The Intersection of Technology, Disability Rights and Worker Rights

Final Report and Recommendations

nationaldisabilityinstitute.org

newdisabledsouth.org

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I. Executive Summary

People with disabilities face significant disparities in employment and access to technology. Employers across all sectors are increasingly adopting emerging technologies, particularly artificial intelligence, surveillance technology and robotics, to improve efficiency in hiring and in the workplace. These technologies can potentially improve accessibility for workers with disabilities; however, they can also have the potential to pose risks of bias, discrimination, and physical and mental harm when used to automate decisions or to further discriminatory policies.

National Disability Institute and New Disabled South conducted a yearlong project exploring issues affecting disabled workers impacted by new technologies in the workplace. This project involved a literature review, (30) individual research interviews, (9) disabled and non-disabled worker focus groups, a national survey, analysis of federal and state policy, and a stakeholder convening. The study identified challenges and suggested recommendations related to artificial intelligence, surveillance technology, algorithmic bias, robotics adoption, and health and safety in the work environment. Additionally, the research identified barriers and opportunities related to disability accommodations and the experiences of disabled workers with intersecting marginalized identities. Issues identified in the work include a range of concerns about new technology adoption including: employers relying on limited and untested data; tools that have unintentional or intentional discriminatory effects for people with disabilities due to lack of inclusive design, training, or application; adoption of automated technology, including new robotics, that risk job displacement for vulnerable workers; tools that collect highly intrusive and sensitive data on workers; and use of AI tools without meaningful opportunities for accommodations, modifications, or use of alternative, non-AI mechanisms.

Furthermore, findings show a need for stronger and more effective safeguards in the current legislative and regulatory framework. Proposed legislation at the federal and state levels is only beginning to address the specific risks and challenges of AI and related technologies, while advocates are navigating the use and applicability of existing legal tools and frameworks to hold employers and developers accountable for misuse and harmful use of those technologies.

The research identified recommendations for stakeholders in industry, research, policy development, and advocacy – to mitigate risk, reduce harm, improve accountability and transparency, and protect civil rights, workers' rights, and consumer rights. These recommendations include adoption of clear safeguards and requirements for auditing technology used in the workplace, community collaboration in technology research and development, worker organizing and collective bargaining, providing multiple opportunities to minimize risk of over-collection of data or unnecessary reliance on automation, use of surveillance technology to improve working conditions (e.g., detecting unsafe air quality and temperatures), redesigns to "screen-in" people with disabilities as part of the hiring processes, and creating supportive and accessible work environments that respect disabled workers' privacy, dignity, and autonomy.

Key Research Takeaways

- Inherently, technology itself is neither harmful nor beneficial. Technology can become harmful when people with decision-making power choose to use various technologies across the employment lifecycle in ways that impact people with disabilities negatively, directly, and disproportionally.
- Across stakeholders, there is no simple or universal understanding of the definition and uses of "artificial intelligence." The technical uses of artificial intelligence may be potentially unlimited, but the path from design to user has yet to incorporate the multidimensional elements of humanity and culture. Additionally, software designers and computer engineers, and the companies that employ them to develop and market new technological products, are not required to adhere to a universal binding and enforceable code of ethics.
- All technology design and development need to adopt a thoughtful, inclusive, and iterative (re)design process that intentionally includes the diverse experiences and expertise of disabled people.
- Strategically and co-designed AI-enabled assistive technology can help people with disabilities overcome barriers and become more independent in the workplace.
- The use of surveillance technology in the workplace normalizes and simplifies micro-management for users, who are primarily managers and supervisors. These technologies tend to focus on employees with the least power in both the workplace and society, and their use drives faster work pacing, which increases the risk of employee injuries on the job and, potentially, long-term disability.
- Automated robotics used in the workplace pose new safety hazards to disabled workers. Its use in the workplace also has the potential to affect job displacement and replacement, especially in areas experiencing employment deserts where there are fewer opportunities.
- Employers should reconfigure accommodations as being potentially beneficial to a wide range of employees using the framework of universal design, as well as developing an in-house understanding of the wide variety of accommodations that can exist in the workplace. Employers should

offer resources to help every employee, regardless of their status, fully understand what accommodations are available to them and how to easily request them. Prioritizing accommodations and accessibility may directly impact employee retention rates as well as improve employees' wellbeing, which can in turn positively impact medium- to long-term company profit.

- An increased focus on regional knowledge can help researchers, policymakers, and advocates gain a deeper understanding of the diverse needs, challenges, and beliefs specific to disabled workers.
- Building a thoughtful, impact-driven, and sustainable coalition that supports disabled workers requires bringing together stakeholders with diverse backgrounds, regional expertise, and relationships in various communities, especially communities and people who will be directly impacted by changes to technology and policy.
- Despite the critical need to understand how technological advancements impact disabled workers, the topic remains highly underrepresented in research, public policy, advocacy, and corporate practice.

