two types of policy responses that are necessary and should be advanced in tandem:

- Policymakers must update and expand existing foundational workplace protections and enforcement systems—including those governing worker health and safety, employment relationships, the right to organize, fair pay, and protections against abusive scheduling and overwork—to counter bossware-related harms.

- Policymakers should regulate bossware directly, paying special attention to its use in relation to evaluation, discipline, and pay practices.

Meanwhile, existing worker protection laws must be robustly enforced. For example, to the extent bossware enables or fosters violations of anti-discrimination laws, wage laws, health and safety laws, and the like, employers and businesses using bossware must be held to account. The updates and expansions we recommend are not in lieu of existing protections.

Finally, policy and public institutions alone are insufficient to address the harms posed by bossware. We believe that building strong unions and worker organizations that can hold employers and businesses accountable—with public policy as one of many tools—is the best way to mitigate these harms and ensure workers can truly benefit from new workplace technologies.

The report is organized as follows. **Section 1** details the additional employer capabilities associated with bossware and describes how the spread of bossware has worsened existing workplace problems in the following areas:

- Harmful disciplinary practices and job precarity;

- Loss of autonomy and deskilling of jobs;

- Unhealthy or dangerous conditions;

- Work fissuring and independent contractor misclassification;

- Exploitative pay and scheduling practices;

- Barriers to accessing social insurance and work-related benefits;

- Discrimination and systemic inequity; and

- Suppression of worker collective action and bargaining.

Section 2 of this report analyzes the current policy landscape, identifies major gaps, and highlights promising models.

Section 3 offers recommendations to achieve five urgent and critical policymaking objectives listed below:

- Update and expand foundational workplace protections to account for bossware's harms;

- Ensure broad worker access to labor and employment rights;

- Directly regulate a wide range of bossware uses;

- Adopt additional protections for bossware's use in discipline and pay; and

- Support and strengthen countervailing forces to corporate and financial actors promoting bossware.

This report draws on NELP's five decades of work promoting a just and inclusive economy, and on lessons learned from our more recent support of partner organizations whose members include warehouse workers, last-mile delivery drivers, and app-based workers (such as ridehail and food delivery workers), as they have fought back and begun to win protections against the abusive use of digital technologies.

As powerful corporate and financial actors continue to drive the growing integration of bossware to more sectors and kinds of jobs, policymakers must respond urgently to establish robust guardrails governing bossware's use, help strengthen worker organizations to serve as checks on abusive practices, and ensure employer and business accountability for the harms their bossware causes to workers.

Table of Contents

Terminology and Scope of This Report

The term bossware has been used in various ways to refer to technological tools companies use to interface with their workers.[3] We use **bossware** to refer specifically to two kinds of tools: **workplace digital surveillance** technologies that businesses use to collect data on workers' activities, and **workplace automated decision systems** (sometimes referred to as automated decision-making systems) that businesses use to assist various management functions. In this report, we focus specifically on the use of these tools to manage workers *after* hiring to surveil and manage workers. We do not address the urgent and important issues of hiring algorithms, data privacy, or automation and displacement of human workers, and instead refer the reader to the excellent work others have produced on those topics.[4]

We use the term "workplace digital surveillance" to mean the collection of information concerning worker activities, communications, actions, biometrics,[5] or behaviors, online activity, and written and oral communications by electronic means including, but not limited to, video or audio monitoring, work pace tracking and geolocating. "Electronic monitoring" is another term commonly used in legislative text to refer to these processes.[6]

We use the term "workplace automated decision system" to mean any computational process derived from machine learning, statistical modeling, data analytics, or artificial intelligence that issues simplified output, including a score, classification, or recommendation, that is used to assist or replace human discretionary decision making and materially impacts natural persons.[7] Businesses and employers engaged in algorithmic management—the delegation of managerial functions to algorithms—often use a combination of digital surveillance and automated decision tools.

Some examples of these practices and tools include mouse trackers, webcam video monitoring, hand scanners, wearable devices, sentiment analysis, productivity monitoring, continuous incremental time-tracking tools (that tally increments of time spent on certain activities), smartphones, geolocation tools, and voice analytics.[8] We detail additional examples in Section 1 below.

Introduction

"I was sent a company computer with a webcam and required to have it on at all times (except for breaks). The computer requires me to log in to my user profile...I am required to scan my facial biometrics. Once the lengthy verification login process is done, I am on camera all day. The webcam monitoring software uses [Artificial Intelligence] AI to track what is caught on camera, looking for violations. Certain violations are known to us, such as pointing [a] phone at [the] screen or leaving the desk, but no further information is told to us about all violations the AI is looking for and what else is the AI tracking."

– From a public comment submitted to the White House Office of Science and Technology Policy, 2023[9]

In recent years, the introduction of digital surveillance and automated decision systems in both public and private sector U.S. workplaces has exposed critical gaps in U.S. worker protections, with workers reporting increased injuries, more precarity, coercive work environments, routine wage theft, and other harms related to their employers' use of digital management tools.[10]

While it's difficult to measure how prevalent bossware is in U.S. workplaces, preliminary evidence of some systems and practices shows that the use of bossware technologies in U.S. workplaces is widespread not only among corporations like Uber and Amazon, but via hundreds of smaller vendors embedded in staffing agencies, temp firms, and sector-specific platforms—deepening labor market fragmentation.[11] One 2024 survey showed that two-thirds of the workforce experience workplace digital surveillance and monitoring, and one-third work under "automated management of tasks and schedules."[12]

These technologies have their roots in management tools that businesses have long used to control their workforce and maximize profits—from assembly lines to time-clocking.[13] However, one major difference that has emerged in recent years is that venture capital firms are actively incentivizing the development of "control without accountability" bossware technologies that expand employer and corporate power while externalizing costs to workers and society.[14] Furthermore, workplace management technologies may not actually produce the accurate outputs they claim to, and workers currently have little recourse when such outputs put them or their livelihoods at risk.

Except for several unions that have successfully won protections in their contracts[15] and a few jurisdictions that have adopted policies aimed at these tools, employers and businesses have largely adopted digital monitoring and workplace automated management tools without meaningful negotiation with workers or robust regulation.

It is critical that these tools are seen for what they really are—hidden and highly flawed bosses—so that employers and corporations can be held to account for the worker harms they perpetrate and the workplace violations they commit. The substantial transfer of control from workers to employers and businesses, enabled by these tools, requires that we reinforce workers' rights and expand collective bargaining so that workers can stand up to employers and businesses about whether and to what extent they are surveilled and subjected to automated decision systems.

With robust policy guardrails and worker organizations at the table, policymakers can mitigate current harms as we work toward policies that ensure that digital technologies enhance, rather than degrade, working conditions.[16] The need is particularly urgent now, as the increasing capabilities of digital technologies threaten to exponentially magnify harms to workers.

Photo credit: Rideshare Drivers United

AI and Digital Workplace Technologies

"AI" or "Artificial Intelligence" is a hot topic, but images of "intelligent" robots or doomsday warnings can distract us from equally alarming, if less attention-grabbing, uses of digital technologies.[17] There is no widely agreed-upon formal definition of AI, and how the term is used has shifted over time.[18] One helpful definition of an "AI system" comes from the Organisation for Economic Co-operation and Development (OECD):

> *"An AI system is a machine-based system that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments."[19]*

As the OECD goes on to explain:

> *"Topics typically encompassed by the term "AI" and in the definition of an AI system include categories of techniques such as machine learning and knowledge-based approaches; application areas such as computer vision, natural language processing, speech recognition, intelligent decision support systems, and intelligent robotic systems; and specific applications of these tools in different domains."[20]*

In popular parlance, however, the term AI may be used much more broadly.[21] This lack of a widely accepted definition allows companies to use AI as a marketing term to convey cutting-edge quality, and even as they oversell the capabilities of older technologies, a phenomenon known as "AI-washing."[22] At the same time, recent press attention and investor interest in the concept of AI puts pressure on employers and businesses to find ways to adopt the latest technologies.[23] And many employers and businesses may be claiming to use AI to optimize their operations, but in reality they may rely on earlier technologies and algorithms to cut labor costs and rank, manage, and discipline their workers.[24]

We recognize that these ambiguities present challenges for policymaking. What we offer in this report is an approach toward a wide range of interrelated digital technologies—including those that are marketed as AI. What is clear is that digital technologies—whether or not they incorporate machine learning or other newer capabilities—are severely degrading job quality; and any new advancements in AI capabilities, if left primarily in the hands of employers and businesses, will serve to exacerbate existing power asymmetries.[25]

Section I: Digital Surveillance and Automated Decision Systems Intensify Existing Workplace Problems

Businesses' increased adoption of new surveillance technologies to manage their workforces threatens the efficacy of a wide range of existing legal protections for workers and exploits missing protections in other areas. Various advocates and researchers have identified many of the harms associated with digital surveillance and automated decision systems in great detail.[26] We don't engage in a full review of that extensive body of work here but instead aim to offer a framework for understanding how these new technological tools interact with and deepen pre-existing workplace problems.[27] (See also Appendix 1 for a digest of increased employer powers related to bossware and associated harms.)

A. Harmful Disciplinary Practices and Job Insecurity

One fundamental way that digital surveillance and automated decision systems are making work more precarious is by transforming employers' capacity to evaluate and discipline workers and compel them to meet unreasonable or unhealthy, and often hidden, work demands. While unfair and arbitrary workplace sanctions and firings have long been a problem under the "at will" employment system in the U.S.,[28] bossware is making these practices worse.

Among the ways it is doing so is by allowing employers and corporations to:

- continuously collect and analyze large amounts of data from worker monitoring to evaluate employees—with the ability to continually track and aggregate small increments of time, bodily movements, worker locations, minor task completion, and more;[29]

- continuously rank workers against each other in real time, and use so-called "stacked ranking" to flag those at the bottom for discipline;[30]

- automate or partially automate worker evaluation systems, making performance standards less transparent, more rigid (including being unable to account for factors outside of a worker's control), and more subject to change without notice;

- make discipline and discharge decisions with far less human involvement—and sometimes with none at all—making it difficult for employees to review and contest unfair or erroneous decisions;

- use data or methodologies that may be unreliable or biased, including digital consumer ratings and complaints or so-called "emotion AI," to evaluate employees;[31] and

- exercise managerial discretion while masking potentially discriminatory or retaliatory action with opaque algorithms and large volumes of data.[32]

As also discussed above, such intensive monitoring and evaluation based on digital surveillance technologies has now spread to many diverse parts of the economy. Today, growing numbers of workers in a range of industries—including retail, health care, government, manufacturing, hospitality, and logistics—are all subject to intensive digital surveillance and then evaluated based on their productivity data.[33] A recent federal executive order about K–12 education suggests that digital technologies, including AI, could soon be used to evaluate teachers.[34] Other public sector workers have recently reported new usage of AI tools to take on human management functions—with little recourse for workers if such systems make mistakes.[35]

Moreover, employers in many industries—including call centers, finance, banking, nursing, and caregiving—not only aim to monitor workers' physical actions but also their internal states, through so-called "emotion AI," which may use inputs such as tone of voice or facial expressions.[36] Many of these tools have been shown to be inaccurate and potentially biased in their outputs,[37] calling into question the suitability of their use for discipline.

In an important 2023 article, "The Rise of the Worker Productivity Score,"[38] *The New York Times* detailed how this works for a range of types of jobs, with examples including a shift manager, a therapist, a research analyst, and a hospice chaplain. The workers reported that constant monitoring from wearable devices or, for those working on computers, keyboard activity and screen monitoring, led them to receive negative evaluations based on often inaccurate assessments of how much work they were performing; skewed their work activity to respond to the electronically monitored metrics; and could even result in workers who excel at their jobs being discharged for one erratic or erroneous low productivity rating. These kinds of tech-enabled disciplinary practices have been implemented especially forcefully for app-based workers in the ridehail and delivery sectors. These workers, who receive their assignments through their phones, are constantly monitored and then algorithmically evaluated based on factors such as how quickly and frequently they accept ride or delivery offers—including offers at low-ball prices. Such algorithmic evaluations also indiscriminately incorporate customer reviews and unsubstantiated complaints[39]—for example, complaints charging them with bad driving.[40] Such app-based workers are often "deactivated"—locked out of their apps and prevented from working anymore, which is the equivalent of firing such workers—based on such evaluations.[41] Many app corporations offer little if any opportunity for workers to challenge such deactivations and correct erroneous information prior to locking them out.[42] As these examples illustrate, the spread of pervasive digital surveillance and automated decision systems based on collected data is transforming workplace productivity assessments and employer discipline and discharge systems—without transparency or safeguards for accuracy—making jobs more precarious for workers across industries.

B. Loss of Autonomy and Deskilling of Jobs

A related repercussion of bossware's use for discipline is that many workers report a significant loss of autonomy in how they do their jobs, and a devaluation of their professional expertise and skill. Workers have described how bossware allocates tasks, prescribes rigid directions for task completion, and punishes them if they deviate from those mandates. In one notable example, a survey of hotel cleaning algorithmic management programs found that "a housekeeper, in the course of cleaning eleven rooms (five on one floor and six on another) [was directed] to alternate between the two floors four times and switch wings of the floor an additional three times."[43] This worker was compelled to follow these directions or face discipline. Similarly, call center workers report that lost worker discretion from monitoring and automated management increases job stress, reduces job quality, and hurts workers' ability to serve customers.[44]

C. Unhealthy or Dangerous Conditions

Another major consequence of employers' new capabilities to control and discipline workers via digital technologies is that the use of these systems can exacerbate dangerous working conditions and increase the incidence of harms, including musculoskeletal injuries and stress-related health problems.[45] When pre-existing gaps in workplace safety protection—such as lack of ergonomics protections—are combined with bossware-enabled pressures to work harder and faster, the result is a dramatic increase in the likelihood of injury, stress, and illnesses, both physical and mental.[46]

One notable example is Amazon, the second-largest employer in the U.S., which has pioneered the use of intensive digital monitoring and automated decision systems in its warehouses and for drivers who handle its deliveries.[47] The high rates of worker injuries at the company's warehouses have been shown to be directly attributed to those practices, and this connection has also been recognized by regulators.[48] Workers have described how every second of their work day is monitored, with the threat of frequent discipline and constantly shifting performance standards creating a climate of fear that pushes workers to work beyond their physical limits to avoid being disciplined or fired. Workers' lack of information about what is tracked, what ever-changing performance standards they may be subject to, and what consequences may flow from any failure to perform generate enormous pressures resulting in physical injury and mental stress.[49] In short, bossware's use exacerbates information and power asymmetries between workers and employers, with dangerous consequences for workers.

While the problems at Amazon warehouses have received significant public attention, the phenomenon of worker injury resulting from surveillance and automated decision systems is not isolated to Amazon. Across lines of industry, occupation, earnings, and educational levels, U.S. workers experiencing more intensive monitoring report a higher overall likelihood of injury and also more serious injuries.[50] Beyond physical injury, workers experience more stress and anxiety when their employers use these types of systems. Surveyed workers who report high levels of electronic productivity monitoring at their job were more likely to say they felt anxious at work.[51] Such stresses have been reported by workers in many different kinds of jobs, from nurses and call center workers to social workers and hotel housekeepers.[52] High levels of stress may occur as a result of increased mental and physical exertion and loss of autonomy and control over job duties. For example, one call center agent stated:

> **"All of these tools are often used to drive an unrelenting push for sales…This pressure to sell and the various ways that managers can monitor me creates an enormous amount of stress. Over the past few years in this position, the stress has made me sick to my stomach and unable to get out of bed in the morning to do my job. I've started taking [medical leave] as a result of missing workdays due to stress."[53]**

These examples suggest some of the ways that digital technologies can increase health and safety risks for workers. Recent work by advocates and researchers have provided important insights on this topic,[54] and more work is urgently needed to elucidate and document the full impacts on workers. More publicly funded research on these issues—for example, through the National Institute for Occupational Safety and Health—is critical to advance this work.[55]

D. Work Fissuring and Independent Contractor Misclassification

In addition to degrading job quality in the ways described above, bossware can enable businesses and employers to exercise control over workers while denying a direct employment relationship with them in two ways: facilitating independent contractor misclassification and making it easier to control frontline workers hired through fissured, subcontracting, and franchising arrangements.

