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Executive Office of the President
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Response to the White House Office of Science and Technology Policy Request for Information on Automated Worker Surveillance and Management

The UC Berkeley Labor Center welcomes the opportunity to provide input to the White House Office of Science and Technology Policy (OSTP) in response to the Request for Information on Automated Worker Surveillance and Management posted on May 1, 2023.

The mission of the Labor Center's Technology and Work Program is to provide worker organizations and policymakers the research and policy analysis they need to respond to rapid technological changes in the workplace and ensure that technology benefits rather than harms workers. We focus on low-wage industries and the workers of color, women, and immigrants who are often on the frontlines of experimentation with emerging technologies.

We are very pleased to see the White House Office of Science and Technology Policy's attention to automated workplace surveillance and management technologies and interest in exploring opportunities for Federal agencies to ensure that these systems do not harm workers and undermine their rights and opportunities.

Drawing from our own research analyzing trends in the data-driven workplace and impact of these technologies on workers, our goal in this comment is to highlight evidence indicating the prevalence of automated workplace surveillance and management technologies (Section I), impact on workers resulting from employers' use of these systems (Section II), and principles and policy models for worker technology rights and protections (Section III). As an addendum,

we submit a few of our research publications which analyze trends in the data-driven workplace and provide a comprehensive framework of the technology rights that workers need and deserve.

Section I: Prevalence of automated worker surveillance and management systems

4. a. What data and evidence exist on the prevalence of automated worker surveillance and management systems across different industries, occupations, and regions, including changes over time?

There is a dearth of comprehensive, reliable data on employer adoption workplace technologies in the US. In fact, until the US Census Bureau first introduced questions about technology adoption in the Annual Business Survey (ABS) in 2018, the US government did not collect firm-level data on use of advanced digital technologies (e.g., AI) or robotics.[1] But, unfortunately, the 2018 ABS survey did not directly ask questions about automated worker surveillance and management systems.

Nevertheless, the 2018 ABS does provide nationally representative survey data of private, non-farm firms in the economy on the diffusion of advanced technologies, including: artificial intelligence (AI), cloud computing, robotics, and the digitization of business information. According to an analysis of the survey data conducted by the Center for Economic Studies, 6.6% of firms used some form of advanced "AI-related" technology in the workplace in 2018. Although the share of firms adopting advanced technologies is relatively low, worker exposure is higher because the firms adopting these technologies are some of the largest companies in the US. Firms that have adopted at least one type of advanced business technology employ more than 40% of all workers, and firms that have digitized at least one form of information and have invested in cloud services – the building blocks of more advanced technologies – employ more than 90% of all workers. That said, it remains unclear the extent to which each of those workers was directly exposed to all technologies adopted by the firm.

The 2019 ABS incorporated questions focused on workforce impacts of artificial intelligence, cloud services, specialized software, robotics, and specialized equipment with an emphasis on worker displacement.[2] Once again the survey did not directly inquire about the use of workplace

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[1]Endnotes

Zolas, Nikolas, Zachary Kroff, Erik Brynjolfsson, Kristina McElheran, David Beede, Catherine Buffington, Nathan Goldschlag, Lucia Foster, and Emin Dinlersoz. 2020. "Advanced Technologies Adoption and Use by U.S. Firms: Evidence from the Annual Business Survey." CES 20–40. https://www2.census.gov/ces/wp/2020/CES-WP-2040.pdf.