II. Introduction

Over the past decade, society has witnessed rapid advancements in technology, characterizing an age that many experts are calling the "fourth industrial revolution" marked by an emphasis on rapid development and deployment of autonomous technology and artificial intelligence (AI) in many sectors.[1] These technologies have reshaped many industries, altering the way in which many of us interact with our personal environment on a daily basis and impacting workers at every level from almost every industry.

Technology disparities exist within most work environments, and over 40 percent of disabled people in the United States have reported difficulties effectively using technology and only 26 percent say they have access to high-speed internet.[2] Despite the critical need to understand how technological advancements influence disabled workers in the U.S., this topic remains highly underrepresented in research, public policy, and corporate practice. What we do know is that the workforce participation rate of disabled people, which was only 21 percent in 2022, remains significantly lower than that of nondisabled people, who had a participation rate of 65.4 percent.[3] This, despite the fact that the number of those included in the disabled population continues to rise due to the disabling impacts of long COVID and other pandemic-related health conditions, with an estimated 1.2 million additional disabled people in the U.S. since the pandemic began.[4] This number is estimated to be much higher currently, in part due to the limited scope of how disability is defined in the U.S. and how internalized societal ableism impacts people.[5] Technology adoption in the workplace can keep people with disabilities out of the workforce due to inaccessible software and devices, lack of

[1] Ross, P., & Maynard, K. (2021). Towards a 4th industrial revolution. *Intelligent Buildings International, 13*(3), 159–161. https://doi.org/10.1080/17508975.2021.1873625

[2] Perrin, A. (2021, September 10). *Americans with disabilities less likely than those without to own some digital devices.* Pew Research Center. https://www.pewresearch.org/short-reads/2021/09/10/americans-with-disabilities-less-likely-than-those-without-to-own-some-digital-devices/

[3] U.S. Bureau of Labor Statistics. (2024, February 22). *Person with a disability: Labor force characteristics — 2023*. https://www.bls.gov/news.release/disabl.htm

[4] Roberts, L., Ives-Rublee, M. & Khattar, R. (2022, February 22). COVID-19 likely resulted in 1.2 million more disabled people by the end of 2021—workplaces and policy will need to adapt. Center for American Progress. https://www.americanprogress.org/article/covid-19-likely-resulted-in-1-2-million-more-disabled-people-by-the-end-of-2021-workplaces-and-policy-will-need-to-adapt/#:~:text=New%20analysis%20of%20the%20U.S.,disability%20than%20were%20in%202020.

[5] Vaitsiakhovich, N., Landes, SD., Swenor BK. (2024). Are We Accurately Counting the Disabled Population in the United States? *Lerner Center Population Health Research Brief Series.* Research Brief #110. https://surface.syr.edu/lerner/241/

assistive technologies or modified technologies, and the potential for job displacement due to AI and automation.[6]

Project Overview

Over the past year, the National Disability Institute and New Disabled South collaborated to examine the impacts of emerging technologies in the workplace on disabled workers. The project identified the strengths and scope of existing research with the goals of honing their approach and focus to be as useful as possible to policymakers; technology, workforce, and disability researchers; advocates for workers' rights, technology justice, and disability rights; grant-makers; and other stakeholders – and especially to workers with disabilities. Over the past decade, advocates and scholars have devoted significant attention to algorithmic-driven decision-making tools in the hiring context. Many researchers and advocates have also contributed to an expansive and growing body of work focused on technology, both as a tool for increasing accessibility and the cause of accessibility barriers for many people with disabilities, with particular attention to areas such as user design and experience, assistive technologies, augmentative technologies, and accessibility features in software and hardware design. During that period, mainstream policy conversations on emerging technology have tended to focus on either extolling the potential economic and national security benefits or risks of artificial intelligence rather than center on civil rights and social justice concerns. When these policy conversations do address civil rights issues, disability is frequently omitted, despite disabled people being impacted by all policy issues and belong to all other marginalized communities.

Employment and employee civil rights, workforce development, vocational training, and support are core focus areas of the disability research and policy fields. Exploring and addressing issues across these focus areas is particularly important as the prospect of more disabled people entering and participating in the workforce increases. Advancing opportunities for people with disabilities to enter the workforce speaks to the success of the disability rights movement's commitment to ensuring the inclusion of people with disabilities in mainstream society and institutions and to advancing equality of opportunity within them. Equality of opportunity means that differences in outcomes are not inherently discriminatory or undesirable because all

[6] Jetha, A., Bonaccio, S., Shamaee, A., Banks, C. G., Bültmann, U., Smith, P. M., Tompa, E., Tucker, L. B., Norman, C., & Gignac, M. A. M. (2023). Divided in a digital economy: Understanding disability employment inequities stemming from the application of Advanced Workplace Technologies. *SSM - Qualitative Research in Health, 3,* 100293. https://doi.org/10.1016/j.ssmqr.2023.100293

people have meaningful opportunities for social participation, community integration, and economic advancement regardless of their disabilities or other marginalized identities.