For example, corporations like Uber, Lyft, and others often call their drivers self-employed "independent contractors"—people who run their own business—and strip them of protections such as the right to minimum wage, overtime, workers' compensation, or the right to organize or be free from discrimination.[56] However, these workers are not truly independent contractors, because the companies control important details of the terms of work, such as deciding what goods or services to sell, setting or negotiating prices, and deciding how to market their business to customers.[57]

The use of digital surveillance and automated decision systems enables corporations to extensively monitor workers and use the resulting surveillance data in opaque ("black box") algorithms that adjust, in real time, the terms of work—who gets paid what, who is disciplined or fired (sometimes euphemistically called "deactivated"), or what bonuses might be offered. With hidden algorithms calling the shots, corporations can mask their control and peddle false narratives of worker autonomy and flexibility. Uber suggests workers can be their own bosses[58] even as it subjects them to hidden and unilateral algorithmically determined pay cuts.[59]

Moreover, extreme information asymmetries mean that corporations can create incentives that leave workers chasing bonuses that evaporate before the worker can access it; workers have likened the quest for bonuses to gambling where "the house always wins." Further, because many "gig" workers engage with a digital boss, an app on their smartphone, they click through and "agree" to corporate demands, including forfeiting their right to sue in court or bring a class action, along with submitting to bossware.[60]
While Uber and Lyft may have been pioneers of this model, corporations in an increasing number of industries are using bossware tools that are baked into digital labor platforms (or "apps")[61] to manage workers and obscure the control they have over them. They often force workers to accept "independent contractor" status as a condition of work, despite the fact that the workers are not running their own business. This model has become more common in blue-collar industries such as home healthcare, retail/manufacturing, and logistics.[62] Even the highly regulated nursing field is not immune.[63] And the tech companies that create these products have also increasingly embraced the contract labor model within their own workforces.[64]

In addition to enabling independent contractor misclassification, digital surveillance and automated decision technologies can also facilitate subcontracting and outsourcing without accountability. Just as corporations can use bossware to control the terms and conditions of work for individual workers, they can also use it to control the work of subcontractor firms down the line, all while denying that they bear responsibility as joint employers to those firms' employees. Often, the companies themselves come close to admitting the intense levels of control their technology permits, cloaked in the language of safety or productivity.[65] For example, Amazon denies that it jointly employs the drivers who work for its "Delivery

Service Partner" contractors, even as it exerts extensive tech-enabled control over their work, including the exact routes they drive and the order of packages they deliver.[66]

Indeed, outsourcing or fissuring is a goal of many new digital technologies, not just an incidental side effect. A growing number of tech tools supported by venture capital are designed to help companies evade labor law, reduce labor costs, and outsource risk; they are actively marketed as ways to minimize liability and extract more from workers.[67]

Ongoing occupational segregation means that bossware-enabled misclassification of employees as independent contractors disproportionately harms workers of color. As a group, workers of color—Black, Latinx, Asian/Pacific Islander, and Native American workers—are overrepresented in construction, delivery, home care, agricultural, personal care, ridehail, and janitorial and building service occupations; they constitute approximately 41 percent of workers overall, but between 49 and 92 percent of workers in these occupations.[68] In digital labor platform work where bossware is prevalent, Black and Latinx workers are overrepresented by 45 percent—greater than in the more traditional misclassification-prone sectors.[69] Such bossware-enabled independent contractor misclassification fosters a second-tier workforce made up disproportionately of workers of color stripped of core employment protections.[70]

E. Exploitative Pay and Scheduling Practices

Another important way that digital surveillance and automated decision systems are degrading work quality is by changing the way that many employers and businesses manage work hours and control labor costs—with the result of driving down pay for their workers and eroding the principle of equal pay for equal work. Bossware serves to enhance existing power asymmetries that drive wages down. One notable example is the app-based nursing company ShiftKey, which uses an online staffing assignment system that requires workers to effectively bid against each other by indicating their lowest hourly wage for a shift.[71]

Businesses also are using bossware to track customer activity and then use that data to inform automated "just in time" scheduling of workers.[72] These bossware-enabled on-demand scheduling systems can result in fluctuating work hours that leave workers underemployed and with unstable income or force them to work unpredictable overtime shifts.[73]

Businesses also use information obtained through digital worker surveillance as inputs for wage-setting algorithms, allowing those businesses to prey on the desperation of workers by offering the lowest pay to workers who its bossware systems suggest are most in need of work.[74] These systems can increase wage inequality along various lines of difference, since they are likely to pay the lowest wages to immigrants, people of color, women, people with disabilities, and other groups with the least labor market power.[75] Such algorithmic wage discrimination is already a reality for many app-based workers: Uber and DoorDash pay different workers at different rates for the same work.[76]

The use of digital surveillance and automated decision systems by businesses to break jobs into tasks or "gigs" can facilitate the whittling down of compensable time.[77] In a related practice, growing numbers of employers are using digital productivity tracking systems, and some pay workers only for the time they deem to be productive—cutting worker pay in the process.[78] In many cases, as the U.S. Department of Labor has explained, such automated timekeeping systems sometimes do not comport with federal wage and hour laws' legal standards for identifying compensable and non-compensable worker activity.[79] In this way, bossware-powered worker time-tracking and payment systems can result in systematic "time-shaving" and the theft of workers' earned wages.[80]

For example, call center workers report that automated call routing tools distribute calls at a relentless pace, even past the completion of work shifts:

> **"So another thing that we have going on is that when you're in 'after call work' [time between calls to finish paperwork or administrative duties], that won't stop calls from coming in, there are calls in queue... So you may not be done doing whatever you need to do when you have another call coming in... And like, if you're finished, like, let's say your shift ends at 1 o'clock, then let's say it's 1:10 and then you're in 'after call work'... it's gonna take you out of 'after call work' and give you the next call even though your shift is over."[81]**

Finally, as the previous section explains, bossware-enabled independent contractor misclassification allows employers to evade entirely wage and hour standards and other employment-linked protections such as fair scheduling laws, leaving workers with pay below subsistence levels.[82]

Without safeguards in place, bossware-driven work intensification—a phenomenon that can see workload increase even if hours do not—has the potential to drive the widening of the productivity-wage gap, reducing labor's share of income and driving inequality that reduces workers' labor market power.

F. Barriers to Accessing Social Insurance and Work-Related Benefits

Bossware's role in driving down worker pay may also have an impact on unemployment insurance and workers' compensation programs, which are designed to provide financial support to employees who experience unexpected job loss and work-related injury, respectively.

Because unemployment insurance benefits are calculated as a percentage of wages earned by employees during a designated time period, bossware-related reductions in compensable time or dips in bossware-set wages can result in a lower base of earnings and thus a lower unemployment benefit. And bossware-facilitated independent contractor misclassification, as explained above, can create barriers to workers accessing these important social insurance programs. Furthermore, unpaid employer contributions deplete those funds for all workers.

G. Discrimination and Systemic Inequities

Another troubling consequence of bossware's spread is that digital surveillance and automated decision systems are likely to embed bias and increase discriminatory outcomes for workers in protected classes.[83] This can happen in at least two ways. First, opaque "black box" algorithms lead to arbitrary and even discriminatory outcomes from decisions that reflect biased input. As many scholars have noted, "bias in, bias out."[84] For example, "sentiment analysis" software used to evaluate call center workers punishes workers with accents or speech patterns that differ from what is deemed the norm by the software.[85] Another related example is in app-based work, where app-based platforms can spread the effects of racial discrimination by displaying ratings from biased users to those who otherwise would not discriminate against workers of color.[86]

Second, bossware may degrade working conditions at many jobs that are disproportionately held by people of color in the U.S.[87] For example, the country's second-largest employer, Amazon, relies heavily on Black workers, especially Black women, to operate its warehouses—workplaces where the company's use of bossware has resulted in frequent and serious worker injuries.[88] And as described above,

bossware-facilitated independent contractor misclassification has disproportionate impacts on workers of color especially, because they are more likely to be segregated into low-quality jobs where misclassification is prevalent.[89] Bossware may thus exacerbate the harms resulting from existing occupational segregation in the U.S. labor market, rooted in the legacy of slavery and perpetuated through the longstanding exclusion of many workers of color from key workplace protections.[90]

H. Suppression of Worker Collective Action and Bargaining

In 2024, the former general counsel of the National Labor Relations Board, Jennifer Abruzzo, cautioned that surveillance and algorithmic management can infringe upon workers' rights under the National Labor Relations Act (NLRA). She noted in particular "the potential for omnipresent surveillance and other algorithmic-management tools to interfere with the exercise of Section 7 rights by significantly impairing or negating employees' ability to engage in protected activity and keep that activity confidential from their employer, if they so choose."[91]

There is evidence that various companies are already using digital surveillance to curb worker organizing.[92] For example, Google has developed a Chrome browser extension to alert managers of internal meetings involving 100+ employees, "partially to weed out employee organizing."[93] At Amazon, one worker, Wendy Taylor, described to *The Guardian* how the company uses digital surveillance to create a climate of fear to discourage worker organizing:

> **"Amazon tracks our every move. They know every move you make, when you're working, when you're not working. They surveil you with their cameras. Managers surveil you with their laptops because they can pull up your profile and a bar changes a certain color when you're not active… Every move you make is being tracked, so you feel uncomfortable, and you're not able to really communicate with your co-workers about the unsafe work environment you're in, or the inhumane working conditions because of the dangerous rates that are so high that we must meet quotas."[94]**

Taylor and several of her Amazon co-workers at a facility in Missouri have recently filed an unfair labor practice charge against the company.[95]

In another troubling development, large U.S. employers such as Walmart, Starbucks, Delta Air Lines, and T-Mobile—companies where workers have also recently reported various unfair labor practices[96]—have begun using an AI-enabled service to monitor and analyze workers' email and chat messages to measure employee sentiment, attitudes, and opinions in real time and flag for managers any objectionable subject matter.[97] While the AI-enabled software may not be making final employment decisions—rather only teeing up information to assist human decisions—even such partial automation of management functions greatly increases the power imbalance between workers and employers and threatens workers' rights to organize, especially when companies are already engaging in union-busting activities.

Another way that worker surveillance and automated decision systems have suppressed worker organizing is by enabling corporations to use subcontracting to simultaneously maintain high levels of control over their labor force while denying labor rights under the NLRA. Lead firms can require their subcontractors to use surveillance and algorithmic management tools while denying their status as a joint employer. For example, Amazon has been able to maintain close control over drivers in subcontracted companies whom it has not hired directly, but Amazon also suppresses unionization efforts by announcing its intention to cut its contract with those subcontractors, effectively terminating the employment of the

unionized drivers because they had exercised their Section 7 rights to organize. Amazon can do this without accountability because it is not considered a joint employer, even though Amazon made use of surveillance technologies to closely monitor the drivers delivering the products it sells.[98] Additionally, as discussed above, worker surveillance and automated decision systems generate opaque and voluminous performance data and frequent disciplinary actions. The sheer volume of the data generated by these systems and available to employers can make it difficult for workers fired for organizing to prove that employers were engaging in retaliation against them.[99]

Section 2: The Current Policy Landscape

The degradation of job quality arising from the use of bossware tools calls for urgent action. Ideally, workers would be partners in decision-making, and workers and employers would collectively bargain over these tools to set standards.[100] Indeed, the most effective interventions with regard to bossware's job quality harms have been won and implemented by unions through collective bargaining.[101] But since much of the U.S. workforce lacks the power to bargain individually or collectively with employers over workplace digital technologies,[102] policymakers must take steps to prevent harm to workers. These standards may provide a baseline from which unionized workers could then bargain for stronger, industry- and worksite-specific measures.

To date, policy efforts to address the harms caused by businesses' increased use of bossware have generally followed one of three approaches (for details, see the UC Berkeley Labor Center's comprehensive survey of related policy models[103]):

1. Policies that address the use of digital technologies across sectors (e.g., in housing, consumer sales, public services, and employment), but that address single harms, such as privacy or discrimination.

2. Employment or labor policies that directly regulate bossware in the workplace by requiring notice and setting guardrails for use.

3. Policies that fix longstanding gaps in U.S. workplace protections and directly address underlying workplace harms exacerbated by bossware, such as at-will employment, misclassification of employees as independent contractors, wage theft, or workplace health and safety issues.

All three approaches are necessary to build out frameworks that level the playing field for workers. Most importantly, efforts to directly regulate digital technologies must be advanced in concert with addressing the existing gaps in workplace protections that bossware exploits—such as lack of disciplinary protections, legal loopholes enabling wage theft, and meager protections against independent contractor misclassification.

A. Recent State Policymaking Efforts

There are several strong federal policy proposals aimed at addressing bossware's harms.[104] Given that Congress is unlikely to pass legislation on these issues in the near future, however, we focus our discussion primarily on state-level policy efforts. In recent years, several states have enacted legislation regulating the use of bossware in the workplace. These efforts to regulate digital technologies have faced strong and well-funded opposition from industry groups. Most of these laws have not directly tackled issues of job quality, focusing primarily on hiring discrimination, consumer and data privacy, human review of decisions, and basic disclosures that surveillance is being used in the workplace. Troublingly, some
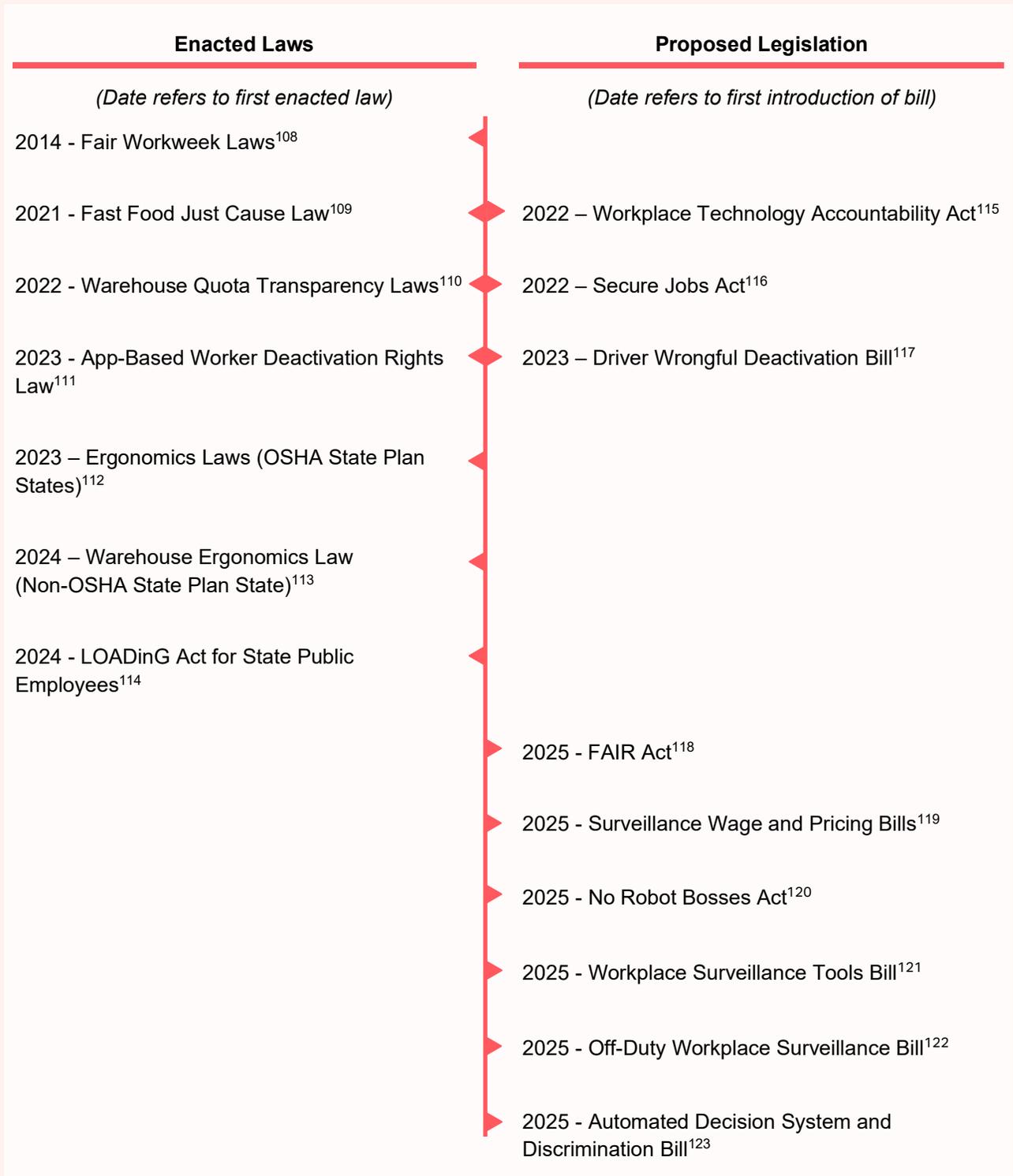
recent bills have even been industry-sponsored and designed to install weak regulations, provide liability shields for employers and businesses, preempt meaningful accountability measures, and distract from genuine efforts to protect workers.[105]

Robust efforts to take on bias and privacy and to implement basic disclosures are positive first steps toward addressing the broader challenges of bossware in the workplace.[106] But in doing so, policymakers must not succumb to the temptation to declare victory and move on without addressing the serious damage generated by surveillance and automated decision systems. Bossware's role in degrading work quality—by promoting overwork, unstable hours, unhealthy job conditions, non-transparent discipline and discharge, and eroded pay and benefits—reducing worker power, and helping employers evade labor standards by misclassifying workers as non-employees has been highly damaging and is in urgent need of regulation.

Workers, advocates, unions, and worker centers around the country have fought for policies addressing bossware-related job quality issues in recent years, facing tough battles against opponents with business interests tied to bossware. In the below timeline, we highlight some promising and emerging policy efforts.[107] This list is not exhaustive but is intended to provide a sampling of the diversity of approaches that can be taken. See sidebar for a timeline and Appendix 2 for more detailed summaries of these bills.