[2] Daron Acemoglu, Gary Anderson, David Beede, Catherine Buffington, Eric Childress, Emin Dinlersoz, Lucia Foster, et al. 2022. "Automation and the Workforce: A Firm-Level View from the 2019 Annual Business Survey," CES 22-12. https://www.census.gov/library/working-papers/2022/adrm/CES-WP-22-12.html.

technologies to monitor and manage workers. Analysis of the survey data indicates that 40% of firms, employing 64% of US workers, use some type of specialized software. Although the ABS surveys do not provide a direct measure of the prevalence of worker electronic monitoring and automated management technologies, they do give a general indication of employer adoption of digital technologies that can provide a foundation for more advanced data-driven workplace technologies. Moreover, many of the software technologies used to produce goods and services also enable employers to monitor worker activities and behaviors. For further reference, we outline these studies and other privately commissioned studies in a recent working paper.[3]

Another strategy for exploring employer adoption of electronic monitoring and automated management technologies is to collect data from workers. Kristen Harknett and Daniel Schneider with the Shift Project recently conducted a survey of workers on the prevalence of worker surveillance and automation in the retail industry. Using a Facebook ad sampling approach, they surveyed 10,000 retail and food service workers employed by 140 different US employers in Fall 2022.[4] Initial findings presented at a recent UCSF California Labor Lab conference indicate that 80% of workers reported their employers use technology to monitor the quality of their work, and nearly 25% workers reported that it was at least somewhat likely that their employers were monitoring them outside of work.[5] Given that the retail industry is one of the largest employers in the US, this research provides a glimpse into the extent of employer adoption of workplace electronic monitoring technologies.

Despite the lack of comprehensive and representative data on employer adoption of electronic monitoring and automated management technologies, a growing body of evidence suggests that employers are using these technologies across a wide range of industries. Research and media coverage feature numerous examples of firms using data-driven technologies to electronically monitor and manage workers across industries in the economy.[6] Moreover, the landscape of vendors offering technologies to monitor and manage workers has exploded over the past few years. For example, a recent engineering article reviewed 89 commercial workplace wearable applications designed to monitor workers across a wide range of industries for a variety of purposes including health, productivity, and safety.[7] Wearables are just one

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[3] See Mast, Nina, and Lisa Kresge. 2022. "How Common Is Employers' Use of Workplace Management Technologies? A Review of Prevalence Studies." UC Berkeley Labor Center. https://laborcenter.berkeley.edu/wp-content/uploads/2022/10/Tech-Prevalence-Paper-FINAL.pdf.

[4] For overview of their survey recruitment and data collection methods, see: Schneider, Daniel, and Kristen Harknett. 2019. "Consequences of Routine Work-Schedule Instability for Worker Health and Well-Being." *American Sociological Review* 84 (1): 82–114. https://doi.org/10.1177/0003122418823184.

[5] Harknett, Kristen and Daniel Schneider. 2023. "Workplace Technology and Worker Well-Being" UCSF California Labor Laboratory conference on Surveillance, Monitoring, & Data Gathering in Contemporary Employment held virtually on May 2-3, 2023. https://youtu.be/majQcpUrmsY.

[6] See examples in Bernhardt, Annette, Lisa Kresge, and Reem Suleiman. 2021. "Data and Algorithms at Work: The Case for Worker Technology Rights." UC Berkeley Labor Center. https://laborcenter.berkeley.edu/data-algorithms-at-work/; Kellogg, Katherine C., Melissa A. Valentine, and Angéle Christin. 2020. "Algorithms at Work: The New Contested Terrain of Control." *Academy of Management Annals* 14 (1): 366–410. https://doi.org/10.5465/annals.2018.0174.

[7] Patel, Vishal, Austin Chesmore, Christopher M. Legner, and Santosh Pandey. 2022. "Trends in Workplace Wearable Technologies and Connected-Worker Solutions for Next-Generation Occupational

segment of the workplace technology product market focused on monitoring and managing workers. In a 2021 study, Coworker.org identified 550 vendor products on the market offering systems for employers to monitor and manage workers.[8] Meanwhile, venture capital and private equity investors have funneled over $15 billion in HR technology start-ups in the last few years.[9] Although not all of the HR technologies are designed to directly monitor and manage workers, "employee listening" and performance management systems are a growing segment of the market and are increasingly incorporated into standard HR technology platforms.[10]

Overall, based on the available evidence, it is clear that technology development trends continue to afford employers with the capability to electronically monitor and automate worker management, and some employers are currently deploying those systems in the workplace. Incorporating questions about employer use of technologies for electronic monitoring and management in future government surveys, such as the US Census Bureau Annual Business Survey (ABS), as well as other agency surveys conducted by the Federal government, will be crucial to help us provide a better understanding and documentation of employer technology adoption and use, and the impacts of these technologies on workers.