Issues related to technology are frequently researched and included in advocacy campaigns. However, disability advocates have only recently begun to address technology in a civil rights and social justice context beyond baseline accessibility (despite persistent, glaring disparities in technical and financial inaccessibility of many technologies for disabled people). At the same time, research on and advocacy for workers' rights or on technology justice have largely omitted or siloed research questions and advocacy priorities focused on disability rights, while, until recent years, research in the disability rights realm had largely failed to address labor rights or technology justice. The work of disability advocates such as Damien Patrick Williams,[7] Ifeoma Ajunwa,[8] Kim Kelly,[9] Azza Altiraifi,[10] and Ashley Shew Heflin,[11] among many others, continue to advance technology justice for workers with disabilities.

The research design was informed by disability rights and disability justice frameworks. This

approach considers the diverse experiences of people with disabilities, including the intersection of disability with other identities such as race, gender, and class. The disability rights and disability justice frameworks both center the voices and experiences of disabled people in shaping research and recommendations. The disability rights framework prioritizes improving corporate and government policies to become more inclusive, while the disability justice framework prioritizes changing social and cultural values about disability and work. Using aspects of both frameworks, we sought to understand how emerging technologies are shaping disabled people's workplace experiences and opportunities. We also explored how these technologies can be designed and implemented in ways that promote inclusion, accessibility, and equal opportunity for all.[12]

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[7] Dr. Damien Williams Awarded Mellon Foundation Grant. (2023, February 3). University of North Carolina Charlotte. https://philosophy.charlotte.edu/2023/02/03/dr-damien-williams-awarded-mellon-foundation-grant/
[8] Hendrix, J. (2023, July 23). Ifeoma Ajunwa on the quantified worker. *Tech Policy Press.* https://www.techpolicy.press/ifeoma-ajunwa-on-the-quantified-worker/
[9] Westenfeld, A. (2022, April 26). 'You can't trust these motherfuckers': Why American workers need unions. *Esquire.* https://www.esquire.com/entertainment/books/a39813310/kim-kelly-unions-labor-interview/
[10] *Gig economy compounds problems for disabled workers, Azza Altiraifi says.* (2019, November 19). [Video]. Bloomberg Equality. https://www.bloomberg.com/news/videos/2019-11-19/gig-economy-compounds-problems-for-disabled-workers-azza-altiraifi-says-video
[11] Heflin, A. S. (2023). *Against technoableism: Rethinking who needs improvement.* W.W. Norton & Company, Inc.
[12] Berne, P., Morales, A.L., Langstaff, D., & Invalid, S. (2018). Ten principles of disability justice. *WSQ: Women's Studies Quarterly, 46*(1), 227–230. https://dx.doi.org/10.1353/wsq.2018.0003.

The project centered on exploring the implications of worker rights, artificial intelligence, surveillance technology, algorithmic bias, and intersecting identities for the health and well-being of disabled workers within the workplace. Workers with disabilities in manufacturing, warehouse, retail, and delivery environments were the primary focus. Within these industries, companies often have large workforces in which warehouse and delivery workers are increasingly subjected to intrusive surveillance that may monitor detailed biometrics, movement away from a workstation, and personal communications. Consequently, workers are disincentivized to take needed breaks, some of whom are dealing with long-term injuries or chronic physical pain that can potentially lead to further injury.

The risks of injury and illness on the job are disability issues. Job-related injuries can be disabling, leading to long-term disability or exacerbating pre-existing disabilities. Importantly, opportunities for workers in these roles are typically low wage, which means there is potentially a higher proportion of people with disabilities working in these spaces.[13, 14] Studies have shown that people with disabilities live at higher rates of poverty compared to people without disabilities due to lower rates of employment and earnings.[15]

The research also focused on the study of artificial intelligence technologies in the workplace, including algorithmic-driven decision-making tools, robotics and automation, and surveillance technologies. The field research was less focused on technologies used primarily for hiring, as there is already significant research and advocacy in that area. Relevant regulations are presented in the federal policy landscape analysis section of this report. AI hiring discrimination (but not AI enabled discrimination once on the job) is one of two disability and technology topics which researchers have published.[16] Instead, this project focused on an area of workforce, technology, and disability research that has