Photo credit: ALIGN NY

Figure 1. Examples of State Policy Models that Address Bossware's Degradation of Job Quality

Enacted Laws	Proposed Legislation
(Date refers to first enacted law)	*(Date refers to first introduction of bill)*
2014 - Fair Workweek Laws[108]	
2021 - Fast Food Just Cause Law[109]	2022 – Workplace Technology Accountability Act[115]
2022 - Warehouse Quota Transparency Laws[110]	2022 – Secure Jobs Act[116]
2023 - App-Based Worker Deactivation Rights Law[111]	2023 – Driver Wrongful Deactivation Bill[117]
2023 – Ergonomics Laws (OSHA State Plan States)[112]	
2024 – Warehouse Ergonomics Law (Non-OSHA State Plan State)[113]	
2024 - LOADinG Act for State Public Employees[114]	
	2025 - FAIR Act[118]
	2025 - Surveillance Wage and Pricing Bills[119]
	2025 - No Robot Bosses Act[120]
	2025 - Workplace Surveillance Tools Bill[121]
	2025 - Off-Duty Workplace Surveillance Bill[122]
	2025 - Automated Decision System and Discrimination Bill[123]

Section 3: Lessons and Takeaways for Future Policy Development

While the existing laws and proposals highlighted above are promising beginnings, even more must be done to protect workers from the full range of harms posed by bossware. We outline five key objectives that policymakers should consider when aiming to mitigate these harms:

1. Update and expand foundational workplace protections;

2. Ensure broad employee access to job-related rights;

3. Directly regulate a wide range of bossware uses;

4. Adopt additional protections related to bossware's use in pay and discipline; and,

5. Support and strengthen countervailing forces to corporate and financial actors promoting bossware.

A. Update and Expand Foundational Workplace Protections to Account for Bossware's Harms

As we have described in previous sections, bossware tools expose longstanding gaps in U.S. workplace protections. In addition to fully enforcing existing laws, policymakers should advance proposals that directly promote worker power and employer accountability, ensure workplace health and safety, end discrimination, and advance wage justice in the context of the challenges presented by new technologies.

To address bossware-related disciplinary harms, job precarity, loss of autonomy, suppression of worker collective action, and discrimination, policymakers should consider these reforms:

1. **Just cause and disciplinary fairness and transparency.** Establish basic disciplinary protections including just cause for discharge, fair warning, access to materials used in disciplinary decisions, and a chance to improve before termination or deactivation to combat coercive surveillance-based discipline, job insecurity, and discriminatory or retaliatory firings.[124]

2. **Right to organize and collective bargaining rights.** Strengthen workers' rights and power to form unions and bargain on the use of bossware in their jobs. (See also number 4 below.)

3. **Robust retaliation protections.** Protect workers who speak up or are engaged in organizing from retaliation that employers can more easily obscure by using large volumes of performance data collected via bossware.[125]

4. **Severance pay**, **advance notice of layoffs, and retraining opportunities for displaced workers.** Grant severance pay to all discharged and displaced workers, including terminations related to the adoption of new technologies.

To protect workers from coercive, unhealthy, and dangerous working conditions, policymakers should consider these types of reforms:

1. **Stronger health and safety rights.** Establish enforceable health and safety standards such as ergonomics protections in industries with high levels of surveillance-based discipline.[126]

2. **Staffing standards.** Establish minimum staffing requirements to guard against bossware-enabled overwork and to ensure the safety of workers and the public.[127]

To combat exploitative pay and scheduling practices and barriers to work-related benefits, policymakers should consider these types of proposals:

1. **Wage theft protections.** Ensure against bossware-enabled wage theft with policies that specifically require workers to be paid for all their working time, not simply whatever subset of work the business deems compensable. For example, policies should clarify that businesses that use bossware to manage "on demand" workers who help fulfill their promises of fast service are responsible for compensating their workers from the time they log on to a platform, the digital equivalent of "punching in."

2. **Forced overtime bans and fair scheduling rights.** Adopt fair scheduling standards to combat both underemployment and mandatory overtime burdens created by bossware-facilitated production management systems.[128]

B. Ensure Broad Worker Access to Labor and Employment Rights

Additionally, to address bossware's role in work fissuring and to ensure that businesses cannot rely on bossware to strip their employees of bedrock labor and employment rights and evade accountability, policymakers should consider these changes:

1. **Presumption of employment.** To ensure that corporations cannot exploit bossware's hidden controls to enable independent contractor misclassification through deliberately broad employee coverage in all employment and labor laws, policies should include a presumption of employment and contain strong standards such as the "ABC test that focus on measuring whether a worker is truly running their own business.

2. **Standalone misclassification protections.** Policies are needed to make independent contractor misclassification a stand-alone violation of labor and employment law—a reform rendered more necessary by bossware's capacity to facilitate misclassification.

3. **Joint employment accountability.** Use or reliance on bossware should be considered evidence of employment in joint employer determinations.[129]

C. Directly Regulate a Wide Range of Bossware Uses

In recent years, worker organizations, unions, academics, and advocates have developed a number of legislative proposals to directly regulate bossware, and worker surveys have indicated interest in stronger protections related to workplace digital technologies.[130] Here, we summarize some of the important principles contained within current policy models. For a more detailed rundown, see the UC Berkeley Labor Center's comprehensive survey of related policies.[131]

1. Establish Standards on Digital Surveillance *and* Automated Decisions

Policy frameworks that focus exclusively on automated decision-making systems—those that make or assist decisions such as hiring, firing, pay, and promotions—without addressing digital surveillance risk overlooking the extent to which these systems are interrelated, especially given how automated decision-

making systems rely on data collected through digital surveillance. Effective policy frameworks will regulate these systems in tandem.

2. Regulate a Broad Range of Work-Related Decisions

Policies should aim to give workers protections (including meaningful transparency and access to detailed, timely, and meaningful human review and correction) related to the use of digital surveillance data or automated decision outputs for any employer decision that impacts wages, wage-setting, benefits, compensation, hours, work schedule, performance evaluation, hiring, discipline, promotion, termination, deactivation, job tasks and responsibilities, assignment of work, access to work and training opportunities, productivity requirements, workplace health and safety, and any other terms or conditions of work.[132]

3. Capture All Working Relationships

Policies should define coverage broadly to ensure that they provide enforceable protections to individuals performing work, regardless of whether the business calls them an employee, an independent contractor, or even pays them off the books. Some bossware proposals protect workers regardless of employment relationship by specifying that their requirements apply equally to employees and independent contractors, while others, such as the Massachusetts FAIR Act, do so by incorporating into the bossware legislation "ABC test" employment standards that encompass both. Likewise, policymakers should draft provisions with an eye toward ensuring against loopholes: for example, any definitions of suspension, termination, or discipline should include "deactivation"—the euphemism that many app-based corporations use.[133]

4. Hold All Relevant Actors Accountable

Policies should ensure appropriate accountability for third parties, such as bossware vendors that may bear responsibility for bossware design and implementation, and data brokers that proffer personal worker data to businesses engaging in surveillance pay-setting.

5. Strictly Prohibit the Most Harmful Forms of Bossware

Policies should establish prohibitions on bossware systems that rely on workers' health data or biometric data, such as measurements related to facial expressions, voice, or gait.[134]

D. Adopt Additional Protections for Bossware's Use in Discipline and Pay

Two important areas that require special attention, and for which more protections are sorely needed, are discipline and pay. Limiting bossware's use in discipline will reduce the climate of fear in workplaces, give workers more power on the job, and help to address health and safety harms, challenges with automated task allocation, and retaliation against workers engaged in organizing. Curbing surveillance wage-setting and pay discrimination will help stabilize workers' livelihoods, safeguard benefits, and reduce income precarity. Below, we outline essential elements for policies in these areas. Some, but not all, of these provisions are included in existing bills.

1. Establish Bright-Line Prohibitions in Addition to Conditional Standards and Human Review

A key principle of regulation, which has been confirmed by the initial state experiences with bossware regulation, is that bright-line rules that prohibit certain specified practices are clearer and the most realistically enforceable. Conversely, regulations that use a conditional standard or that require the enforcer to conduct a factual investigation and assessment to determine whether the regulations were violated are difficult to enforce and will ultimately be less effective. They also make it more difficult for

workers to identify whether a violation has occurred. For example, a complete prohibition on surveillance wage-setting, or on discipline based on video monitoring in a personal home, will be more easily understandable to workers and also more enforceable than a rule prohibiting such practices unless shown to be "strictly necessary." Further, such bright-line prohibitions should be coupled with a requirement that businesses/employers bear a strict burden of proof in any claims of exemptions or questions about compliance; given the information asymmetries, such a burden is essential.

One primary goal of such bright-line prohibitions is to reduce the climate of fear and insecurity fostered by the presence of these tools. By explicitly defining and prohibiting the most harmful bossware-enabled practices—such as surveillance wage-setting and continuous incremental time-tracking—public policy can provide straightforward guidelines for workers and employers and may help alleviate the mental stress and anxiety for workers toiling under digital surveillance.

Accordingly, policymakers should consider bright-line prohibitions on the following:

- **Surveillance wage inputs**. Prohibit use of certain individualized data as inputs to set wages.[135]

- **Automated systems using tiered worker data to inform compensation.** Prohibit use of automated decision systems that rely on grouped, banded, or tiered worker data as inputs or outputs to inform compensation, unless the employer can clearly demonstrate that any differences in compensation for substantially similar or comparable work assignments are based on cost differentials in performing the tasks involved, or that the data was directly related to the tasks the employee was hired to perform.

- **Continuous incremental time-tracking tools.** Prohibit discipline or discharge based on time-tracking tools that aggregate small increments of time (e.g., less than one hour) that a worker is or is not engaged in a particular activity.[136]

- **Stacked ranking.** Prohibit discipline or discharge based on "stacked ranking"—the practice of ranking workers against each other in real time using surveillance data and/or automated decision system outputs, instead of evaluating workers based on pre-disclosed performance metrics.[137]

- **Private property monitoring.** Prohibit discipline or discharge based on video/audio monitoring on a worker's private or leased property.[138]

- **Geofencing.** Prohibit discipline or discharge based on geofencing, in which a worker is not allowed to leave a certain area and is effectively "fenced in."[139]

- **Personal devices.** Prohibit companies from requiring workers to install bossware tied to discipline or pay on personal devices (with an exception for app-based work).

Finally, effective policies must cover harmful discipline and pay practices that rely "in whole or in party" on digital surveillance data and automated decision-making software in addition to those that rely "solely" on such tools.[140] This is because simply requiring human review of work-related decisions implicating surveillance data or automated decision system outputs is inadequate. In many instances, human managers who are paid by the companies may only be rubber-stamping decisions. Policies should detail what powers, expertise, and accountability such human managers must have to improve the likelihood that human review will be meaningful.

2. Require Advance Notice of Termination when Bossware is Deployed

Requiring at least 30 days' notice before termination or deactivation, with all evidence and rationale supporting such a decision to be made available, will ensure that workers have time to contest faulty data or decisions, and time to access and review any materials and data used for disciplinary decisions before they are locked out of employee apps or software systems.[141] Such notice should be given to all workers, including those hired through third parties or via non-standard employment arrangements. Notice should not be required during limited probationary periods or for very short-term employment arrangements.

3. Beyond Disclosure of Bossware Use, Require Transparency in Discipline and Pay

Policymakers interested in increasing transparency should require employers to disclose not only the *use* of any new bossware system itself, but also any data, metadata, outputs, or other information relevant to the worker with which this new system interfaces, uses, or produces. This can include pay- and discipline-related data and outputs, along with a process for correcting and contesting them. Policies should include these elements:

- **Implications for discipline and pay.** Employers should disclose to workers, their authorized representatives, and appropriate government agencies how any bossware systems they are using implicate discipline or pay.

- **Performance standards**. Employers should disclose quotas, performance standards, metrics, increments of time logged, and performance data. Disclosure of performance standards must occur before discipline can occur.[142]

- **Pay statements.** App-based workers should receive comprehensive weekly pay statements.

- **Ongoing access to data and outputs.** Employers should give workers and their authorized representatives the ability to review any pay- or discipline-related data and outputs on a frequent basis (e.g., weekly or biweekly).

- **Right to correct.** Employers should give workers and their authorized representatives the ability to correct erroneous data and outputs to ensure accuracy.[143]

- **Employer responsibility for accuracy.** Employers should bear full responsibility for accuracy of all data and outputs used for pay or discipline, regardless of whether workers have reviewed them.

- **Aggregate data.** Employers should disclose any performance or pay data collected in aggregate versions to workers and their authorized representatives to help them identify cases of retaliation or discrimination.[144]

- **Disciplinary transparency.** Employers should provide the specific materials, outputs, data, and other relevant information used for disciplinary and termination/deactivation decisions to the affected workers and their authorized representatives prior to discharge, to allow workers to contest any erroneous findings. Former workers should have the right to request this information at least one time.[145]

- **Anti-retaliation.** Employers who take adverse action against a worker in the 90 days after that worker requests information about data and outputs related to pay or discipline should be required to present clear and convincing evidence such action is not retaliatory.[146]

- **Accessible format.** Employers should provide workers with data and outputs in a format that is easy to access and understand.[147]

- **Data preservation.** Data should be preserved for a period of three years in the event they are needed in cases of retaliation or discrimination.

- **Public pay data.** Employers should make basic summary data on pay by occupation and demographic groups available publicly, including data for workers hired through third parties.[148]

E. Support and Strengthen Countervailing Forces to Corporate and Financial Actors Promoting Bossware

As powerful corporate and financial actors drive the growing integration of bossware into workplaces across the U.S., policymakers should consider ways to help elevate the voices of other stakeholders. Stronger public institutions and worker organizations are necessary to counterbalance the business interests that profit from bossware's expansion at the expense of workers' wellbeing. Their engagement is essential to ensuring that technology in the workplace is used to enhance job quality for human workers. Below, we outline some steps that policymakers can take.

1. Expand Collective Bargaining and Increase Union Density

Privacy rights have often been a starting point for public discourse about surveillance and algorithmic management, likely because consumer protections related to data are largely centered on privacy concerns.[149] In addition to privacy concerns, policymakers concerned with the impact of digital surveillance and automated decision systems must also be vocal about addressing power imbalances created by new workplace technologies; they should support efforts to increase worker power, not only so workers can give input about these new technologies, but to improve job quality and workplace conditions more generally.[150]

In recent years, unions in a number of industries—including nursing, home care, hospitals, trucking, hotel housekeeping and hospitality, longshoreman, bus drivers, and customer service—have successfully negotiated new language in collective bargaining agreements that require employers to negotiate with workers over the implementation of new technologies.[151] Workers in the public sector have also won bargaining victories.[152] Such agreements are the best way to center workers' experience and address the particular needs of specific industries and at specific worksites.

Accordingly, strengthening existing worker organizations and supporting efforts to increase union density in the U.S. are critical to safeguard against the harms of bossware. In the realm of public policy, there are a wide range of options—many of which are available to state lawmakers—to support workers in gaining the individual and collective power necessary to prevent employers from using technology in ways that create harm or undermine existing rights.[153]

These include, but are not limited to, stronger protections against retaliation for union activity; allowance of secondary boycotts to give workers greater negotiating power; access to unemployment benefits and strong job protections for striking workers; bans on employer captive audience meetings to reduce intimidation and fear during union organizing drives; repeal of right-to-work laws; robust public sector job creation with labor neutrality agreements to strengthen public sector unionism and raise the job quality floor for all workers; universal just-cause job protections to buttress against employer retaliation; improved whistleblower protections to protect individual workers who speak up about workplace concerns; and guaranteeing sufficient social insurance benefits to give workers greater leverage against low-quality jobs.

2. **Mandate Public Sector Collective Bargaining on Bossware Implementation**

Although states are limited by the National Labor Relations Act in what they can do to promote private sector unionization and bargaining, in the public sector, where states are the primary regulators of collective bargaining, state governments have far more latitude. Especially in states where public sector workers are substantially unionized, there is much that states can and should do to encourage bargaining over bossware deployment. Where needed, states could be required to negotiate over bossware with public sector unions before such technology is deployed in the workplace, in order to protect public employees from the harmful impacts of bossware and safeguard the future of public sector unionism. This is especially important given the high prevalence of bossware deployment in public sector workplaces.

3. **Establish and Empower Sectoral Standards Boards to Put Limits on Bossware**

In non-unionized workplaces where workers are unable to participate in collective bargaining, a promising new approach to addressing harmful workplace practices on an industry-wide basis and setting standards to address them is sectoral standards boards.[154] This policy model has received growing attention in recent years, and states have begun to enact such boards to address job conditions in problem industries—as California has done for the fast-food industry,[155] and Minnesota for the nursing home industry.[156] Such boards, which have tri-partite membership drawn from employers, employees, and government, are empowered to establish legally binding standards for a sector; they offer a promising strategy for regulating bossware in the workplace. Because such boards are empowered to issue legally binding regulations and can update them as needed, they are potentially more nimble and may be better able to ensure that industry bossware standards keep pace with changes in technology and industry practices. Policymakers can support greater worker voice by establishing sectoral standards boards that are empowered to set standards for digital surveillance and automated decision systems or by extending the authority of existing boards to do so.