Section II: Impacts on workers resulting from employers' use of these systems

4. b. What data and evidence exist on the impact of automated worker surveillance and management systems on workers, including workers' pay, benefits, and employment, physical and mental health, and ability to exercise workplace rights?

Employer use of electronic monitoring and automated management systems can have profound consequences for wages, working conditions, race and gender equity, and worker power. In a 2021 UC Berkeley Labor Center report, *Data and Algorithms at Work: The Case for Worker Technology Rights*, we outline examples of potential harms that can result from workplace electronic monitoring and automated management technologies in a wide range of industries.[11] These harms include discrimination, work intensification and speed-up, hazardous working

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Safety, Health, and Productivity." Advanced Intelligent Systems (2100099) 4 (1): 1-30. https://doi.org/10.1002/aisy.202100099.

[8] Negrón, Wilneida. 2021. "'Little Tech' Is Coming for Low-Wage Workers: A Framework for Reclaiming and Building Worker Power." Coworker.org. https://home.coworker.org/worktech/.

[9] Bersin, Josh. 2023. "HR Technology 2023: What's Hot? What's Not?" January 11. https://joshbersin.com/2023/01/hr-technology-for-2023-whats-hot-whats-not/;
Lettink, Anita. 2022. "With $12B in funding, 2021 was HR Tech's best year ever!" HR Tech Radar. January 10. https://hrtechradar.com/hr-tech/with-12b-in-funding-2021-was-hr-techs-best-year-ever/

[10] Bersin, Josh. 2021. "Ten New Truths About the HR Technology Market" September 25. https://joshbersin.com/2021/09/ten-new-truths-about-the-hr-technology-market/

[11] Bernhardt, Annette, Lisa Kresge, and Reem Suleiman. 2021. "Data and Algorithms at Work: The Case for Worker Technology Rights." UC Berkeley Labor Center. https://laborcenter.berkeley.edu/data-algorithms-at-work/.

conditions, deskilling and automation, growth in contingent work, loss of autonomy and privacy, and suppression of the right to organize.

In a subsequent UC Berkeley Labor Center report published in 2022, *Technological change in five industries: Threats to jobs, wages, and working conditions,* we synthesize findings from five industry studies conducted by experts in trucking, warehousing and logistics, health care, retail, and food delivery.[12] In each industry studied, researchers found that although there are examples of employers' use of new technologies in ways that are helpful to workers, many employers are prone to use new technologies in ways that threaten working conditions, wages, and job quality. Of particular concern is that employer experimentation with new technologies in the front-line industries studied can worsen existing labor market inequities for workers of color, women, and immigrants who are overrepresented in the occupations in those industries. However, as outlined in the report, the outcomes of employer adoption of emerging technologies is not predetermined. The social and institutional context shapes employer decision-making about new technologies, leading to variation in adoption and worker impacts.

Finally, in a 2023 UC Berkeley Labor Center blog post, *35 Years Under Electronic Monitoring and Still Waiting for Worker Rights,* we highlight findings from decades of research linking electronic performance monitoring (EPM) with worker stress and other harms.[13] According to a comprehensive meta-analysis of 94 research studies conducted in 2022, EPM systems increase stress for workers, regardless of the monitoring systems' specific characteristics.[14] The studies included in the analysis focused on a range of stress indicators from psychological strains to physiological conditions, with all studies finding consistent EPM effects on worker stress. Workers can experience stress as a *direct* result of the fact and knowledge of being closely monitored, but the impacts of EPM systems on working conditions, job/task design, and work environment can also *indirectly* increase stress for workers.[15] Importantly, the 2022 meta-analysis study found "little evidence" that electronic performance monitoring systems actually increase worker performance.