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[13] Shockey, T. M., Fox, K., Zhao, G., & Hollis, N. (2023). Prevalence of disability by occupation group — United States, 2016–2020. *MMWR*. Morbidity and Mortality Weekly Report, 72, 540–546. http://dx.doi.org/10.15585/mmwr.mm7220a1
[14] US Bureau of Labor Statistics, Bureau of Labor Statistics. (2024, February 22). Persons with a disability: Labor force characteristics - 2023. https://www.bls.gov/news.release/disabl.nr0.htm
[15] Rochester, R., Jennings, E., Antolin, J., & Baker, C. (2023, June). Advancing economic justice for people with disabilities. National Disability Institute and Asset Funders Network. https://www.nationaldisabilityinstitute.org/wp-content/uploads/2023/06/afn_2023_persons-with-disabilities_brief.pdf
[16] For a sampling of publications on AI hiring discrimination against people disabilities, see, e.g., Aaron Konopasky, "Pre-Employment Tests of "Fit" under the Americans with Disabilities Act," published in the *Southern California Review of Law and Social Justice* in 2021; Haley Moss, "Screened out onscreen: Disability discrimination, hiring bias, and artificial intelligence," found in the *Denver Law Review* (2020); and Nizan Geslevich Packin's "Disability discrimination using artificial intelligence systems and social scoring: Can we disable digital bias?." (*Georgia Journal of International and Comparative Law,* 2021. For a sampling of publications on assistive technology or accessible design for workers with disabilities, see, e.g., Abigail Tan, Michael Robin, Craig Williams, & LouAnne Boyd, "Prototyping Accessible Work Systems with a Deaf-Blind Employee," Extended Abstracts of the 2020 CHI Conference on Human Factors in Computing Systems, 2020, https://www.researchgate.net/profile/Louanne-Boyd-2/publication/341717324_Prototyping_Accessible_Work_Systems_with_a_Deaf-Blind_Employee/links/5ffe3f5a92851c13fe09ca4e/Prototyping-Accessible-Work-Systems-with-a-Deaf-Blind-Employee.pdf; Gavin R. Philips, Morris Huang, & Cathy Bodine, "Helping or Hindering: Inclusive Design of Automated Task Prompting for Workers with Cognitive Disabilities." *ACM Transactions on Accessible Computing* 16.4 (2024): 1-23, https://dl.acm.org/doi/pdf/10.1145/3628447; Emily Coombes, Ariel Wolf, Danielle Blunt, & Kassandra Sparks, "Disabled Sex Workers' Fight for Digital Rights, Platform Accessibility, and Design Justice," *Disability Studies Quarterly* 42:2 (2022), https://bhacjournal.org/index.php/dsq/article/view/9097/7727.

not received as much attention from scholars and policymakers since these technologies are shifting rapidly, and employers are still often in the early stages of adoption.

The research team enlisted the support of a seven-member advisory council with personal and professional expertise across workers' rights, disability rights and justice, and technology justice. The team leveraged social sciences and community organizing expertise to conduct nine in-person and virtual community listening sessions/focus groups with twenty total workers with disabilities, thirty key informant interviews across sectors and industries, and a national survey of workers with and without disabilities (N=108). The team analyzed federal and state legislation, (both enacted and proposed) regulations and sub-regulatory guidance specific to emerging technologies. The analysis looked at related issue areas such as civil rights and nondiscrimination protections, privacy and data concerns, state agency procurement and deployment, and potential worker displacement by automation, among others. An in-person convening was hosted with over thirty stakeholders, including worker advocates, disability rights advocates, technology justice experts, researchers, policymakers, industry representatives, and federal policy experts. Convening participants discussed the initial findings of the research and identified additional challenges and opportunities warranting further research, analysis, resourcing, and advocacy.

III. Field Research Summary Analysis

This research aimed to understand the broad impact of workplace technologies on disabled workers. Specifically, it evaluated how disabled workers view the incorporation of Artificial Intelligence (AI), surveillance technology, and automated technology and robotics into manufacturing, warehouse, retail, and delivery work environments. The study further assessed how AI, surveillance technology, and automated technology used at work affect how workers feel about their physical safety, mental and emotional health, job security, and workplace environment. In addition, it considered the ways in which workforce technologies impact disabled workers with intersecting identities. The research identified best practices and opportunities to help improve working conditions, protect, and support workers with disabilities. These findings also informed the recommendations, which aimed to address specific challenges different stakeholders face and amplify the success of various technologies in the workplace.

Additional information about the research study is outlined in the Research Methodologies Section.

For the purpose of this study, disability is defined as the experience of various physical, sensory, mental or cognitive, emotional, and self-care impairments that limit employment activities. These societal and systemic barriers may make it difficult for some disabled people to engage in certain activities without accommodations or support. This report uses a combination of person-first and identity-first language to respect the complexity of individual identity and to be inclusive of personal preference regarding disability.

"It's just very, very isolating working in a warehouse," one worker with a disability said. From the moment you scan in, you're "always being watched" and micromanaged, all day repetitively scanning products in oppressively hot temperatures, mandated to unreasonable pick-rates and pushed to satisfy an "infinite increase in a finite system." For some, these working conditions create a dehumanizing and hopeless experience and cause intense stress or even life-altering injury and, for others, they become a reason to resign, potentially losing access to income.