4. **Strengthen Public Enforcement Bodies and Enforcement Mechanisms**

Crucial for ensuring that any protections, old or new, are meaningful is having effective enforcement and implementation systems that foster a culture of compliance. But enforcing workplace protections is challenging, because existing state agencies are seriously overburdened and understaffed, and the rise of forced arbitration often bars workers from enforcing their claims in court.[157] In order to ensure that policies deliver on their promises, it is essential that (1) an appropriate public agency be identified or created and adequately resourced; (2) individual workers and unions or worker organizations be empowered to bring private enforcement actions; and (3) new bossware laws include substantial remedies for harmed workers and additional civil penalties that will alter business behavior and can be used to support enforcement. Only through a combination of public and private enforcement tools with significant remedies will any realistic level of compliance be achievable. Additionally, strong enforcement of standards can help incentivize more responsible tech development upstream.

   a. **Use existing laws to target bossware's harms.** State and local governments increasingly recognize how bossware can enable independent contractor misclassification, causing wage theft and cheating critical social insurance programs. Successful enforcement actions are recovering millions for workers and state coffers and requiring workers to be recognized as employees.[158]

   b. **Enforce the law effectively through strong, well-funded agencies.** Identifying an appropriate public agency to enforce new protections is challenging, and the best option will vary from state to state. The reality is that most state labor and civil rights agencies are backlogged, inadequately staffed, and struggling to keep up with their

current enforcement responsibilities. To make enforcement effective, it's important to conduct a clear-eyed assessment of available enforcement agencies in a given state or city. One key strategy is to grant overlapping enforcement authority to multiple public bodies, such as the state labor agency, the attorney general, city or county attorneys, and district attorneys, in order to maximize public enforcement options. For example, in some cases, new city enforcement offices created to enforce the growing number of new municipal labor standards have proven more nimble and effective than state labor agencies. In all cases, providing funding for new staff lines at the agency to enforce the new law—either as part of the bossware legislation or in a subsequent budget push—is vital for ensuring that any meaningful amount of enforcement actually happens. Policies should contain mechanisms to fund government enforcement, such as penalties that revert to the enforcement agency.

c. **Allow workers and worker organizations to help enforce the law when public agencies lack capacity.** Even with funding for new capacity—and all the more so without it—government agency enforcers will never have the bandwidth to provide the level of enforcement necessary to incentivize consistent employer compliance with new protections. The proven approach for supplementing public enforcement capacity is authorizing private enforcement by workers, unions, and worker centers, by creating a private right of action. Private rights of action are the norm under state wage and hour laws and civil rights laws; they have been included in new labor standards such as paid sick leave laws; and it is vital that they be included in new bossware legislation. One approach for ensuring that a private right of action is available is to codify bossware protections as part of existing state laws that include private rights of action and other key enforcement provisions, such as anti-retaliation protections and mandatory attorneys' fees so that low-wage workers can find counsel. Finally, it is also important to authorize parties beyond individually affected workers, such as unions and worker centers, to enforce the new protections. California does this effectively with its labor code Private Attorney General Act (PAGA) law, sometimes referred to as "whistleblower" enforcement.[159] Illinois has authorized similar enforcement under its Day and Temporary Labor Services Act, which allows "interested parties," in addition to workers, to sue over violations.[160] Such enforcement is important because individual workers are generally afraid to charge their employer with law-breaking, and many are also subjected to "forced arbitration" contracts that prevent them from suing their employers in court.[161]

d. **Ensure substantial remedies for violations.** The last key component of an adequate enforcement system is substantial remedies that are robust enough to incentivize employers to comply and compensate workers harmed by violations. These remedies should include (1) civil penalties paid to the state, and (2) damages, liquidated damages, and attorneys' fees paid to workers or worker organizations that identify violations and successfully sue over them. Because it may be hard to quantify exactly the economic harm to workers of some bossware violations, for such violations, remedies should specify lump sum liquidated damage amounts—lesser amounts for less significant or innocent violations, and much greater amounts for significant violations.

VI. Conclusion

As digital surveillance and workplace automated decision systems become more prevalent, workers urgently need greater voice, transparency, and employer accountability in relation to bossware's impact on their jobs, their wellbeing, and their livelihoods. Employers must be held responsible for bossware's harms through enforcement of existing and emerging labor and employment laws. Policymakers need to update labor and employment law and enforcement protocols to protect workers from the abusive use of

bossware. With strong policy responses, we can prevent new technologies from supercharging low-road employment practices and ensure that workers and communities thrive in the coming decades.[162]

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About NELP

Founded in 1969, the National Employment Law Project (NELP) is a nonprofit advocacy organization dedicated to building a just and inclusive economy where all workers have expansive rights and thrive in good jobs. Together with local, state, and national partners, NELP advances its mission through transformative legal and policy solutions, research, capacity-building, and communications. NELP is the leading national nonprofit working at the federal, state, and local levels to create a good-jobs economy. Learn more at www.nelp.org.

Appendix 1: Increased Employer Powers with Bossware

Employer Objectives	Increased Employer Powers with Bossware	Harms to Workers
Facilitating ability to evaluate, reward, and discipline workers, and extract more and faster labor	• Automatically flag infractions that would likely not have been picked up by human managers • Track workers' time in shorter increments • Track workers' body movements, location, voice, facial expression, heart rate, and other measures continuously • Automate aggregation of minor infractions for discipline • Amass and easily analyze and process large quantities of data including continuous video and audio recordings of workers • Real-time performance-based ranking of workers	• Harmful disciplinary practices and job precarity (e.g., more frequent discipline, shifting balance of power towards employers, information asymmetry, loss of autonomy) • Loss of autonomy and deskilling of jobs (e.g., more prescriptive and rigid work directions and mandates enforced by bossware) • Unhealthy and dangerous conditions (e.g., increasing risk of physical injury, exhaustion, and mental stress) • Exploitative pay practices (e.g., requiring more work for the same pay) • Suppression of worker organizing and collective bargaining
Masking control by facilitating independent contractor misclassification and hiding joint employment relationships	• Surveil and closely dictate work demands to workers through their personal devices while denying employment relationships • Combine close surveillance with subcontracting to maintain a highly controlled workforce with the option of instantaneously severing any business relationships in the event that workers organize	• Misclassification and work fissuring (e.g., denial of employment and labor protections and denial of promised "flexibility") • Exploitative pay practices (e.g., wage theft from misclassification) • Suppression of worker organizing and collective bargaining (e.g., terminating contracts with subcontractors that become unionized) • Barriers to accessing social insurance and work-related benefits • Discrimination and systemic inequity

Preventing unionization	• Use algorithms, automated decision systems, and surveillance data that are opaque to workers to mask retaliation against workers who organize or speak up • Use surveillance data to identify and track worker organizing activity	• Suppression of worker organizing and collective bargaining
Minimizing pay	• Individualize pay based on a workers' particular attributes or individual characteristics rather than tasks involved • Facilitate bidding on pay rates between individual workers in a single workplace • Facilitate "rounding down" or shaving off of time from recorded work hours to reduce pay	• Exploitative pay practices (e.g., wage theft from misclassification, forced bidding that drives pay down for whole groups of workers, paying less than minimum wage)
Automating staffing decisions and task assignments to minimize labor costs	• Automate task allocation • Automate reduction of hours during off-peak times • Facilitate access to surplus labor pool during peak times by replacing permanent employees with "gig" workers • Facilitate culling of workers during off-peak times • Pay by task and piecework instead of by time measured in shifts, reducing need to pay workers for time in between tasks • Deskill and deconstruct work into tasks and rebundle tasks in a way that removes worker discretion, trims labor costs, and facilitates easy replacement of workers, who can be treated as interchangeable "cogs"	• Harmful disciplinary practices and job precarity (e.g., unfair firings and deactivations) • Loss of autonomy and deskilling of jobs • Misclassification and work fissuring • Exploitative pay practices (e.g., lower earnings, wage theft, reduced labor share of profits, increase in unpaid work time, work intensification) • Loss of autonomy and deskilling of jobs (e.g., more mentally draining work to correct mistakes made by digital technologies, reduction in the value of workers' expertise) • Suppression of worker organizing (e.g., unpredictable scheduling and precarity that stymies worker organizing)

Reduce numbers of front-line supervisors and streamline decision-making for upper management	• Rapid, real-time processing and synthesis of large volumes of opaque data • Automate or partially automate decisions on discipline, firings, promotions, pay, schedules, task allocation	• Harmful disciplinary practices and job precarity (e.g., lack of transparency, unfair or bad decisions with little recourse, fear of firings and deactivations) • Loss of autonomy and deskilling of jobs

Appendix 2: Examples of Policy Models that Address Bossware's Degradation of Job Quality

Below we highlight some promising emerging legislative models that we believe start to tackle the harms described earlier in this report. These models either directly regulate digital surveillance and automated decision systems and/or regulate digital surveillance and automated decision systems in the context of the underlying workplace problems intensified by bossware. We include both enacted laws and legislative proposals as of the time of publication. This is not an exhaustive list and is intended to provide a sampling of the diversity of possible approaches.

Enacted Laws

- **Warehouse Worker Laws on Quota-Based Discipline and Ergonomics.** A set of new laws is aimed at addressing the effects of digital surveillance and algorithmic management in warehouses. The new policies require employers to disclose quotas and work speed data to workers, and establish strong guardrails to protect workers who exercise these rights from employer retaliation. In addition, three states have adopted further provisions to specifically address warehouse ergonomics.[163] While these bills are promising, much more is needed to protect warehouse workers. More recent proposals targeting warehouse work go further by mandating rest breaks and prohibiting harmful disciplinary practices in warehouses such as continuous incremental time-tracking and stacked ranking.[164]

- **Fast Food Just Cause Law.** Policymakers must tackle the underlying lack of transparency, due process, and fairness in the at-will employment relationship, all of which have been further intensified by new forms of surveillance and automated decision systems. New York City has pioneered a promising model for doing this with its 2020 "just cause" law for fast-food workers.[165] The law regulates employee discipline, discharge, and shift assignments—key places where workers experience the harmful impacts of the use of bossware.

- **Fair Workweek Laws.** An early deployment of bossware was "just in time" worker scheduling technology, which businesses use to minimize labor costs by replacing fixed weekly work schedules with a system of last-minute shift assignments and calibrating staffing levels to real-time shifts in work volume and customer traffic. In response, cities and states have enacted fair workweek laws for retail and restaurant workers, requiring employers to provide workers advance notice of their schedules, compensate them for last-minute schedule changes, and offer additional hours to current part-time staff before hiring more part-time employees.[166]

- **New York State LOADinG Act for State Public Employees.** Requirements that state agencies negotiate over bossware with their unions before deploying it in the workplace, including in

circumstances where it might perform work previously performed by bargaining unit members, are key protections that states can require in order to protect public employees from the harmful impacts of bossware and AI. For example, under New York's recently enacted Legislative Oversight of Automated Decision-Making in Government Act (LOADinG Act), state agencies would be forbidden from using automated decision-making tools in ways that will displace civil service employees, reduce their hours or benefits, or impair collective bargaining agreements.[167]

Proposed Bills

- **The Massachusetts Fostering Artificial Intelligence Responsibility Act.** One strong state proposal is the Fostering Artificial Intelligence Responsibility (FAIR) Act (SD.838/HD.1458).[168] Key provisions include:

  - Limiting the purposes for which employers may engage in electronic monitoring, requiring that monitoring be narrowly tailored to those permissible purposes, and that the data collected be minimized.

  - Prohibiting electronic monitoring that has certain harmful effects or that uses particularly invasive means, such as monitoring that "incorporates facial recognition, gait, or emotion recognition technology" or that "threaten[s] the health, welfare, safety, or legal rights of employees" or that takes place in sensitive locations, such as a worker's private home.

  - Ensuring greater transparency and fairness when employers use bossware to evaluate and discipline employees, including by prohibiting discipline based on undisclosed standards or quotas; requiring equal application to all workers; requiring 30 days of advance notice before discipline based on bossware, in order to give workers an opportunity to review and challenge the basis for it; and prohibiting the use of "continuous incremental time-tracking tools" in discipline and discharge.

  - Prohibiting employers from relying primarily on digital surveillance data when making employment decisions, including discipline and discharge.

  - Importantly, protections would apply equally to workers misclassified as independent contractors, and to deactivation of app-based workers (the equivalent of discharge for such workers).

  - Protecting employees from discipline or retaliation for refusing to follow the output of an AI or automated decision system–generated work duties plan, where the employee is licensed by the state or otherwise exercises professional independent judgment and has notified their supervisor that they believe the automated duties plan would pose a serious risk to persons or property—for example, a nurse who believes the course of action set out in an automated patient care plan would endanger a patient.

  - Strong public and private enforcement tools, including a private right of action enabling employees to sue over violations and obtain strong relief.[169]

- **California Electronic Monitoring and Automated Decision System Bills.** A set of four bills in California also provides a promising model.[170] SB 7, the No Robot Bosses Act, puts in place pre- and post-use notification to workers of the implementation of an automated decision system (ADS), establishes a process for workers to appeal an employer's decision made using an ADS, and requires employers to provide corroborating evidence when using an ADS for promotion,

discipline, or firing decisions.[171] AB 1018 would "enact common-sense guardrails to help ensure that developers and deployers of these tools are testing for discriminatory outcomes prior to utilizing the tool and ensuring that workers and consumers have the information they need to understand the role that an ADS is playing in critical decisions and what rights they have when these systems impact critical areas of their lives."[172] AB 1221 would require employers to notify workers of the introduction of a surveillance tool in the workplace and establish worker data protections; it also would prohibit employers from using facial, gait, and emotion recognition technology and from using surveillance to obtain or infer personal information about workers.[173] AB 1331 would prohibit the use of surveillance tools to monitor private spaces such as a restroom, lactation space, or breakroom; and would prohibit off-duty surveillance and prevent employers from requiring workers to implant or embed tracking devices in their body.[174]

- **Surveillance Wage and Pricing Prohibition Bills.** Colorado, Illinois, and Georgia have proposed important new legislation that would prohibit businesses from engaging in "surveillance pricing"— essentially individualized, algorithmic worker pay-setting and consumer price-setting based on particular personal characteristics, behaviors, or biometrics.[175] These bills seek to put an end to tech-enabled first-degree wage and price discrimination. By prohibiting both, these bills also recognize that harms to consumers and workers are two sides of the same coin, because workers are consumers and vice versa.

- **Secure Jobs Act.** The New York City Secure Jobs Act—currently pending—would extend the important and successful protections against unfair discipline and discharge contained in the Fast Food Just Cause Law to all workers in the city.[176] This is a key reform for rebalancing power in the workplace and enabling workers to speak up about harmful job conditions fostered by bossware. In expanding the law, the NYC Secure Jobs Act would also directly regulate some harmful uses of bossware by prohibiting its use in the discipline and discharge process, requiring that such processes be based on actual human employer assessments and other similar tools, and establishing bright-line bans on the most harmful and invasive surveillance-enabled disciplinary practices, such as those involving biometrics, continuous incremental time-tracking, geo-fencing, or monitoring in a private home.

- **Driver Deactivation Legislation.** Like just-cause employment protections, app-based workers need protection against corporate use of bossware that causes abrupt and unfair terminations and lock-outs. Some cities have started to legislate minimum standards for deactivation, with the strongest placing limits on the basis for deactivations; requiring deactivation policies to be related to safe and efficient operations and to be consistently applied; and requiring notice, evidence, and an opportunity for a worker to contest a proposed deactivation *before* it occurs, as well as a process to appeal an actual deactivation.[177] The biggest weakness of these laws is that they only require the corporation to establish an *internal* deactivation review process, so a worker's challenge is largely determined through a company-established system. Legislation pending in New York City would extend the stronger protections of the city's Fast Food Just Cause Law to ridehail driver deactivations[178]—a potentially stronger model for this sector.

- **Workplace Technology Accountability Act**. This groundbreaking 2021 bill in California laid out a blueprint for regulating employers' use of electronic monitoring and automated decision systems and also required employers to conduct impact assessments.[179] Subsequent bills have relied heavily on the baseline policy framework from this model.

Endnotes

[1] Note we refer to "businesses and employers" here to be inclusive of public and private sector entities that employ workers, including those engaged in non-standard employment relationships resulting from work fissuring. For brevity throughout the text, we may shorten this phrase to the term "employer," but we intend for the term to be inclusive of all these entities.

[2] Coworker.org. *Bossware and Employment Tech Database*. Coworker.org, 2021, https://home.coworker.org/worktech/. Accessed 7 May 2025/; Negrón, Wilneida. *Little Tech Is Coming for Workers: A Framework for Reclaiming and Building Worker Power*. Coworker.org, 2021, https://home.coworker.org/wp-content/uploads/2021/11/Little-Tech-Is-Coming-for-Workers.pdf

[3] Coworker.org. *Bossware and Employment Tech Database*. Coworker.org, 2021, https://home.coworker.org/worktech/. Accessed 7 May 2025; Abril, Danielle. "Your Employer Might Be Spying on You. Here's How Workers Can Check." *The Washington Post*, 10 Feb. 2025, www.washingtonpost.com/technology/2025/02/10/work-surveillance-employee-monitoring-bossware/; Corbyn, Zoë. "'Bossware Is Coming for Almost Every Worker': The Software You Might Not Realize Is Watching You." *The Guardian*, 27 Apr. 2022, www.theguardian.com/technology/2022/apr/27/remote-work-software-home-surveillance-computer-monitoring-pandemic; Scherer, Matt, and Lydia X. Z. Brown. *Warning: Bossware May Be Hazardous to Your Health*. Center for Democracy & Technology, 24 July 2021, https://cdt.org/insights/report-warning-bossware-may-be-hazardous-to-your-health/.