4. c. What data and evidence exist on the impact of automated worker surveillance and management systems on labor rights, including workers' abilities to form and join unions and bargain collectively with their employers?

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[12] Hammerling, Jessie HF. 2022. "Technological change in five industries: Threats to jobs, wages, and working conditions." UC Berkeley Labor Center. https://laborcenter.berkeley.edu/technological-change-in-five-industries/.

[13] Kresge, Lisa and MT Snyder. 2022. 35 Years Under Electronic Monitoring and Still Waiting for Worker Rights. UC Berkeley Labor Center. https://laborcenter.berkeley.edu/35-years-under-electronic-monitoring-and-still-waiting-for-worker-rights/

[14] Ravid, Daniel M., Jerod C. White, David L. Tomczak, Ahleah F. Miles, and Tara S. Behrend. 2022. "A Meta-Analysis of the Effects of Electronic Performance Monitoring on Work Outcomes." *Personnel Psychology*, 2022: 1-37. https://doi.org/10.1111/peps.12514.

[15] Rafnsdottir, Gudbjörg Linda, and Margrét Lilja Gudmundsdottir. 2011. "EPM Technology and the Psychosocial Work Environment." *New Technology, Work and Employment* 26 (3): 210–21. https://doi.org/10.1111/j.1468-005X.2011.00270.x.

At this point, most of the evidence available documenting the impact of workplace monitoring and automated management technologies on labor rights is mainly information about the systems available on the market and their capabilities, not yet on the actual impact on workers' abilities to form and join unions and bargain collectively with employers. However, we do have evidence that emerging technologies have enabled a variety of employer practices that threaten workers' rights to organize and form unions. Data-driven systems enable employers to profile workers and make predictions about their propensity to organize or join unions, to predict the risk of potential unionization within a company as part of a strategy to prevent organizing efforts, and to map and track organizing and unionization drives to target and tailor union avoidance campaigns.

As a pre-employment strategy, many vendors offer social media monitoring products to screen out job candidates who might raise concerns about the company. For instance, FAMA, a technology vendor specializing in data mining job candidates' personal social media accounts, offers a product designed to identify potential "whistleblowers, scammers, and violent insiders" likely to engage in "toxic" or "risky" behaviors that might threaten the reputation of the employer.[16] Similarly, Social Intelligence, another social media screening company which was acquired by FAMA in 2023, allows clients to develop custom filters with keywords to identify activist job candidates that pose a risk to the company.[17] Employers and vendors also use personality assessments and data analytics to predict the likelihood of union sympathies among job candidates.[18] Although these pre-employment vendors do not explicitly state they are trying to identify pro-union candidates, which is an unfair labor practice under the NLRA, personality tests and social media screening can obscure these intentions making a case difficult to prove.[19] In fact, a key feature of data-driven technologies is the ability to generate data proxies for information that is protected or unavailable by data mining public data sources and making predictions about unknown characteristics or traits.[20] The union avoidance industry is aware of this ambiguity and suggests working with technology vendors to help screen in workers who have characteristics unlikely to be open to unions.[21]

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[16] FAMA. 2021. Online screening for Retail, Staffing & Franchise: Keep your stores & offices free of toxic behavior. https://web.archive.org/web/20221206032737/https://fama.io/retail-hospitality/

[17] Twigg, Lindsey. 2020. "Social Media Screening in Manufacturing." Social Intelligence. https://www.socialintel.com/social-media-screening-in-manufacturing/; FAMA. 2023. "Fama Acquires Social Intelligence to Deliver Most Comprehensive Online Screening Solution for Helping Employers Hire Quality Candidates." https://info.fama.io/fama-acquires-social-intelligence.