Due to largely unregulated systems, employers use the power of advanced technologies as a tool to squeeze every bit of labor from workers for the maximum amount of profit without regard to their health and wellbeing. Employees, often working in militarized-type buildings, dozens of football fields long, are tracked, monitored, analyzed, and penalized for their every micro-movement. Tensions and resentment build among colleagues in a competitive work environment. For people with disabilities, as well as those with intersecting marginalized identities, the experience is amplified.

Technology

In an era marked by rapid technological advancements and innovation, the work environment is undergoing a profound and undeniable transformation that is shaping our everyday lives. Rarely does one enter a workplace that does not use digital technology in some form. The relationship between technology and people with disabilities (PwD) is a "complicated" one. It serves as both an "enabler and a barrier." As Darrick, a person with a disability working in a warehouse said, "[For] people with disability, it's not just to solve a problem; it [technology] makes things possible . . . While for normal people, it just made things easy."

Decades of advancement in technology have offered opportunities to people with disabilities that would not have existed otherwise, including accessibility to both in-person and virtual settings. Some noteworthy examples of helpful assistive technologies include note taking and captioning software, audio amplification devices, refreshable Braille devices, screen reader technology, voice dictation software, eye gaze and sip and puff input devices, and digital scheduling technologies.

Technology has undoubtedly revolutionized communication, democratized information and information access and influenced how we spend our leisure time. Interestingly, participants expressed an almost "magical" yet an overly simplified belief "that technology can support disabled workers" in all circumstances and its evolving capabilities can "solve everything." Nonetheless, it is imperative to understand and critically assess the multifaceted ways in which technology directly impacts disabled people in the workplace, specifically in manufacturing, warehouse, retail and customer service, and to ask important questions about ethics, privacy, and the essence of our humanity.

The lack of thoughtful and inclusive technological development and design remains a significant problem in technological development and design. Findings from this study confirm that, for the most part, technologies continue to be designed without consultation, input, or consideration for the needs of disabled people, creating a more inaccessible world. Key informants from the disability policy and the technology design industry have also noted that technology

designers and developers are often unaware of access concerns nor are they trained in ways to make AI-powered products both accessible and compliant with either the current Section 508 technological accessibility requirements, implementing the Rehabilitation Act of 1973, or the internationally recognized Web Content Accessibility Guidelines (WCAG). Within the past year, the U.S. Department of Justice further clarified digital access requirements under the Americans with Disabilities Act, issuing legally binding regulations on web and computing accessibility that apply to websites and mobile apps used by state and local government entities.[17] These regulatory requirements can be informative and useful, even for entities not covered by them.

The growing field of technology has an opportunity to integrate technology in a way that doesn't leave people behind. But participants firmly agree that there is still a long way to go.

Artificial Intelligence (AI)

This section discusses the benefits and barriers that AI creates or enhances, including the barriers disabled workers face at work from the entry point and beyond, the impact of AI-driven automation on job displacement, and how AI can impact the autonomy and privacy of worker data.

Artificial intelligence is a broad term that encompasses technologies designed to simulate human cognitive functions. At its base, AI involves the development of algorithms and systems that enable machines to perform tasks traditionally associated with human intelligence, such as learning, reasoning, and problem solving.

The definition of what exactly constitutes AI can vary significantly among different disciplines, leading to ongoing debates about its scope, capabilities, technical specifications, and performance benchmarks and leading to misunderstandings about its meaning and the use of AI as a catchall term. When participants in this study were asked how they defined artificial intelligence and to explain its purpose, their responses were as broad as when asked to define the term "disability." Through interviewing technology experts and other stakeholders,

[17] U.S. Department of Justice. (2024). "Nondiscrimination on the basis of disability; accessibility of web information and services of state and local government entities." https://www.ada.gov/assets/pdfs/web-rule.pdf

> We are at a junction in time. We're going to look back on [2023, 2024, 2025] in a decade, two decades from now and beyond, and say that this was a pivotal moment, like in the history of tech and humanity. What AI, generative AI, is bringing to the table is something that can be radically different. And it means that it disrupts everything about . . . how we've done work for the last four decades. Whole industries are gonna get disrupted here. So, it's going to be a bigger conversation . . . that [will be] bigger than the mobile, the smartphone even bigger than the web . . . in the late 90s. It's a big deal.
>
> – Person with a disability working in tech

the general consensus found by this study was that artificial intelligence does tasks that traditionally have been performed by humans, and trained to "learn" by collecting data a "kind of crowdsourcing of what's online."