[4] For a discussion of automated decision systems used to assist businesses in making hiring decisions, see https://www.upturn.org/work/help-wanted/ and https://www.upturn.org/work/essential-work/ Claypool, Henry, and Wilneida Negrón. *Screened Out: The Impact of Digitized Hiring Assessments on Disabled Workers*. Center for Democracy & Technology, 2021, https://cdt.org/insights/screened-out-the-impact-of-digitized-hiring-assessments-on-disabled-workers/;, Swift, Jayne. "Algorithmic Bias in Job Hiring." *Gender Policy Report*, University of Minnesota, 22 July 2022, https://genderpolicyreport.umn.edu/algorithmic-bias-in-job-hiring/. Accessed 7 May 2025. Wright, Lucas, et al. "Studying How Employers Comply with NYC's New Hiring Algorithm Transparency Law." *Citizens and Technology Lab*, 2024, https://citizensandtech.org/research/2024-algorithm-transparency-law/;

[5] "Biometrics" is defined as "data that is based on the unique physical or behavioral characteristics of an individual, such as fingerprints, facial features, or voice patterns." See "Building Worker Power in the Digital Age: Popular Education Tools for Organizers," PowerSwitch Action, Gig Workers Rising, and National Network for Immigrant and Refugee Rights, 2024, available at https://www.powerswitchaction.org/resources/building-worker-power-in-the-digital-age

[6] Massachusetts State Legislature, SD 838 (2025-2026), https://malegislature.gov/Bills/194/SD838; NY City Council, Int. 0909-2024, https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=6702337&GUID=A3AAF187-7341-4ADF-B05B-CDDD1FFE2000&Options=&Search=

[7] National Conference of State Legislatures. "State Artificial Intelligence (AI) and Related Terms: Definition Examples." *NCSL*, 1 Aug. 2024, www.ncsl.org/technology-and-communication/state-artificial-intelligence-ai-and-related-terms-definition-examples. Accessed 7 May 2025.; https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB1651

[8] Coworker.org. *Bossware and Employment Tech Database*. Coworker.org, 2021, https://home.coworker.org/worktech/. Accessed 7 May 2025/; Negrón, Wilneida. *Little Tech Is Coming for Workers: A Framework for Reclaiming and Building Worker Power*. Coworker.org, 2021, https://home.coworker.org/wp-content/uploads/2021/11/Little-Tech-Is-Coming-for-Workers.pdf; UC Berkeley Labor Center. *Electronic Monitoring and Automated Decision Systems FAQ*. May 2025, https://www.laborcenter.berkeley.edu/wp-content/uploads/2025/05/Electronic-Monitoring-and-Automated-Decision-Systems-FAQ.pdf; Christl, Wolfie. *Tracking Indoor Location, Movement and Desk Occupancy in the Workplace: A Case Study on Technologies for Behavioral Monitoring and Profiling Using Motion Sensors and Wireless Networking Infrastructure Inside Offices and Other Facilities*. Cracked Labs, Nov. 2024, https://crackedlabs.org/dl/CrackedLabs_Christl_IndoorTracking.pdf

[9] U.S. Government Accountability Office. Digital Surveillance of Workers: Tools, Uses, and Stakeholder Perspectives (2024), https://www.gao.gov/products/gao-24-107639

[10] Feintzeig, Rachel. "Employees Say Time-Tracking Systems Chip Away at Their Paychecks." *The Wall Street Journal*, 20 May 2018, www.wsj.com/articles/employees-say-time-tracking-systems-chip-away-at-their-paychecks-1526821201; Alexander Hertel-Fernandez, *Estimating the prevalence of automated management and surveillance technologies at work and their impact on workers' well-being*, Wash. Ctr. for Equitable Growth, (Oct. 1, 2024), https://equitablegrowth.org/research-paper/estimating-the-prevalence-of-automated-management-and-surveillance-technologies-at-work-and-their-impact-on-workers-well-being/.

[11] Negrón, Wilneida. *Little Tech Is Coming for Workers: A Framework for Reclaiming and Building Worker Power*. Coworker.org, 2021, https://home.coworker.org/wp-content/uploads/2021/11/Little-Tech-Is-Coming-for-Workers.pdf

[12] Hertel-Fernandez, Alexander. *Estimating the prevalence of automated management and surveillance technologies at work and their impact on workers' well-being*, Wash. Ctr. for Equitable Growth, (Oct. 1, 2024), https://equitablegrowth.org/research-paper/estimating-the-prevalence-of-automated-management-and-surveillance-technologies-at-work-and-their-impact-on-workers-well-being/.; Organisation for Economic Co-operation and Development (OECD). *Algorithmic Management in the Workplace*. OECD Publishing, 2024, https://www.oecd.org/en/publications/algorithmic-management-in-the-workplace_287c13c4-en.html. Accessed 7 May 2025.

[13] Ajunwa, Ifeoma. The Quantified Worker: Law and Technology in the Modern Workplace. Cambridge University Press, 2023.

[14] Basak, Sonali. "Venture Capital Kills 'More Value Than It Creates,' Author Says." *Bloomberg Markets*, 18 Feb. 2025, www.bloomberg.com/news/articles/2025-02-18/world-eaters-how-venture-capital-is-cannibalizing-the-economy-catherine-bracy

[15] Kresge, Lisa. "Negotiating Workers' Rights at the Frontier of Digital Workplace Technologies in 2023." *UC Berkeley Labor Center*, 18 Dec. 2023, https://laborcenter.berkeley.edu/negotiating-workers-rights-at-the-frontier-of-digital-workplace-technologies-in-2023/

[16] Bernhardt, Annette. *Expanding the Goal of Innovation,* Boston Review, (May 3, 2017) https://www.bostonreview.net/forum_response/annette-bernhardt-expanding-goal-innovation/.

[17] "Written Statement of Janet Haven, Executive Director, Data & Society", US Senate AI Insight Forum: Risk, Alignment, and Guarding Against Doomsday Scenarios, December 6, 2023, https://www.schumer.senate.gov/imo/media/doc/Janet%20Haven%20-%20Statement.pdf

[18] See "Building Worker Power in the Digital Age: Popular Education Tools for Organizers," PowerSwitch Action, Gig Workers Rising, and National Network for Immigrant and Refugee Rights, 2024, available at https://www.powerswitchaction.org/resources/building-worker-power-in-the-digital-age

[19] Grobelnik, Marko, Karine Perset, and Stuart Russell. "What Is AI? Can You Make a Clear Distinction between AI and Non-AI Systems?" *OECD AI: The AI Wonk*, 6 Mar. 2024, https://oecd.ai/en/wonk/definition; OECD. *Explanatory Memorandum on the Updated OECD Definition of an AI System*. OECD Artificial Intelligence Papers, no. 8, OECD Publishing, 5 Mar. 2024, https://www.oecd.org/en/publications/explanatory-memorandum-on-the-updated-oecd-definition-of-an-ai-system_623da898-en.html; See also 15 U.S.C. 9401(3): https://www.law.cornell.edu/uscode/text/15/9401#3.

[20] OECD. *Explanatory Memorandum on the Updated OECD Definition of an AI System*. OECD Artificial Intelligence Papers, no. 8, OECD Publishing, 5 Mar. 2024, https://www.oecd.org/en/publications/explanatory-memorandum-on-the-updated-oecd-definition-of-an-ai-system_623da898-en.html

[21] Lutkevich, Ben. "AI Washing Explained: Everything You Need to Know." *TechTarget WhatIs*, 29 Feb. 2024, techtarget.com/whatis/feature/AI-washing-explained-Everything-you-need-to-know, https://www.techtarget.com/whatis/feature/AI-washing-explained-Everything-you-need-to-know

[22] Woollacott, Emma. "What Is 'AI Washing' and Why Is It a Problem?" *BBC News*, 27 June 2024, www.bbc.com/news/articles/c9xx8122893o.

[23] "Investors Are Pressuring Companies to Get Serious about AI." *Business Insider*, 1 May 2025, www.businessinsider.com/investors-pressuring-companies-to-get-serious-about-ai-2025-4

[24] Al Haddi, Hanan. "AI Washing: The Cultural Traps That Lead to Exaggeration and How CEOs Can Stop Them." *California Management Review*, 3 Dec. 2024, cmr.berkeley.edu/2024/12/ai-washing-the-cultural-traps-that-lead-to-exaggeration-and-how-ceos-can-stop-them, https://cmr.berkeley.edu/2024/12/ai-washing-the-cultural-traps-that-lead-to-exaggeration-and-how-ceos-can-stop-them/

[25] DeNittis, Nicholas. "Artificial Intelligence at FedEx – Two Current Use Cases." *Emerj Artificial Intelligence Research*, 19 Sept. 2022, https://emerj.com/artificial-intelligence-at-fedex/. Economic Policy Institute. "A Worker-Centered Approach to Policy in the Era of AI." *Economic Policy Institute*, 3 Oct. 2024, https://www.epi.org/publication/a-worker-centered-approach-to-policy-in-the-era-of-ai/

[26] UC Berkeley Labor Center. *Electronic Monitoring and Automated Decision Systems: Frequently Asked Questions*. May 2025, laborcenter.berkeley.edu/wp-content/uploads/2025/05/Electronic-Monitoring-and-Automated-Decision-Systems-FAQ.pdf;
Scherer, Matt, and Lydia X. Z. Brown. *Warning: Bossware May Be Hazardous to Your Health*. Center for Democracy & Technology, 24 July 2021, https://cdt.org/insights/report-warning-bossware-may-be-hazardous-to-your-health/;
Suleiman, Reem, et al. *Data and Algorithms at Work: The Case for Worker Technology Rights*. UC Berkeley Labor Center, 18 Nov. 2021, https://laborcenter.berkeley.edu/data-algorithms-at-work/; Nguyen, Aiha. *The Constant Boss: Work Under Digital Surveillance*. Data & Society Research Institute, May 2021, https://datasociety.net/wp-content/uploads/2021/05/The_Constant_Boss.pdf; Mateescu, Alexandra**.** "Challenging Worker Datafication." *Data & Society*, Nov. 2023, https://datasociety.net/library/challenging-worker-datafication/; Strategic Organizing Center. *The Injury Machine: How Amazon's Production System Hurts Workers*. April 2022, https://thesoc.org/wp-content/uploads/sites/342/The-Injury-Machine_How-Amazons-Production-System-Hurts-Workers-1.pdf; Zickuhr, Kathryn. *Workplace Surveillance Is Becoming the New Normal for U.S. Workers*. Washington Center for Equitable Growth, 18 Aug. 2021, https://equitablegrowth.org/research-paper/workplace-surveillance-is-becoming-the-new-normal-for-u-s-workers/

[27] For a more extensive account of these harms and hazards, please see our comment to the White House Office of Science and Technology Policy on Automated Worker Surveillance and Management, available at https://www.nelp.org/insights-research/comments-in-response-to-office-of-science-and-technology-policy-ostp/.

[28] Tung, Irene et al., "Just Cause Job Protections: Building Racial Equity and Shifting the Power Balance Between Workers and Employers." *National Employment Law Project*, 2021, www.nelp.org/insights-research/just-cause-job-protections-building-racial-equity-and-shifting-the-power-balance-between-workers-and-employers/

[29] Mateescu, Alexandra. *Electronic Visit Verification: The Weight of Surveillance and the Fracturing of Care*. Data & Society, 16 Nov. 2021, www.datasociety.net/wp-content/uploads/2021/11/EVV_PolicyBrief_11162021.pdf

[30] Tung, Irene, et al. "Amazon's Outsized Role: The Injury Crisis in U.S. Warehouses and a Policy Roadmap to Protect Workers." *National Employment Law Project*, 2 May 2024, https://www.nelp.org/insights-research/amazons-outsized-role-the-injury-crisis-in-u-s-warehouses-and-a-policy-roadmap-to-protect-workers/

[31] Andalibi, Nazanin. "Emotion-Tracking AI on the Job: Workers Fear Being Watched—and Misunderstood." *The Conversation*, 6 Mar. 2024, https://theconversation.com/emotion-tracking-ai-on-the-job-workers-fear-being-watched-and-misunderstood-222592

[32] U.S. Senate Committee on Health, Education, Labor, and Pensions. *Amazon Investigation: Interim Report—The Injury-Productivity Trade-off*. June 20 2023, www.help.senate.gov/imo/media/doc/amazon_investigation.pdf.

[33] Hertel-Fernandez, Alexander. *Estimating the Prevalence of Automated Management and Surveillance Technologies at Work and Their Impact on Workers' Well-Being*. Washington Center for Equitable Growth, Oct. 2024, https://equitablegrowth.org/research-paper/estimating-the-prevalence-of-automated-management-and-surveillance-technologies-at-work-and-their-impact-on-workers-well-being/; Milanez, André, et al. *Algorithmic Management in the Workplace: New Evidence from an OECD Employer Survey*. OECD Artificial Intelligence Papers, no. 31, OECD Publishing, 2025, https://doi.org/10.1787/287c13c4-en

[34] "Advancing Artificial Intelligence Education for American Youth." *The White House*, 23 Apr. 2025, www.whitehouse.gov/presidential-actions/2025/04/advancing-artificial-intelligence-education-for-american-youth/

[35] Kelly, Makena. "DOGE Used a Meta AI Model to Review Emails from Federal Workers." *WIRED*, 22 May 2025, www.wired.com/story/doge-used-meta-ai-model-review-fork-emails-from-federal-workers/

[36] "Nemesysco Reports Increased Interest for Its Voice Analytics Technology for Remote Employee Wellness Monitoring." *PR Newswire*, 7 Apr. 2020, https://www.prnewswire.com/news-releases/nemesysco-reports-increased-interest-for-its-voice-analytics-technology-for-remote-employee-wellness-monitoring-301036444.html.
Andalibi, Nazanin. "Emotion-Tracking AI on the Job: Workers Fear Being Watched—and Misunderstood." *The Conversation*, 6 Mar. 2024, https://theconversation.com/emotion-tracking-ai-on-the-job-workers-fear-being-watched-and-misunderstood-222592; Christl, Wolfie. *Surveillance and Algorithmic Control in the Call Center: A Case Study on*

Contact and Service Center Software, Automated Management and Outsourced Work. Cracked Labs, May 2023, https://crackedlabs.org/en/data-work/publications/callcenter/

[37] Kang, Edward B. "On the Praxes and Politics of AI Speech Emotion Recognition." *Proceedings of the 2023 ACM Conference on Fairness, Accountability, and Transparency (FAccT '23)*, June 2023, pp. 455–466. *ACM*, doi:10.1145/3593013.3594011

[38] Kantor, Jodi and Arya Sundaram, "Bosses Who Track Every Click—And What It Means for Workers." *The New York Times*, 14 Aug. 2022, https://www.nytimes.com/interactive/2022/08/14/business/worker-productivity-tracking.html.

[39] "Ted Parks, Uber Driver." *National Employment Law Project*, 16 Apr. 2024, https://www.nelp.org/story/ted-parks-uber-driver/. Accessed 7 May 2025.

[40] Rosenblat, Alex, Karen E. C. Levy, Solon Baroncas, and Tim Hwang. "Discriminating Tastes: Uber's Customer Ratings as Vehicles for Workplace Discrimination." *Policy & Internet*, vol. 9, no. 3, Sept. 2017, pp. 256–79, https://onlinelibrary.wiley.com/doi/abs/10.1002/poi3.153.

[41] Driven Out by AI: How Automated Management & Algorithmic Discrimination Are Reshaping Work in the U.S. ACRE Campaigns, Feb. 2025, https://acrecampaigns.org/wp-content/uploads/2025/02/Driven-Out-by-AI.pdf.

[42] New York Taxi Workers Alliance, "Job Security for App Drivers: Stop Deactivations without Cause, Notice, or Appeal," https://www.nytwa.org/deactivation

[43] Schwalb, Paul. "Written Statement of UNITE HERE Prepared for U.S. Senate AI Insight Forum: Workforce." *U.S. Senate*, 1 Nov. 2023, https://www.schumer.senate.gov/imo/media/doc/Paul%20Schwalb%20-%20Statement.pdf.

[44] Doellgast, Virginia, et al. AI in contact centers, *Cornell ILR School*, 2023, https://ecommons.cornell.edu/server/api/core/bitstreams/a0ac9f50-5a22-4b3d-a9d9-2cc06824e31d/content; Communications Workers of America. *Call Centers and New Technology: Fact Sheet.* Nov. 2023, https://cwa-union.org/sites/default/files/2023-11/call_centers_and_new_technology_fact_sheet.pdf.; Bannon, Lisa. "AI in the Workplace Is Already Here. The First Battleground? Call Centers." *The Wall Street Journal*, 14 Aug. 2022, https://www.wsj.com/lifestyle/workplace/ai-chatgpt-chatbot-workplace-call-centers-5cd2142a.