[18] Newman, Nathan. 2021. "How Workers Really Get Canceled on the Job." *The American Prospect*. April 6. https://prospect.org/labor/how-workers-really-get-canceled-on-the-job/

[19] Rieke, Aaron, Urmilla Janardan, Mingwei Hsu, and Natasha Duarte. 2021. "Essential Work: Analyzing the Hiring Technologies of Large Hourly Employers." Upturn. https://www.upturn.org/static/reports/2021/essential-work/files/upturn-essential-work.pdf

[20] Terry, Nicolas P. 2014. "Big Data Proxies and Health Privacy Exceptionalism." *Health Matrix* 24 (6): 65-108. https://doi.org/10.2139/ssrn.2320088.

[21] Sullivan, John. 2009. "A Recruiting Strategy to Counter the Threat of Unions and the EFCA" ERE Recruiting News. January 26. https://www.ere.net/articles/a-recruiting-strategy-to-counter-the-threat-of-unions-and-the-efca.

Social media data mining technologies also enable employers (and third-party vendors and consultants) to monitor current employees' social media for potential organizing efforts and during collective organizing campaigns, such as union elections and strikes. For example, HelloFresh used Falcon (now Brandwatch), a web crawling and sentiment analysis system, to mine Twitter and Instagram for employee posts about unionization efforts and workplace concerns.[22] McDonald's took their social media monitoring efforts one step further by conducting social network analysis by creating fake Facebook profiles to track labor organizers involved in the Fight for 15 campaign and identify workers involved in the movement and their networks.[23]

Even more disconcerting is that military and corporate intelligence firms are deploying passive data collection and open-source intelligence gathering strategies to help employers identify and map social organizing networks and monitor organizers and union campaigns.[24] For instance, vendors originally designed for monitoring global security threats by mapping terrorist social networks are branding their products for corporations to use for "insider threat assessment" including unionization drives.[25] Likewise, Walmart contracted with Lockheed Martin to monitor worker organizers' social media activity. As reported in Bloomberg, Lockheed Martin used their proprietary data analytics system, LM Wisdom, described on their website as a "tool that monitors and analyzes rapidly changing open-source intelligence data … [that] has the power to incite organized movements, riots and sway political outcomes."[26]

In addition to social media monitoring network analysis, vendors and employers also use "employee engagement" surveys and algorithmic systems to predict unionization risks. For example, IRI Consultants, a union avoidance consulting firm, recommends using data analytics services to predict employee likelihood of voting for a union in an organizing campaign. IRI highlights Perceptyx, an "employee listening" and "employee engagement" vendor that offers a "union vulnerability index" product designed to predict risk of unionization.[27] Perceptyx's predictive model draws from millions of historic survey responses across employers to build profiles of employees vulnerable to unionization. To assess employee vulnerability, the company combines passive data collection (messages on systems like Slack and Microsoft

[22] Kaori Gurley, Lauren. 2021. "Internal Slack Show HelloFresh Is Controlling Talk of Unionization." *Vice*. November 19. https://www.vice.com/en/article/n7nb9w/internal-slacks-show-hellofresh-is-controlling-talk-of-unionization

[23] Franceshi-Bicchierai, Lorenzo and Lauren Kaori Gurley. 2021. "McDonald's Secretive Intel Team Spies on 'Fight for $15' Workers, Internal Documents Show." *Vice*. February 24. https://www.vice.com/en/article/pkdkz9/mcdonalds-secretive-intel-team-spies-on-fight-for-15-workers

[24] Maida Jr., Dennis. 2022. "Intelligence Risks in 2022: The Great Resignation." Hetherington Group. March 16. https://web.archive.org/web/20230201091139/https://www.hetheringtongroup.com/intelligence-risks-in-2022-great-resignation/