AI enables people with disabilities to "explore the world" around them. Through personalization, for many, it is a helpful and effective tool to be used for video conferencing, note taking, writing, editing, time management, and to help create and maintain digital language archives of some Native/Indigenous tribes. Software like Seeing AI and CoPilot helps to "empower accessibility." If designed to be intentionally inclusive, it could even be a useful tool to detect ableist language.

However, it is important to remember that ". . . not everything that's online is accurate." AI data is based on statistical patterns identified in the past and in binary terms: right and wrong, normal and abnormal. This is extraordinarily problematic for people with disabilities and contradictory to the human experience. In addition, AI tools are currently being developed without sufficient input from disabled users, and many fail to adequately address specific accessibility needs, even introducing new obstacles for disabled end users.[18]

Another concern, according to Kevin, a disability and tech expert, is that artificial intelligence has "hallucinations" that occur when it "makes up"

[18] Gadiraju, V., Kane, S., Dev, S., Taylor, A., Wang, D., Denton, E., & Brewer, R. (2023). "I wouldn't say offensive but...": Disability-centered perspectives on large language models. *2023 ACM Conference on Fairness, Accountability, and Transparency.* https://doi.org/10.1145/3593013.3593989

data that does not actually exist but can closely resemble real data and offer plausible-seeming output as a result. These errors can be caused by a variety of factors, including insufficient training data, incorrect assumptions made by the model, or biases in the data used to train the model.[19]

Barriers to Disabled People from the Entry Point and Beyond

Within the recruitment and hiring process, employers have increasingly relied on an AI-powered Applicant Tracking System (ATS) software that enables them to filter resumes based on keywords. The "most suitable" resumes are then forwarded to hiring managers for manual review. This software is designed to filter and select "good applicants" based on certain parameters that are considered statistically normal. While applicant tracking systems help automate the selection process and cut company costs, they also adversely filter out "individuals who are pregnant, . . . have disabilities, . . . have special medical needs, [and] individuals who are not neurotypical," explained Claire, a research specialist in the field. "[And] if it's facial recognition," she continued, "individuals who are not white, or who are not close enough to the set of training data."

This creates a pattern loop of perpetuating assumptions of who and what skill is considered productive. In each of these stages, there is the strong possibility that arbitrary, non-job-related requirements may result in screening out people with disabilities before they've even had an equal opportunity to compete for the position. One example is having a gap of longer than six months in work history. These gaps are common among people with disabilities and could be related to breaks to undergo treatment

> "As a person who hasn't driven since she was probably 20 due to vision loss, having a driver's license requirements on a job ad and then having to potentially be filtered out because I can't obtain that can add a lot of stress, and it can lead employers to less qualified or less correct candidate recommendations based on some arbitrary parameters.
>
> – Disabled advocate

[19] MIT Sloan Teaching & Learning Technologies (2024, September 16). *When AI gets it wrong: Addressing AI hallucinations and bias.* https://mitsloanedtech.mit.edu/ai/basics/addressing-ai-hallucinations-and-bias/

for a disability, deal with a chronic illness flare, or undergo and recover from surgery.

Furthermore, the more reliant companies and organizations are on technology to automate the hiring process, the more they narrow their candidate pool and "miss candidates with nontraditional backgrounds, . . . educational backgrounds, and . . . work experiences."

Eva, a seasoned civil rights attorney, explained that while working for the federal government:

> "I was reviewing resumes for 20 positions in our department . . . and the computer would spit out the applicants, and they would rank them, right, . . . in three levels. Sometimes it was the last level of competency that had the richest resumes, and the folks with the job experience that I really wanted to have on staff, and I could not use that because they were all the way at the bottom of the list. . . . The system [prevented you from using them]. You knew if there were three levels, right, like three groupings of resumes, but the ones that you were interested in were in the third grouping, there was no way in heaven you would ever get to interview them. . . . It was the most frustrating thing I've ever experienced."

Often, people with disabilities who are not selected after applying for a job are unaware that the reason why they've been screened out is due to a company's use of automated employment decision-making systems and hiring tools. As one disability advocate noted:

> "A lot of people with disabilities are so tired of doors slamming in our faces, physical and digital, and personal, that you can be too tired to try. And so, when you are encountering these invisible monsters like AI, that everyone is getting hyped about . . . and you've already been filtered out for years, how are you supposed to be enthusiastic? How are you supposed to get past one more barrier? And so, I think coming at it with an understanding that a lot of people are already so tired is important."

Furthermore, according to some experts interviewed, currently used AI-powered hiring tools available to employers are "not impressive, not well tested, and data collection storage policies are not best in class." The technology is "under-vetted, not independently verified" and puts people with disabilities at risk.