[45] Scherer, Matt, and Lydia X. Z. Brown. *Warning: Bossware May Be Hazardous to Your Health*. Center for Democracy & Technology, 24 July 2021, https://cdt.org/insights/report-warning-bossware-may-be-hazardous-to-your-health/; Suleiman, Reem, et al. *Data and Algorithms at Work: The Case for Worker Technology Rights*. UC Berkeley Labor Center, 18 Nov. 2021, https://laborcenter.berkeley.edu/data-algorithms-at-work/; Nguyen, Aiha. *The Constant Boss: Work Under Digital Surveillance*. Data & Society Research Institute, May 2021, https://datasociety.net/wp-content/uploads/2021/05/The_Constant_Boss.pdf; https://datasociety.net/library/challenging-worker-datafication/; Strategic Organizing Center. *The Injury Machine: How Amazon's Production System Hurts Workers*. April 2022, https://thesoc.org/wp-content/uploads/sites/342/The-Injury-Machine_How-Amazons-Production-System-Hurts-Workers-1.pdf; Zickuhr, Kathryn. *Workplace Surveillance Is Becoming the New Normal for U.S. Workers*. Washington Center for Equitable Growth, 18 Aug. 2021, https://equitablegrowth.org/research-paper/workplace-surveillance-is-becoming-the-new-normal-for-u-s-workers/; Nguyen, Aiha. *The Constant Boss: Work Under Digital Surveillance*. Data & Society Research Institute, May 2021, https://datasociety.net/wp-content/uploads/2021/05/The_Constant_Boss.pdf

[46] Kellner, Andreas, and Julian Decius. "Algorithmic Management and Human-Centered Task Design." *Frontiers in Psychology*, vol. 14, 2023, Article 11461486, https://pmc.ncbi.nlm.nih.gov/articles/PMC11461486/; Hertel-Fernandez, Alexander. *Estimating the Prevalence of Automated Management and Surveillance Technologies at Work and Their Impact on Workers' Well-Being*. Washington Center for Equitable Growth, 1 Oct. 2024, https://equitablegrowth.org/research-paper/estimating-the-prevalence-of-automated-management-and-surveillance-technologies-at-work-and-their-impact-on-workers-well-being/

[47] Strategic Organizing Center. *The Worst Mile: Production Pressure and the Injury Crisis in Amazon's Delivery System.* May 2022, https://thesoc.org/wp-content/uploads/sites/342/The-Worst-Mile-1.pdf.

[48] Gutelius, Beth, and Sanjay Pinto. "Pain Points: Data on Work Intensity, Monitoring, and Health at Amazon Warehouses." *Center for Urban Economic Development*, University of Illinois Chicago, 25 Oct. 2023, https://doi.org/10.25417/uic.24435124; Will Evans, *Amazon's warehouse quotas have been injuring workers for years. Now, officials are taking action*, REVEAL NEWS, May 16, 2022, https://revealnews.org/article/amazons-warehouse-quotas-have-been-injuring-workers-for-years-now-officials-are-taking-action/.; *Amazon has resumed policies that penalize workers for taking too many breaks, just in time for Prime Day*, CNBC, October 14, 2020, https://www.cnbc.com/2020/10/14/amazon-resumes-policy-that-dings-workers-for-taking-too-many-breaks.html. *See also The Injury Machine: How Amazon's Production System Hurts Workers*, THE STRATEGIC ORGANIZING CENTER (April

2022), https://thesoc.org/wp-content/uploads/2022/04/The-Injury-Machine_How-Amazons-Production-System-Hurts-Workers.pdf.; While there are no federal health and safety protections that explicitly govern bossware, federal OSHA has pursued enforcement at Amazon using its authority to cite employers under the general duty clause. Such enforcement is groundbreaking and necessary but has revealed the limits of current law to address these urgent problems and the necessity for new policymaking in this area to create a bright line standards. See NELP's discussion of the limits of current law in *Amazon's Outsized Role: Warehouse Worker Injury Crisis and A Policy Roadmap.*

[49] *The Injury-Productivity Trade-off: How Amazon's Obsession with Speed Creates Uniquely Dangerous Warehouses*. United States Senate Committee on Health, Education, Labor, and Pensions, Dec. 2024, https://www.help.senate.gov/imo/media/doc/amazon_investigation.pdf

[50] Hertel-Fernandez, Alexander. "Estimating the Prevalence of Automated Management and Surveillance Technologies at Work and Their Impact on Workers' Well-Being." *Washington Center for Equitable Growth*, 1 Oct. 2024, https://equitablegrowth.org/research-paper/estimating-the-prevalence-of-automated-management-and-surveillance-technologies-at-work-and-their-impact-on-workers-well-being/

[51] Hertel-Fernandez, Alexander. "Estimating the Prevalence of Automated Management and Surveillance Technologies at Work and Their Impact on Workers' Well-Being." *Washington Center for Equitable Growth*, 1 Oct. 2024,

[52] Scheiber, Noam, and Ella Koeze. "The Rise of the Worker Productivity Score." *The New York Times*, 14 Aug. 2022, https://www.nytimes.com/interactive/2022/08/14/business/worker-productivity-tracking.html.; Communications Workers of America. *Call Centers and New Technology Fact Sheet.* November 2023, Communications Workers of America, https://cwa-union.org/sites/default/files/2023-11/call_centers_and_new_technology_fact_sheet.pdf; Spektor, Franchesca. "Designing for Well-being: Worker-Generated Ideas on Adapting Algorithmic Management in the Hospitality Industry." *Proceedings of the 2023 ACM Designing Interactive Systems Conference*, ACM, 2023, pp. 623–637. *ACM Digital Library*, https://dl.acm.org/doi/pdf/10.1145/3563657.3596018.

[53] U.S. Government Accountability Office. *Digital Surveillance of Workers: Tools, Uses, and Stakeholder Perspectives.* GAO-24-107639, Report to Congressional Requesters, 28 Aug. 2024, U.S. Government Accountability Office, www.gao.gov/assets/gao-24-107639.pdf.

[54] Levy, Karen. *Data Driven: Truckers, Technology, and the New Workplace Surveillance* (Princeton, NJ: Princeton University Press, 2023).

[55] Governing for Impact. *Electronic Surveillance and Algorithmic Management: Surveillance Package.* Governing for Impact (in collaboration with Jobs With Justice and others), Apr. 2023, https://governingforimpact.org/wp-content/uploads/2023/04/Surveillance_Package.pdf

[56] End Independent Contractor Misclassification, National Employment Law Project, https://www.nelp.org/explore-the-issues/contracted-workers/misclassified-workers/. See also, Pinto, Maya et al., Rights at Risk: Gig Companies' Campaign to Upend Employment as We Know It, https://www.nelp.org/app/uploads/2022/03/Rights-at-Risk-4-2019.pdf; Pinto, Maya. Delivering Precarity: How Amazon Flex's Labor Model Harms Workers and What to Do About It. National Employment Law Project, 9 July 2025, www.nelp.org/app/uploads/2025/07/Delivering-Precarity-How-Amazon-Flex-Harms-Workers-and-What-to-Do-About-It.pdf.

[57] National Employment Law Project. Independent Contractor Misclassification Imposes Huge Costs on Workers and Federal and State Treasuries: Update October 2020. National Employment Law Project, Oct. 2020, www.nelp.org/insights-research/independent-contractor-misclassification-imposes-huge-costs-workers-federal-state-treasuries-update-october-2020/.

[58] See Uber Driver Sign Up, Join.Uber-Drivers.com ("Be Your Own Boss. Drive When You Want"), accessed on Feb. 3, 2025;

[59] Sherman, Len. Uber's CEO Hides Driver Pay Cuts to Boost Profits, Forbes (Dec. 13, 2024), https://join.uber-drivers.com/driverjobs?campaignid=22015620606&adgroupid=172623905752&adid=725259970459&gad_source=1&gclid=CjwKCAiA74G9BhAEEiwA8kNfpd6S6EfOZxZ6RLSZ7ivwbiYM7DZhrka9Q6TQ0BKEsxrLGP8Lrvc8TxoCbE4QAvD_BwE.

[60] Vanacore, Jacqueline. "Silencing Gig Workers: Arbitration and Misclassification in the Gig Economy." *The Arbitration Brief*, 22 June 2024, https://thearbitrationbrief.com/2024/06/22/silencing-gig-workers-arbitration-and-misclassification-in-the-gig-economy/.

[61] Digital labor platforms are software applications (or "apps") that allocate and manage work that may be performed online or in person. Digital labor platforms incorporate digital surveillance and algorithmic management tools. As Dubal

et al. point out in "Digital Labor Platforms as machines of Production," Yale Journal of Law & Technology, Volume 26, Issue 3, 2024, at https://yjolt.org/sites/default/files/dubal_filgueiras_26yalejltech560.pdf

[62] Claburn, Thomas. Algorithmic Wage Discrimination, Not Just for Gig Workers, The Register (Jul. 6, 2024), https://www.theregister.com/2024/07/06/algorithmic_wage_discrimination/; Christopher Rowland & Douglas MacMillan, Assisted Living Managers Say an Algorithm Prevented Hiring Enough Staff, The Washington Post (Apr. 1, 2024), https://www.washingtonpost.com/business/2024/04/01/assisted-living-algorithm-staffing-lawsuits-brookdale/

[63] Wells, Katie & Funda Ustek Spilda, Uber for Nursing, Roosevelt Institute (Dec. 17, 2024), https://rooseveltinstitute.org/publications/uber-for-nursing/

[64] TechEquity Collaborative. *Contract Worker Disparity Project: Shining a Light on Tech's Shadow Workforce*. Jan. 2022, https://techequity.us/wp-content/uploads/2022/01/Summary-Report-Contract-Worker-Disparity-Project.pdf.TechEquity Collaborative+4; TechEquity Collaborative. *Inside Tech's Shadow Workforce – Research Update 2024*. 6 Feb. 2024, https://techequity.us/2024/02/06/inside-techs-shadow-workforce-research-update-2024/.

[65] Jobs With Justice and Governing for Impact. *Comments Regarding NLRB's Notice of Proposed Rulemaking on the Standard for Determining Joint-Employer Status, RIN 3142-AA21*. 5 Dec. 2022, https://governingforimpact.org/wp-content/uploads/2022/12/Jobs-With-Justice-Governing-for-Impact-NLRB-Joint-Employment-Comment.pdf.

[66] Purifoy, Parker. *Amazon Served with First-Ever Joint Employment Complaint*, Bloomberg News (Oct. 22, 2024), available at https://news.bloomberglaw.com/daily-labor-report/amazon-served-with-labor-boards-first-joint-employer-complaint. Ruckelshaus, Catherine et. al, *Who's the Boss?*, National Employment Law Project (May 2014), https://www.nelp.org/app/uploads/2015/02/Whos-the-Boss-Restoring-Accountability-Labor-Standards-Outsourced-Work-Report.pdf; Governing for Impact & Jobs With Justice. Comments to the National Labor Relations Board on Joint Employment. Dec. 2022, , www. governingforimpact.org/wp-content/uploads/2022/12/Jobs-With-Justice-Governing-for-Impact-NLRB-Joint-Employment-Comment

[67] Negrón, Wilneida. *Little Tech Is Coming for Workers: A Framework for Reclaiming and Building Worker Power*. Coworker.org, 2021, https://home.coworker.org/wp-content/uploads/2021/11/Little-Tech-Is-Coming-for-Workers.pdf

[68] NELP analysis of March 2024 Current Population Survey Annual Social and Economic Supplement microdata. For underlying data, *see CPS Annual Social and Economic Supplement*, U.S. Census Bureau, https://data.census.gov/app/mdat/CPSASEC2024/vars; Center for American Progress, "Occupational Segregation in America." *Center for American Progress*, 2022, www.americanprogress.org/article/occupational-segregation-in-america/.

[69] U.S. Bureau of Lab. Statistics, *Electronically Mediated Employment*, https://www.bls.gov/cps/electronically-mediated-employment.htm#data

[70] Dubal, Veena. *The New Racial Wage Code*, 15 Harv. L. & Pol. Rev. 511 (2022)

[71] Wells, Katie, et al. *Uber for Nursing: How an AI-Powered Gig Model Is Threatening Nurses, Patients, and Care Work*. Roosevelt Institute, Dec. 2024, https://rooseveltinstitute.org/publications/uber-for-nursing/

[72] Scheiber, Noam, and Ella Koeze. "40 Minutes for Starbucks Coffee? Customers and Workers Fume Over Long Waits." *Bloomberg*, 29 May 2024, https://www.bloomberg.com/news/features/2024-05-29/starbucks-wait-times-jump-after-changing-work-algorithm-staffers-say

[73] Center for Popular Democracy and State Innovation Exchange. *Restoring a Fair Workweek: State Policies to Combat Abusive Scheduling Practices*. Jan. 2020, https://populardemocracy.org/wp-content/uploads/2025/01/Fair_Workweek_Policy_Brief_2020.pdf; Zickuhr, Kathryn. "Automated and Algorithmic Management Is Already Here, Invisibly Shaping Job Quality for U.S. Workers." *Washington Center for Equitable Growth*, 24 Jan. 2023, https://equitablegrowth.org/automated-and-algorithmic-management-is-already-here-invisibly-shaping-job-quality-for-u-s-workers/; Yu, Qiuping. "How to Design Predictable Scheduling Laws That Not Only Benefit Workers but Also Firms' Bottom Line?" *Brookings*, 10 Aug. 2023, https://www.brookings.edu/articles/how-to-design-predictable-scheduling-laws-that-not-only-benefit-workers-but-also-firms-bottom-line/; "Your Roadmap to Automated Employee Scheduling for Shift-Based Workforce Operations." *Shiftboard*, https://www.shiftboard.com/automated-employee-scheduling-roadmap-shift-based-workforce/. Accessed 7 May 2025.

[74] Dubal, Veena. "On Algorithmic Wage Discrimination." *Columbia Law Review*, vol. 123, no. 7, 2023, https://columbialawreview.org/content/on-algorithmic-wage-discrimination/. Accessed 7 May 2025; Teachout, Zephyr. "Algorithmic Personalized Wages." *Politics & Society*, vol. 51, no. 3, 2023, pp. 436–58., https://ir.lawnet.fordham.edu/cgi/viewcontent.cgi?article=2274&context=faculty_scholarship; *Prohibiting Surveillance Prices and Wages*. AI Now Institute, American Economic Liberties Project, Commonwealth, Coworker, EPIC -

Electronic Privacy Information Center, Future of Workers Initiative, Groundwork Collaborative, National Employment Law Project, Open Markets Institute, S.T.O.P. - Surveillance Technology Oversight Project, State Innovation Exchange, TechEquity, Towards Justice, Feb. 2025, https://towardsjustice.org/wp-content/uploads/2025/02/Real-Surveillance-Prices-and-Wages-Report.pdf; Third-party data brokers may also provide personal worker data to businesses to enhance their bossware.; Calacci, Dan, and Jake Stein. *Workers' Collective Data Access Rights: Adding Context to Worker Data Protection*. 2022, https://scholarworks.umass.edu/server/api/core/bitstreams/a8e1f2d7-0c8a-4c90-bb47-ae3d8e468b4f/content; Steinbaum, Marshall, Antitrust, the Gig Economy and Labor Market Power, *Law and Contemporary Problems*, vol. 82, no. 2, 2019, Duke University School of Law, https://scholarship.law.duke.edu/cgi/viewcontent.cgi?article=4918&context=lcp;

[75] Ocampo, Dan. "Uber's Price-Gouging and What We Can Do About It." National Employment Law Project, 14 Nov. 2024, https://www.nelp.org/ubers-price-gouging-and-what-we-can-do-about-it/

[76] Binns, Reuben, et al. "Not Even Nice Work If You Can Get It; A Longitudinal Study of Uber's Algorithmic Pay and Pricing." *Proceedings of the 2025 ACM Conference on Fairness, Accountability, and Transparency (FAccT '25)*, 23–26 June 2025, Athens, Greece, https://arxiv.org/pdf/2506.15278; Goodley, Simon. "Second Study Finds Uber Used Opaque Algorithm to Dramatically Boost Profits." *The Guardian*, 25 June 2025, www.theguardian.com/technology/2025/jun/25/second-study-finds-uber-used-opaque-algorithm-to-dramatically-boost-profits; PowerSwitch Action. *Uber's Inequality Machine: Data on How AI-Driven Pay Is Harming Workers and What We Can Do to Push Back*. June 2025, https://www.powerswitchaction.org/resources/ubers-inequality-machine/; Dubal, Veena. "On Algorithmic Wage Discrimination." *Columbia Law Review*, vol. 123, no. 7, 2023, https://columbialawreview.org/content/on-algorithmic-wage-discrimination/. Accessed 7 May 2025

[77] Feintzeig, Rachel. "Employees Say Time-Tracking Systems Chip Away at Their Paychecks." *The Wall Street Journal*, 20 May 2018, https://www.wsj.com/articles/employees-say-time-tracking-systems-chip-away-at-their-paychecks-1526821201.