[25]Grill, Gabriel and Sandvig, Christian. 2023. "Military AI's Next Frontier: Your Work Computer" *Wired.* June 22. https://www.wired.com/story/military-ais-next-frontier-your-work-computer/

[26] Berfield, Susan. 2015. "How Walmart Keeps an Eye on Its Massive Workforce: The Retail Giant Is Always Watching." *Bloomberg BusinessWeek*, November 24. https://www.bloomberg.com/features/2015-walmart-union-surveillance/

[27] Perceptyx https://www.perceptyx.com/;
Orechwa, Jennifer. "Union Vulnerability: The Signs to Look For." Projections. https://projectionsinc.com/unionproof/union-vulnerability-external-factors-matter-too/

Teams, email messages, and calendar events) with active data collection (engagement surveys) to make predictions about at-risk employees who might support unionization efforts.

According to IRI, employers can use these predictions to preempt potential union activity among employees with a union avoidance campaign. Recent media coverage on the union avoidance efforts of Amazon, Whole Foods, and other companies across industries illustrate how employers can use risk scores to target resources to the specific workplace locations.[28] Amazon[29] and Whole Foods[30] developed a predictive model based on data collected through employee surveys, "tipline" calls, employee demographics and metrics, health and safety records and OSHA violations, and local labor union context to generate "heat maps" marking which stores are likely to unionize.

Although many of these technologies are simply new manifestations of old strategies, they enable employers unprecedented abilities to surveil workers in and outside of work. As these examples suggest, many vendors, consultants, and employers know they can shield their union avoidance strategies from scrutiny with the novelty and opacity of these technological systems. At a time of extraordinary worker organizing and push for unionization over the past few years, these examples illustrate how emerging worker surveillance and management technologies empower employers to suppress workers' labor rights.[31]

Section III: Principles and policy models for worker technology rights and protections

5. b. Are there policy approaches to regulating automated worker surveillance and management systems from state, Tribal, territorial, or local governments or other countries that Federal agencies could learn from?

For the majority of US workers who are not union members, the profound asymmetry of power in the workplace means they have little to no say over the policies and decisions that affect them in their day-to-day work lives. In particular, notions of consent to new technologies or the ability to find better conditions elsewhere are not meaningful or available to low-wage workers, women, and workers of color, who face a labor market that is often dominated by employers competing by cutting labor costs. US employment and labor laws have long attempted to

[28] Gurley, Lauren Kaori. 2021. "'Lazy,' 'Money-Oriented,' 'Single Mother': How Union-Busting Firms Compile Dossiers on Employees," *Vice*. Jan 5. https://www.vice.com/en/article/pkdqaz/lazy-money-oriented-single-mother-how-union-busting-firms-compile-dossiers-on-employees

[29] Ghaffary, Shirin and Del Rey, Jason. 2020. "The Real Cost of Amazon." *Vox*. June 29. https://www.vox.com/recode/2020/6/29/21303643/amazon-coronavirus-warehouse-workers-protest-jeff-bezos-chris-smalls-boycott-pandemic

[30] Peterson, Hayley. 2020. "Whole Foods Tracks Unionization Risk with Heat Map." *Business Insider*. April 20. https://www.businessinsider.com/whole-foods-tracks-unionization-risk-with-heat-map-2020-1

[31] Greenhouse, Steven. 2023. "'Old-school union busting': how US corporations are quashing the new wave of organizing." *The Guardian*. February 26. https://www.theguardian.com/us-news/2023/feb/26/amazon-trader-joes-starbucks-anti-union-measures

balance this asymmetry of power in the employment relationship by instituting labor standards and policies, and giving workers a mechanism for exercising collective voice. Those laws and policies now need to be strengthened and updated for the 21st century workplace and its technologies.