Currently, there are no regulations requiring employers to disclose their use of these technologies during the hiring process and no

regulations that explicitly require companies to provide people with disabilities the option to select an alternative form of interview and/or method of communication, or to opt out of the use of certain tools like AI resume scanners. Nonetheless, Title I of the Americans with Disabilities Act requires employers to evaluate candidates only with tests related to job function that assess whether a candidate can perform the "essential functions of the employment position" with or without reasonable accommodations;[20] the same law prohibits use of tests that tend to "screen out"[21] otherwise qualified candidates with disabilities as well as tests that constitute a medical examination or inquiry.[22] An automated tool that tends to screen out disabled applicants who would otherwise be qualified and able to perform the essential functions of the job is operating in violation of the ADA's protections. Similarly, an employer or recruiting firm may be in violation of the ADA if they require candidates to use a particular AI tool but fail to provide candidates with a meaningful and adequate opportunity to request accommodations, to provide sufficient information for a person to know that they may wish or need to request an accommodation because of the employer's use of AI, or to offer a modified or alternative assessment.

The Next Ideation of Capitalism: What happens to human capital when work becomes automated?

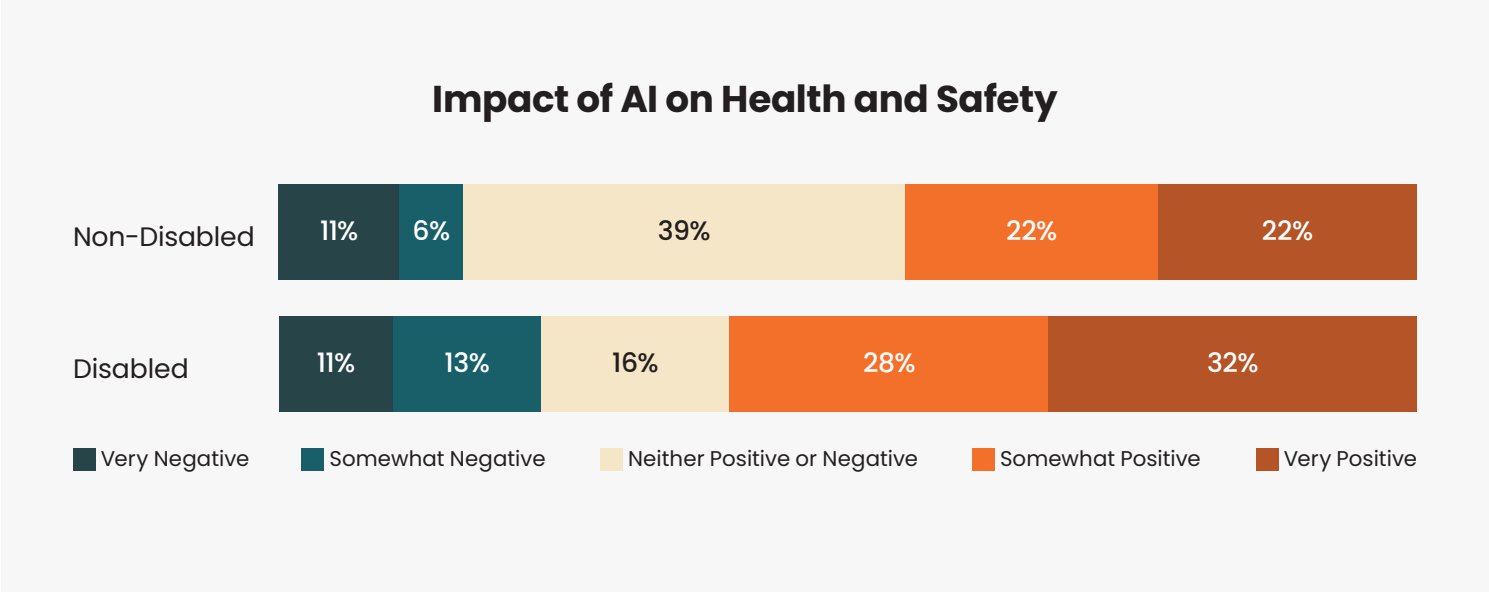
One of the most substantial drawbacks of AI adoption is the potential for job displacement. As AI systems are increasingly employed to automate repetitive tasks, there's a potential risk for significant job losses, particularly in manufacturing, warehousing, transportation, retail, and service-related industries where many people with disabilities are often employed. Disabled warehouse and manufacturing workers interviewed are concerned about AI and robotics advancements and are certain that automated technologies will increasingly

[20] Americans with Disabilities Act Title I, Sec. 101(8) (definition of "qualified individual" as "an individual who, with or without reasonable accommodation, can perform the essential functions of the employment position that such individual holds or desires")
[21] Americans with Disabilities Act, Title 1, Section 102(b)(6) (defining as a type of discrimination against a qualified individual on the basis of disability "using qualification standards, employment tests or other selection criteria that screen out or tend to screen out an individual with a disability or a class of individuals with disabilities unless the standard, test or other selection criteria, as used by the covered entity, is shown to be job-related for the position in question and is consistent with business necessity")
[22] Title I, Sec. 102(d) (prohibiting "medical examinations and inquiries" as prohibited discrimination, providing that employers "shall not conduct a medical examination or make inquiries of a job applicant as to whether such applicant is an individual with a disability or as to the nature or severity of such disability.")

replace human workers. Such displacement would cause considerable changes in the job market and result in fewer employment opportunities and decreased economic security for disabled people.