[78] Tippett, Elizabeth Chika. "How Employers Profit from Digital Wage Theft Under the FLSA." *American Business Law Journal*, vol. 55, no. 2, 2018, pp. 315–401. Wiley Online Library, https://doi.org/10.1111/ablj.12122.SSRN+3; "The Rise of the Worker Productivity Score." *The New York Times*, 14 Aug. 2022, https://www.nytimes.com/interactive/2022/08/14/business/worker-productivity-tracking.html

[79] U.S. Department of Labor. *Field Assistance Bulletin No. 2024-1: Artificial Intelligence and Automated Systems in the Workplace under the Fair Labor Standards Act and Other Federal Labor Standards*. Wage and Hour Division, 29 Apr. 2024, https://data.aclum.org/wp-content/uploads/2025/01/DOL_www_dol_gov_sites_dolgov_files_WHD_fab_fab2024_1.pdf.

[80] The Fair Labor Standards Act permits employer rounding of worktime to the nearest quarter hour, but the agency that enforces that law, the Department of Labor, states that "an employer may violate the FLSA minimum wage and overtime pay requirements if the employer always rounds down." https://www.dol.gov/whd/regs/compliance/whdfs53.htm

[81] Communications Workers of America, Comments in response to the White House Office of Science and Technology Policy (OSTP) Request for Information on Automated Worker Surveillance and Management, May 2, 2023. https://drive.google.com/file/d/10n2f2_uTZejBeyARmw4AUvB5g1rBUNmz/view

[82] Jacobs, Ken, et al. *Gig Passenger and Delivery Driver Pay in Five Metro Areas*. UC Berkeley Labor Center, 20 May 2024, https://laborcenter.berkeley.edu/gig-passenger-and-delivery-driver-pay-in-five-metro-areas/; Zipperer, Ben, et al. *National Survey of Gig Workers Paints a Picture of Poor Working Conditions, Low Pay*. Economic Policy Institute, 1 June 2022, https://www.epi.org/publication/gig-worker-survey https://www.epi.org/publication/gig-worker-survey/

[83] Chen, Zhisheng. "Ethics and Discrimination in Artificial Intelligence-Enabled Recruitment Practices." *Humanities and Social Sciences Communications*, vol. 10, no. 1, 2023, Article 567. https://www.nature.com/articles/s41599-023-02079-x; O'Brien, Matt. "Check Your 'Bossware' Tools for Bias, U.S. Agency Head Warns Employers." *Los Angeles Times*, 21 May 2023, https://www.latimes.com/business/story/2023-05-21/check-your-bossware-tools-for-bias-u-s-agency-head-warns-employers.

[84] Fisk, Catherine L., and Michael M. Oswalt. *"Precarity and the Pandemic: A Law and Political Economy Perspective." North Carolina Law Review, vol. 99, no. 5, 2021, pp. 1235–1276.* https://scholarship.law.unc.edu/cgi/viewcontent.cgi?article=1490&context=faculty_publications.; Sandra G. Mayson, Bias In, Bias Out, 128 YALE L.J. 2218 (2019).

85 Communications Workers of America. Comments to White House Office of Science and Technology Policy, https://drive.google.com/file/d/10n2f2_uTZejBeyARmw4AUvB5g1rBUNmz/view; Kang, Edward B. "On the Praxes and Politics of AI Speech Emotion Recognition." *Proceedings of the 2023 ACM Conference on Fairness, Accountability, and Transparency*, June 2023, pp. 455–466. ACM, https://dl.acm.org/doi/10.1145/3593013.3594011; Maurer, Roy. "HireVue Discontinues Facial Analysis Screening." SHRM, 3 Feb. 2021, SHRM.org, reviewed and updated Feb. 3, 2021, https://www.shrm.org/topics-tools/news/talent-acquisition/hirevue-discontinues-facial-analysis-screening

86 Seb Murray, *Ratings Systems Amplify Racial Bias on Gig-Economy Platforms*, YALE SCHOOL OF MGMT. (Aug. 14, 2023), https://insights.som.yale.edu/insights/ratings-systems-amplify-racial-bias-on-gig-economy-platforms; O'Neill, Patrick. "UW Study Finds Racial Bias in Rideshare Driver Deactivations." *The Seattle Times*, 21 May 2023, https://www.seattletimes.com/seattle-news/uw-study-finds-racial-bias-in-rideshare-driver-deactivations/. Accessed 7 May 2025

87 Lee, Tamara L., et al. "The Militarization of Employment Relations: Racialized Surveillance and Worker Control in Amazon Fulfillment Centers." *Work and Occupations*, vol. 51, no. 1, 2024, pp. 3–38. SAGE Publications, doi:10.1177/07308884241292733, https://journals.sagepub.com/doi/10.1177/07308884241292733;

88 Tung, Irene and Yannet Lathrop. National Employment Law Project. *A Good Living: Amazon Can and Must Make a Middle-Income Livelihood Possible*. Sept. 2023, https://www.nelp.org/app/uploads/2023/09/A-Good-Living-MakeAmazonPay_2024.pdf; Strategic Organizing Center. *Same Day Injury: Amazon Fails to Deliver Safe Jobs*. 16 May 2024, https://thesoc.org/resources/same-day-injury-amazon-fails-to-deliver-safe-jobs; *The Injury-Productivity Trade-off: How Amazon's Obsession with Speed Creates Uniquely Dangerous Warehouses*. United States Senate Committee on Health, Education, Labor, and Pensions, Dec. 2024, https://www.help.senate.gov/imo/media/doc/amazon_investigation.pdf.

89 NELP analysis of March 2024 Current Population Survey Annual Social and Economic Supplement microdata. For underlying data, *see CPS Annual Social and Economic Supplement*, U.S. Census Bureau, https://data.census.gov/app/mdat/CPSASEC2024/vars.

90 Dixon, Rebecca, and Amy Traub. *Desegregating Opportunity: Why Uprooting Occupational Segregation is Critical to Building a Good-Jobs Economy*. National Employment Law Project, 13 May 2024, https://www.nelp.org/insights-research/desegregating-opportunity-why-uprooting-occupational-segregation-is-critical-to-building-a-good-jobs-economy/

91 U.S. National Labor Relations Board. "NLRB General Counsel Issues Memo on Unlawful Electronic Surveillance and Automated Management Practices." *National Labor Relations Board*, Office of Public Affairs, 31 Oct. 2022, www.nlrb.gov/news-outreach/news-story/nlrb-general-counsel-issues-memo-on-unlawful-electronic-surveillance-and-automated-management-practices/

92 Callaci, Brian. "Digital Scab, Digital Snitch." *Phenomenal World*, 28 May 2020, phenomenalworld.org/analysis/digital-scab-digital-snitch/; Callaci, Brian. "What Do Franchisees Do? Vertical Restraints as Workplace Fissuring and Labor Discipline Devices." *Journal of Law and Political Economy*, vol. 1, no. 3, 2021, pp. 1–49, https://static1.squarespace.com/static/5e449c8c3ef68d752f3e70dc/t/60d0b7505569fe46b0176d20/1624291152509/Callaci.pdf; Franceschi-Bicchierai, Lorenzo and Lauren Kaori Gurley, "McDonald's Secretive Intel Team Spies on 'Fight for $15' Workers, Internal Documents Show", Vice, https://www.vice.com/en/article/pkdkz9/mcdonalds-secretive-intel-team-spies-on-fight-for-15-workers; Franceschi-Bicchierai, Lorenzo. "Government Sues Former McDonald's Employees to Comply With Subpoenas About Surveilling Workers", Vice, https://www.vice.com/en/article/jgppn7/government-sues-former-mcdonalds-employees-to-comply-with-subpoenas-about-surveilling-workers; Gurley, Lauren Kaori "Secret Amazon Reports Expose the Company's Surveillance of Labor and Environmental Groups", Vice, https://www.vice.com/en/article/5dp3yn/amazon-leaked-reports-expose-spying-warehouse-workers-labor-union-environmental-groups-social-movements;

93 Statt, Nick. "Google Accused of Spying with New Tool That Flags Large Employee Meetings." *The Verge*, 23 Oct. 2019, https://www.theverge.com/2019/10/23/20929524/google-surveillance-tool-accused-employee-activism-protests-union-organizing; "'They Were Spying on Us': Amazon, Walmart Use Surveillance Technology to Bust Unions." *Newsweek*, 10 Apr. 2024, https://www.newsweek.com/they-were-spying-us-amazon-walmart-use-surveillance-technology-bust-unions-1658603

94 Sainato, Michael. "'You Feel Like You're in Prison': Workers Claim Amazon's Surveillance Violates Labor Law." *The Guardian*, 21 May 2024, www.theguardian.com/us-news/article/2024/may/21/amazon-surveillance-lawsuit-union.; See also, https://journals.sagepub.com/doi/10.1177/23780231251318389

95 Sainato, Michael. "'You Feel Like You're in Prison': Workers Claim Amazon's Surveillance Violates Labor Law." *The Guardian*, 21 May 2024, www.theguardian.com/us-news/article/2024/may/21/amazon-surveillance-lawsuit-union

96 Feiner, Lauren. "AI Might Be Reading Your Slack, Teams Messages Using Tech from Aware." *CNBC*, 9 Feb. 2024, www.cnbc.com/2024/02/09/ai-might-be-reading-your-slack-teams-messages-using-tech-from-aware.html; AFL-CIO. "Letter on Delta Neutrality Agreement." *International Association of Machinists and Aerospace Workers*, 5 Feb. 2024, www.goiam.org/wp-content/uploads/2024/02/FINAL-CLC-Letter-on-Delta-Neutrality-Agreement.pdf

97 Feiner, Lauren. "AI Might Be Reading Your Slack, Teams Messages Using Tech from Aware." *CNBC*, 9 Feb. 2024, www.cnbc.com/2024/02/09/ai-might-be-reading-your-slack-teams-messages-using-tech-from-aware.html

98 Callaci, Brian. "Entrepreneurship, Amazon Style." *The American Prospect*, 27 Sept. 2021, www.prospect.org/power/entrepreneurship-amazon-style/

99 Gurley, Lauren Kaori. "Internal Documents Show Amazon's Dystopian System for Tracking Workers Every Minute of Their Shifts." *VICE*, 2 June 2022, www.vice.com/en/article/internal-documents-show-amazons-dystopian-system-for-tracking-workers-every-minute-of-their-shifts/; Alvarado, Jesús. "Algorithms May Start Deciding Who Gets Fired." *Marketplace Tech*, 9 Feb. 2024, www.marketplace.org/shows/marketplace-tech/algorithms-may-start-deciding-who-gets-fired/; "Amazon Staten Island Workers Got 13,000 Disciplinary Notices." *New York Post*, 12 July 2022, https://nypost.com/2022/07/12/amazon-staten-island-workers-got-13000-disciplinary-notices/

100 Glass, Aurelia. "Unions Give Workers a Voice Over How AI Affects Their Jobs." *Center for American Progress*, 16 May 2024, https://www.americanprogress.org/article/unions-give-workers-a-voice-over-how-ai-affects-their-jobs/.

101 Kresge, Lisa. *Union Collective Bargaining Agreement Strategies in Response to Technology*. UC Berkeley Labor Center, Dec. 2020, https://laborcenter.berkeley.edu/union-collective-bargaining-agreement-strategies-in-response-to-technology/

102 Shierholz, Heidi, et al. "Workers Want Unions, but the Latest Data Point to Obstacles in Their Path: Private-Sector Unionization Rose by More Than a Quarter Million in 2023, While Unionization in State and Local Governments Fell." *Economic Policy Institute*, 23 Jan. 2024, https://www.epi.org/publication/union-membership-data/.EPI+7

103 Khan, Mishal et al.,, The Current Landscape of Tech and Work Policy: A Guide to Key Concepts, Berkeley Labor Center, 12 Nov. 2024, https://laborcenter.berkeley.edu/tech-and-work-policy-guide/;
S.2419 - No Robot Bosses Act. 118th Congress, 1st sess., 20 July 2023, www.congress.gov/bill/118th-congress/senate-bill/2419/text.; S.262 – Stop Spying Bosses Act. 118th Congress, 1st session, introduced 2 Feb. 2023. Congress.gov, https://www.congress.gov/bill/118th-congress/senate-bill/262; *AI Civil Rights Act of 2024*. 118th Congress, 2d Sess., S. ll, 2024, https://www.markey.senate.gov/imo/media/doc/ai_civil_rights_act.pdf.

105 Smalley, Suzanne. "How Software Giant Workday Is Driving State Legislation to Regulate AI." *The Record*, 7 Mar. 2024, https://therecord.media/human-resources-artificial-intelligence-state-legislation-workday.

106 Feng, Kung. *Overview of New Rights for Workers under the California Consumer Privacy Act*. UC Berkeley Labor Center, 2023, https://laborcenter.berkeley.edu/overview-of-new-rights-for-workers-under-the-california-consumer-privacy-act/;
California Civil Rights Department. *Attachment B: Final Unmodified Text of Proposed Employment Regulations Regarding Automated Decision Systems*. 21 Mar. 2025, https://calcivilrights.ca.gov/wp-content/uploads/sites/32/2025/03/Attachment-B-Final-Unmodified-Text-of-Proposed-Employment-Regulations-Regarding-Automated-Decision-Systems.pdf; TechEquity Collaborative. "To the California Civil Rights Council: Update Worker Protections for the Age of AI." *TechEquity Collaborative*, 20 Nov. 2024, https://techequity.us/2024/11/20/to-the-california-civil-rights-council-update-worker-protections-for-the-age-of-ai/

107 Wykstra, Stephanie. "Fair Workweek Laws: The Movement to Make Workers' Schedules More Humane." *Vox*, 15 Oct. 2019, https://www.vox.com/future-perfect/2019/10/15/20910297/fair-workweek-laws-unpredictable-scheduling-retail-restaurants; Kaoosji, Sheheryar. "Statement on Passage of the Warehouse Worker Protection Act." *Warehouse Worker Resource Center*, 22 Sept. 2021, https://warehouseworkers.org/statement-on-passage-of-the-warehouse-worker-protection-act/; Kroman, David. "Uber Sues Seattle over Driver Deactivation Law." *The Seattle Times*, 20 Dec. 2024, https://www.seattletimes.com/seattle-news/politics/uber-sues-seattle-over-driver-deactivation-law/; Marr, Chris, and Tre'Vaughn Howard. "New York Offers Model on Amazon Warehouse Safety if Law Survives." *Bloomberg Law*, 31

Jan. 2025, https://news.bloomberglaw.com/daily-labor-report/new-york-offers-model-on-amazon-warehouse-safety-if-law-survives.

[108] National Women's Law Center. *Fair Work Schedules Factsheet*. 14 Sept. 2023, https://nwlc.org/wp-content/uploads/2019/10/Fair-Work-Schedules-Factsheet-9.14.23v1.pdf

[109] New York City Administrative Code §§ 20-1201-63; Chan, Wilfred. "Starbucks fired a union organizer. New York City got him rehired." *The Guardian*, 3 Mar. 2023, www.theguardian.com/business/2023/mar/03/starbucks-unions-fired-workers-new-york-city-labor-law

[110] California Labor Code § 2101 (2024); New York State Labor Law §§ 780-88; Minnesota Statutes 2024 § 182.6526; Revised Code of Washington (RCW) Chapter 49.84 and Oregon Laws 2024, Chapter 36 (HB 4147)

[111] Seattle Municipal Code 2023, Ordinance No. 126878

[112] RCW Chapter 49.17. 520; MN Statutes § 182.67

[113] New York State Labor Law § 789

[114] New York State Civil Service Law § 80(10).

[115] California State Legislature, AB-1651 (2021-2022), https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB1651

[116] NYC Secure Jobs Act campaign web page, https://www.securejobsact.nyc/; NY City Council, Int. 0909-2024, https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=6702337&GUID=A3AAF187-7341-4ADF-B05B-CDDD1FFE2000&Options=&Search=

[117] New York Taxi Workers Alliance, Job Security for App Drivers campaign web page, https://www.nytwa.org/deactivation; NY City Council, Int. 0276-2024, https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=6557685&GUID=B1AD10BE-3B1B-4782-8AE8-65B9C1E20563

[118] Massachusetts State Legislature, SD 838 (2025-2026), https://malegislature.gov/Bills/194/SD838

[119] Georgia General Assembly, SB 164, https://www.legis.ga.gov/legislation/70304; Colorado General Assembly, HB25-1264, Prohibit Surveillance Data to Set Prices and Wages, https://leg.colorado.gov/bills/hb25-1264; Illinois General Assembly SB2255, https://www.ilga.gov/Legislation/BillStatus?DocNum=2255&GAID=18&DocTypeID=SB&SessionID=114&GA=104

[120] California State Legislature, SB 7 (2025-2026), https://legiscan.com/CA/text/SB7/id/3157700

[121] California State Legislature, AB 1221 (2025-2026), https://legiscan.com/CA/text/AB1221/id/3193802

[122] California State Legislature, AB 1331 (2025-2026), https://legiscan.com/CA/text/AB1331/id/3137016

[123] California State Legislature, AB 1018 (2025-2026), https://legiscan.com/CA/text/AB1018/id/3134719

[124] *Int 0909-2024*: Secure Jobs Act, New York City Council., 2024, https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=6702337&GUID=A3AAF187-7341-4ADF-B05B-CDDD1FFE2000.