For example, we are pleased to see recent developments across federal agencies, such as the NLRB General Counsel's 2022 memorandum on increasing enforcement of worker surveillance that interferes with workers' rights to organize, as well as the Equal Employment Opportunity Commission's (EEOC) recent Title VII guidance for employers to prevent the use of algorithmic systems from leading to discrimination in the workplace. Both are important steps to protecting workers' labor and civil rights. Continued guidance for employers and vendors combined with rigorous enforcement of violations along with health and safety, wage and hour standards will help bolster worker protections in the face of emerging technologies.

We believe that the US needs a new set of 21st century labor standards establishing worker rights and employer responsibilities for the data-driven workplace. These standards should be established both in public policy and in collective bargaining agreements in unionized workplaces. In our report, *Data and Algorithms at Work: The Case for Worker Technology Rights,* we outline a comprehensive set of policy principles that can help build a robust regulation regime.[32] The principles lay out a vision for labor standards that (1) give workers rights with respect to their data, (2) hold employers responsible for harms caused by their technology systems, (3) regulate the ways in which employers monitor workers, use algorithms, and make decisions based on those systems, (4) require impact assessments that test for a broad range of harms to workers, (5) ensure the right to organize around technology, (6) guard against discrimination, and (7) establish a strong regime of worker recourse and public enforcement.

The comprehensive framework laid out in our report has not yet been adopted in the US. Regulation of automated worker surveillance and management systems is currently limited, but there are growing efforts by policymakers and advocates at the federal, state and local level to address the impacts of these systems. Recently state legislators have introduced the Workplace Technology Accountability Act (AB1651) in California and An Act Preventing a Dystopian Work Environment (H1873) in Massachusetts, two bills that in our analysis are currently the strongest worker technology rights proposals in the US.[33] Both have been informed and supported by unions and other worker advocates on the frontlines of technology implementation, and both embrace the policy standards of transparency, responsible use, and accountability detailed below (the Massachusetts bill was drafted as a version of the California bill):

1. Transparency

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[32] Bernhardt, Annette, Lisa Kresge, and Reem Suleiman. 2021. "Data and Algorithms at Work: The Case for Worker Technology Rights." UC Berkeley Labor Center. https://laborcenter.berkeley.edu/data-algorithms-at-work/.

[33] At the federal-level, see the recently introduced the Stop Spying Bosses Act (S 262) and Algorithmic Accountability Act of 2022 (HR 6580).

- *Full disclosure*: Employers should provide workers with clear notice of any data-driven technologies used. Notice of electronic monitoring should include a description of which activities will be monitored, the method of monitoring, the data that will be gathered, the times and places where the monitoring will occur, and the purpose for monitoring and why it is necessary. Notice of algorithm use should include an accessible description of the algorithm, its purpose, the data it draws on, the type of outputs it generates, and how the employer will use those outputs in their decision making.
- *Explanation:* Employers should provide an explanation of how their use of data-driven technologies such as electronic monitoring or algorithmic decision-making can affect employment decisions, including their assessment of workers' performance or productivity.
- *Data protection:* Workers should have the right to access, correct and download their data. Employers should minimize the use of workers data to only when it is necessary and essential to workers doing their job.

2. Responsible Use

- *Limits on electronic monitoring:* Employers should minimize the use of electronic monitoring for narrow purposes that do not harm workers and respect workers privacy. Employers should not monitor workers when off duty. Electronic monitoring should not be used as a substitute for human decision making nor automate decisions around hiring, firing, discipline and promotion.
- *Limits on algorithmic management:* Employers should not use algorithms that harm workers' health, safety, and wellbeing. Employers should not use algorithms to make irrelevant or unfair predictions about workers that are unrelated to their job responsibilities, including predictions about their emotions, personality or health. Algorithms should not be used as a substitute for human decision making nor automate decisions around hiring, firing, discipline and promotion.
- *Limits on high-risk technologies:* Employers should not use unproven or high risk technologies like facial recognition.

3. Accountability

- *Thorough impact assessments:* Impact assessments should be made before use of algorithms or data collection and reviewed by the relevant regulatory agencies. Technologies should be continuously evaluated and harms mitigated. Workers should have a role in these assessments and be able to challenge them. Risk evaluations must include the risks of discrimination against protected classes, if such risks are found, the assessments must be shared with the state agency overseeing workplace discrimination.
- *Robust enforcement:* Regulatory agencies should be able to respond to worker complaints, apply penalties, initiate investigations and pro-actively audit technology use. Workers should also have the private right of action to enforce their rights.

The California (AB1651) and Massachusetts (H1873) bills are important models for regulation based on the principles of transparency, responsible use and accountability and because they recognize the importance of full disclosure and transparency as a foundational right. However, importantly, these policies move beyond the notice and consent framework underlying many data protection policies by establishing protective guardrails on employer collection of worker data through electronic monitoring and use of high-risk technologies, such as facial or emotion recognition technologies, that pose significant harms to workers. Importantly, these policies cover all types of workers, including W-2 employees and independent contractors, which is key to ensuring all workers are covered by the law.

Additionally, these policies include robust enforcement measures including a private right of action for workers to pursue claims against the employer and the authority for the labor agency to investigate, apply penalties, conduct audits, and obtain injunctive relief, shifting the burden away from workers to seek redress for harms and onto employers to ensure the technologies they deploy do not harm workers.

The right to organize and bargain is a key aspect of worker technology rights that goes beyond the California and Massachusetts bills. Recognizing that the major challenge to fair and equitable workplaces is the deep imbalance of power between employers and workers, policies that protect workers well-being and their ability to meaningfully consent and have agency around new technologies that impact them should include upholding the right to organize and bargain. Workers need the right to collectively organize and have a say around workplace technology and its impacts on them, and when represented by a union, to bargain collectively around it. Employers should not use technologies to identify, monitor, or punish workers for organizing.

While not nearly as extensive as the two bills described above, the 2018 California Consumer Privacy Act (CCPA) and the subsequent California Privacy Rights Act (CPRA) – amendments introduced through a 2020 referendum to strengthen the law – is an example of a first step towards worker data rights that has actually passed into law.[34] As of January 1, 2023 the CCPA/CPRA provides all workers, including independent contractors, with the right to be notified when employers are surveilling them, and for what purpose. They have the right to access their data, and ask to correct or delete it. And they will be able to opt-out of employers selling their data.

The other noteworthy law that provides workplace protections with respect to electronic monitoring and automated management technologies is the Warehouse Distribution Centers Law (AB 701), which sets guardrails around warehouse quotas in California. Currently, legislators in other states have introduced similar bills in Connecticut (CB 152), Minnesota (HF 2774), New York (SB 8922), and Washington (SB 5891).

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[34] Californians for Consumer Privacy. "Annotated Text of the CPRA with CCPA Changes." *California Consumer Privacy Act*. https://www.caprivacy.org/annotated-cpra-text-with-ccpa-changes/.

Ultimately, we believe that workers should fully participate in decisions over which technologies are developed, how they are used in the workplace, and how the resulting productivity gains are shared. This participation need not and should not be anti-innovation, because workers have a wealth of knowledge and experience to bring to the table. Dehumanization and automation are not the only path. With strong worker protections in place, new technology can be put in the service of creating a vibrant and productive economy built on living wage jobs, safe workplaces, and race and gender equity.

Thank you for the opportunity to provide these comments.

Annette Bernhardt, PhD	Lisa Kresge	Kung Feng
Director	Lead Researcher	Policy Researcher
Technology & Work Program	Technology & Work Program	Technology & Work Program

Attachments:

Full Comment: UC Berkeley Labor Center Response on Automated Worker Surveillance and Management

Report: Data and Algorithms at Work: The Case for Worker Technology Rights.

Report: Technological change in five industries: Threats to jobs, wages, and working conditions

Report: How Common Is Employers' Use of Workplace Management Technologies? A Review of Prevalence Studies