[125] California Labor Code § 2101 (2024); New York State Labor Law §§ 780-88; Minnesota Statutes 2024 Section 182.6526; Revised Code of Washington (RCW) Chapter 49.84 and Oregon Laws 2024, Chapter 36 (HB 4147)

[126] NY Labor Law § 789

[127] New York State Public Health Law § 2805-T and § 2895-B, http://public.leginfo.state.ny.us/lawssrch.cgi?NVLWO:

[128] New York City Administrative Code §§ 20-1201-63

[129] See National Labor Relations Board. "Standard for Determining Joint Employer Status." *Federal Register*, vol. 88, no. 207, 27 Oct. 2023, pp. 73946–74018. https://www.federalregister.gov/documents/2023/10/27/2023-23573/standard-for-determining-joint-employer-status.

[130] Scherer, Matt et al. "What Do Workers Want? A CDT/Coworker Deliberative Poll on Workplace Surveillance and Datafication." *Center for Democracy & Technology*, 6 Mar. 2025, https://cdt.org/insights/what-do-workers-want-a-cdt-coworker-deliberative-poll-on-workplace-surveillance-and-datafication/

[131] Khan, Mishal et al., The Current Landscape of Tech and Work Policy: A Guide to Key Concepts, Berkeley Labor Center, 12 Nov. 2024, laborcenter.berkeley.edu/tech-and-work-policy-guide/; See also Future of Privacy Forum. *State AI Legislation Report.* Sept. 2024. *Future of Privacy Forum*, https://fpf.org/wp-content/uploads/2024/09/FINAL-State-AI-Legislation-Report-webpage.pdf; "Boosting U.S. Worker Power and Voice in the AI-Enabled Workplace." *Equitable Growth*, Washington Center for Equitable Growth, https://equitablegrowth.org/boosting-u-s-worker-power-and-voice-in-the-ai-enabled-workplace/; Scherer, Matt. *Regulating Robo-Bosses: Surveying the Civil Rights Policy Landscape for Automated Employment Decision Systems*. Center for Democracy & Technology, 23 July 2024,

https://cdt.org/insights/report-regulating-robo-bosses-surveying-the-civil-rights-policy-landscape-for-automated-employment-decision-systems/

132 California State Legislature, SB 7 (2025-2026), https://legiscan.com/CA/text/SB7/id/3157700; California State Legislature, AB 1018 (2025-2026), https://legiscan.com/CA/text/AB1018/id/3134719

133 Massachusetts State Legislature, SD 838 (2025-2026), https://malegislature.gov/Bills/194/SD838

134 NY City Council, Int. 0909-2024, https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=6702337&GUID=A3AAF187-7341-4ADF-B05B-CDDD1FFE2000&Options=&Search=

135 Georgia General Assembly, SB 164, https://www.legis.ga.gov/legislation/70304; Colorado General Assembly, HB25-1264, Prohibit Surveillance Data to Set Prices and Wages, https://leg.colorado.gov/bills/hb25-1264. *See also https://towardsjustice.org/wp-content/uploads/2025/02/Real-Surveillance-Prices-and-Wages-Report.pdf*

136 Massachusetts State Legislature, SD 838 (2025-2026), https://malegislature.gov/Bills/194/SD838

137 NY City Council, Int. 0909-2024, https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=6702337&GUID=A3AAF187-7341-4ADF-B05B-CDDD1FFE2000&Options=&Search=

138 NY City Council, Int. 0909-2024, https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=6702337&GUID=A3AAF187-7341-4ADF-B05B-CDDD1FFE2000&Options=&Search=

139 NY City Council, Int. 0909-2024, https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=6702337&GUID=A3AAF187-7341-4ADF-B05B-CDDD1FFE2000&Options=&Search=

140 Massachusetts State Legislature, SD 838 (2025-2026), https://malegislature.gov/Bills/194/SD838

141 Massachusetts State Legislature, SD 838 (2025-2026), https://malegislature.gov/Bills/194/SD838; NY City Council, Int. 0276-2024, https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=6557685&GUID=B1AD10BE-3B1B-4782-8AE8-65B9C1E20563; App-Based Worker Deactivation Rights Ordinance, SMC 8.40, Ordinance 126878

142 118th Congress (2023-2024), S.5208, https://www.congress.gov/bill/118th-congress/senate-bill/5208 https://www.markey.senate.gov/imo/media/doc/warehouse_worker_protection_act_5224.pdf,

143 See NY City Council, Int. 0909-2024, https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=6702337&GUID=A3AAF187-7341-4ADF-B05B-CDDD1FFE2000&Options=&Search=

144 118th Congress (2023-2024), S.5208, https://www.congress.gov/bill/118th-congress/senate-bill/5208 https://www.markey.senate.gov/imo/media/doc/warehouse_worker_protection_act_5224.pdf,

145 NY City Council, Int. 0909-2024, https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=6702337&GUID=A3AAF187-7341-4ADF-B05B-CDDD1FFE2000&Options=&Search=

146 CA Labor Code § 2100 (2024)

147 Stein, Jake, and Dan Calacci. *Workers' Collective Data Access Rights: Adding Context to Worker Data Protection*. June 2022, https://www.dcalacci.net/papers/202.10.10-collective-data-access-latest.pdf

148 National Academies of Sciences, Engineering, and Medicine. "Chapter 2: The Future of Work in the United States: Projections and Implications." *Artificial Intelligence and the Future of Work*. The National Academies Press, 2025, https://nap.nationalacademies.org/; Leadership Conference on Civil and Human Rights. "Letter from Civil Rights Groups: Collection and Analysis of 2017 and 2018 EEO-1 Component 2 Pay Data." *The Leadership Conference on Civil and Human Rights*, 15 Nov. 2022, https://civilrights.org/resource/letter-from-civil-rights-groups-collection-and-analysis-of-2017-and-2018-eeo-1-component-2-pay-data/,

149 Sheng, Ellen. "Employee Privacy Is at Stake as Surveillance Tech Monitors Workers." *CNBC*, 15 Apr. 2019, https://www.cnbc.com/2019/04/15/employee-privacy-is-at-stake-as-surveillance-tech-monitors-workers.html; Henry, Bonnie. "Privacy Rights in a Remote Work World: Can My Employer Monitor My Activity?" *The National Law Review*, vol. 12, no. 336, 2 Dec. 2022, https://natlawreview.com/article/privacy-rights-remote-work-world-can-my-employer-monitor-my-activity; Consumer Financial Protection Bureau. "Worker Surveillance Poses Potential Privacy Harms." *Consumer Financial Protection Bureau*, 30 Oct. 2023, https://www.consumerfinance.gov/about-us/blog/worker-surveillance-poses-potential-privacy-harms/

150 Oppenheim, Emma. "Worker Surveillance Poses Potential Privacy Harms." *Consumer Financial Protection Bureau*, 20 June 2023, https://www.consumerfinance.gov/about-us/blog/worker-surveillance-poses-potential-privacy-harms/.; https://datasociety.net/library/challenging-worker-datafication/

151 Claburn, Thomas. "Algorithmic Wage Discrimination: Not Just for Gig Workers." *The Register*, 6 July 2024, https://www.theregister.com/2024/07/06/algorithmic_wage_discrimination/; Mateer, Noelle. "Today's Hospitality Union Battle Is over Wages. The Next One Might Be about Tech." *Hotel Dive*, 4 Dec. 2024, https://www.hoteldive.com/news/hospitality-union-tech-battles/734541/; Kresge, Lisa. "Union Collective Bargaining Agreement Strategies in Response to Technology." *UC Berkeley Labor Center*, 2020, https://laborcenter.berkeley.edu/union-collective-bargaining-agreement-strategies-in-response-to-technology/. Accessed 8 May 2025.; Kresge, Lisa. "Negotiating Workers' Rights at the Frontier of Digital Workplace Technologies in 2023." *UC Berkeley Labor Center*, 18 Dec. 2023, https://laborcenter.berkeley.edu/negotiating-workers-rights-at-the-frontier-of-digital-workplace-technologies-in-2023/. ; Gutelius, Beth. *Good Labor Policy Is Good Technology Policy: Worker Voice in Technological Change*. Roosevelt Institute, 22 Feb. 2024, https://rooseveltinstitute.org/publications/good-labor-policy-is-good-technology-policy/; https://cwa-union.org/news/cwa-shapes-future-ai-work-new-principles-bargaining-policy; SEIU Local 503. "Homecare Bargaining Update June 10, 2019." *SEIU Local 503*, 10 June 2019, https://seiu503.org/member_news/homecare-bargaining-update-june-10-2019/.; National Nurses United. "National Nurses United Survey Finds A.I. Technology Degrades and Undermines Patient Safety." *National Nurses United*, 15 May 2024, https://www.nationalnursesunited.org/press/national-nurses-united-survey-finds-ai-technology-undermines-patient-safety; "Contract Language: Automation & Technology." *Culinary Union Local 226*, 20 Mar. 2019, , https://www.culinaryunion226.org/blog/contract-language-automation-technology; DeManuelle-Hall, Joe. "Longshore Deal Secures New Automation Language and Big Pay Bump." *Labor Notes*, 10 Jan. 2025, https://labornotes.org/2025/01/longshore-deal-secures-new-automation-language-and-big-pay-bump; Donohue, Pete. "Stopping AVs from Replacing Bus Operators, Mechanics, and Other Transit Workers." *Transport Workers Union*, 23 Feb. 2024, www.twu.org/stopping-avs-from-replacing-bus-operators-mechanics-and-other-transit-workers/

152 Center for Labor and a Just Economy. "Bargaining Victory: SEIU Local 688 Won Strong Protections for Workers and the Public in AI Agreement with Pennsylvania Governor Shapiro." *Center for Labor and a Just Economy*, Harvard Law School, 28 Mar. 2025, clje.law.harvard.https://clje.law.harvard.edu/news/bargaining-victory-seiu-local-688-won-strong-protections-for-workers-and-the-public-in-ai-agreement-with-pennsylvania-governor-shapiro/

153 Oakford, Patrick, Josh Bivens, and Celine McNicholas. *Federal AI Legislation: An Evaluation of Existing Proposals and a Road Map Forward*. Economic Policy Institute, 25 Sept. 2024, https://www.epi.org/publication/federal-ai-legislation/

154 Center for American Progress. "Sectoral Bargaining." *Center for American Progress*, https://www.americanprogress.org/topic/sectoral-bargaining/.

155 California gave fast food workers a seat at the table. What comes next?, Cal Matters (Mar. 1, 2024), https://calmatters.org/california-divide/2024/01/california-fast-food-council-2/

156 Minn. Dep't of Labor & Industry, Nursing Home Workforce Standards Board, https://www.dli.mn.gov/about-department/boards-and-councils/nursing-home-workforce-standards-board

157 Ocampo, Dan. "FAQ on Mandatory Arbitration in Employment." National Employment Law Project, 30 Oct. 2024, https://www.nelp.org/insights-research/faq-on-mandatory-arbitration-in-employment/

158 See, e.g., Chiu secures $2.1 million deal requiring gig economy company to reclassify workers as employees, Feb. 22, 2024, https://www.sfcityattorney.org/2024/02/22/chiu-secures-2-1-million-deal-requiring-gig-economy-company-to-reclassify-workers-as-employees/; Chiu secures third judgment against staffing company misclassifying its workers Jan 17, 2025, https://www.sfcityattorney.org/2025/01/17/chiu-secures-third-judgment-against-staffing-company-misclassifying-its-workers/; Denver Labor Liability Determination Against GigPro, Jan. 16, 2024, https://denvergov.org/files/assets/public/v/2/auditor/documents/denver-labor/2024/gigpro-inc.-liability-determination-1.16.24.pdf ("Extensive investigation by Denver Labor reveals that Gigpro's model has violated nearly every applicable wage and hour law"); Denver Labor Liability Determination Against Instawork, https://denvergov.org/files/assets/public/v/3/auditor/documents/denver-labor/2024/wage-determinations/instawork-garuda-labs-inc.-liability-determination-1.16.24.pdf (ordering company to cease and desist in misclassifying and finding that "Instawork's illegal business model is exacerbated by the fact that its employees are low-income and, according to Instawork's own data, dependent on the platform to survive").

159 Center for Popular Democracy, *Making Rights Real: How the Whistleblower Enforcement Model Can Address the Crisis in Labor Rights* Enforcement, Nov. 2023, https://www.populardemocracy.org/sites/default/files/CPD%20Whistleblower%20Enforcement%20Report%20Full%20Nov%202023.pdf

160 Illinois Day and Temporary Labor Services Act, 820 ILCS 175.

161 National Employment Law Project, How Mandatory Arbitration Weakens Workplace Laws and Lets Employers Off the Hook, Oct. 30, 2024, https://www.nelp.org/insights-research/faq-on-mandatory-arbitration-in-employment/

162 Rogers, Brishen. *Beyond Automation: The Law & Political Economy of Workplace Technological Change*. Roosevelt Institute, June 2019. www.rooseveltinstitute.org/wp-content/uploads/2020/07/RI_Beyond-Automation_Working-Paper.pdf

163 Tung, Irene, et al. "Amazon's Outsized Role: The Injury Crisis in U.S. Warehouses and a Policy Roadmap to Protect Workers." *National Employment Law Project*, 2 May 2024, https://www.nelp.org/insights-research/amazons-outsized-role-the-injury-crisis-in-u-s-warehouses-and-a-policy-roadmap-to-protect-workers/;

164 118th Congress (2023-2024), S.5208, https://www.congress.gov/bill/118th-congress/senate-bill/5208 https://www.markey.senate.gov/imo/media/doc/warehouse_worker_protection_act_5224.pdf, Connecticut General Assembly SB 8 (2025), https://www.cga.ct.gov/asp/CGABillStatus/cgabillstatus.asp?selBillType=Bill&bill_num=SB8

165 N.Y. City Admin. Code. §§ 20-1271 thru 1275, http://public.leginfo.state.ny.us/lawssrch.cgi?NVLWO:

166 A Better Balance, "State and City Laws and Regulations on Fair and Flexible Scheduling," https://www.abetterbalance.org/resources/fact-sheet-state-and-city-laws-and-regulations-on-fair-and-flexible-scheduling/; Kesavan, Saravanan, et al. "Doing Well by Doing Good: Improving Retail Store Performance with Responsible Scheduling Practices at the Gap, Inc." Management Science, vol. 68, no. 11, Nov. 2022, pp. 7818–7836. https://doi.org/10.1287/mnsc.2021.4291

167 N.Y. Civil Service Law § 80(10).

168 Massachusetts State Legislature, SD 838 (2025-2026), https://malegislature.gov/Bills/194/SD838

169 In addition, curbing forced arbitration is necessary to make it possible for workers to use such private rights of action.

170 Katzenberger, Tyler, and Chase DiFeliciantonio. "Inside Jerry McNerney's New AI Strategy." *POLITICO*, 6 Mar. 2025, www.politico.com/newsletters/politico-technology-california-decoded-preview/2025/03/06/inside-jerry-mcnerneys-new-ai-strategy-00216485.

171 California State Legislature, SB 7 (2025-2026), https://legiscan.com/CA/text/SB7/id/3157700

172 California State Legislature, AB 1018 (2025-2026), https://legiscan.com/CA/text/AB1018/id/3134719

173 California State Legislature, AB 1221 (2025-2026), https://legiscan.com/CA/text/AB1221/id/3193802

174 California State Legislature, AB 1331 (2025-2026), https://legiscan.com/CA/text/AB1331/id/3137016

175 Georgia General Assembly, SB 164, https://www.legis.ga.gov/legislation/70304; Colorado General Assembly, HB25-1264, Prohibit Surveillance Data to Set Prices and Wages, https://leg.colorado.gov/bills/hb25-1264. Prohibiting Surveillance Prices and Wages, Towards Justice, February 2025, *https://towardsjustice.org/wp-content/uploads/2025/02/Real-Surveillance-Prices-and-Wages-Report.pdf*

176 NY City Council, Int. 0909-2024, https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=6702337&GUID=A3AAF187-7341-4ADF-B05B-CDDD1FFE2000&Options=&Search=; NYC Secure Jobs Act campaign web page, https://www.securejobsact.nyc/

177 App-Based Worker Deactivation Rights Ordinance, SMC 8.40, Ordinance 126878. https://www.seattle.gov/documents/Departments/LaborStandards/Signed%20Ordinance%20126878.pdf

178 New York Taxi Workers Alliance, Job Security for App Drivers campaign web page, https://www.nytwa.org/deactivation; NY City Council, Int. 0276-2024, https://legistar.council.nyc.gov/LegislationDetail.aspx?ID=6557685&GUID=B1AD10BE-3B1B-4782-8AE8-65B9C1E20563

179 California State Legislature, AB-1651 (2021-2022), https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=202120220AB1651