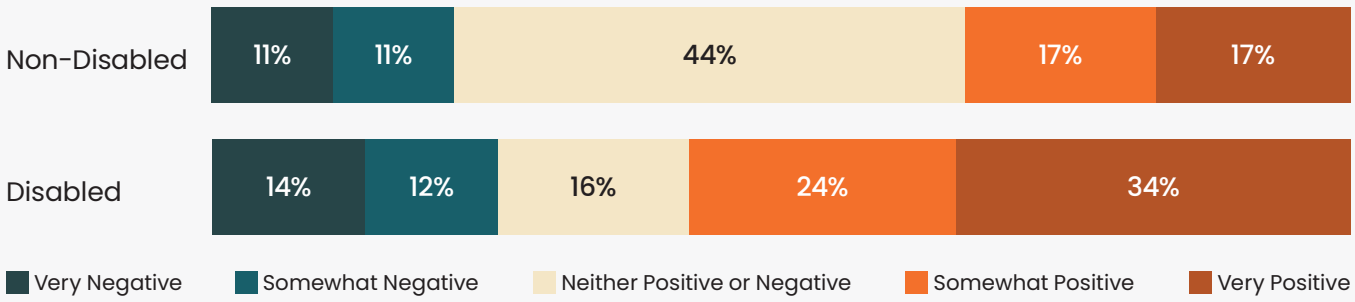
For some, AI is a valuable tool, while others feel AI-driven decisions are part of a broader effort by companies to reduce the number of hiring managers and recruiters, as well as other jobs that generally do not generate revenue for a company. These technologies take agency away from managers and require them to rely on statistics to make the decisions for them. This was explained by Trevor, a warehouse worker injured on the job:

> "I was fired for, I guess, I don't know how they said, it was for stowing errors. But they had told me that out of the 1200 items I had scanned for that day, that I had 12 mistakes, [and] because I was already on probation for prior mistakes. And I was like, I wasn't even aware of these prior mistakes. No one told me, no one even came to me and told me that I was messing anything up, and now y'all were pulling me down now and firing me. I hadn't been given any verbal warnings, no written warnings, they hadn't put me to the side and say anything to me. I just went to work one day, they called me down, and I was fired. I feel that it makes . . . the morale low, knowing that you can just be gone like at any point for something that could be a simple fix with communication."



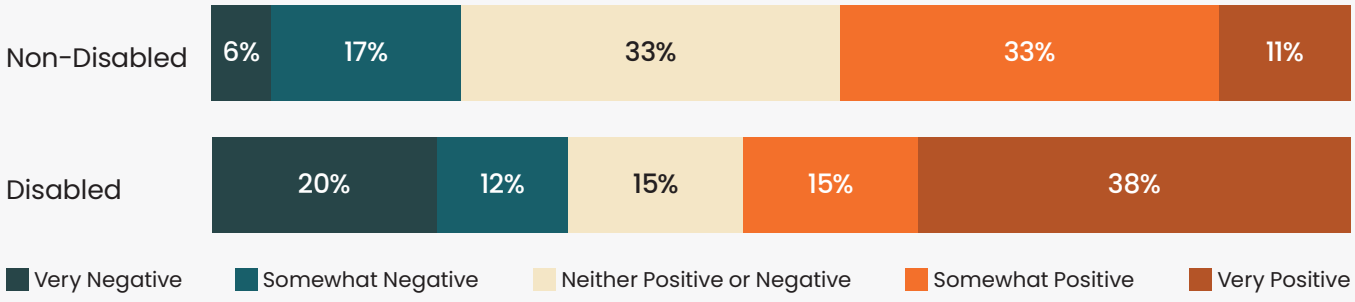
Survey results showed varying degrees of sentiment towards AI, with disabled workers exhibiting either a more positive or negative outlook on artificial intelligence. In contrast, non-disabled workers were more likely to feel that AI had neither a positive nor negative impact on them. Out of the disabled respondents (N=90), 60 percent felt that AI had a positive impact on their health and safety as a worker, compared with 44 percent of non-disabled workers (n=18).

Impact of AI on Mental Health



Similarly, 58 percent of disabled workers (n=49) felt that AI had a positive impact on their mental health, compared with only 34 percent of non-disabled respondents (n=6). Disabled workers were also more likely to feel that AI had a positive impact on their job security, with 53 percent of disabled workers (n=45) reporting that AI had either a somewhat positive or very positive impact on job security, compared to 44 percent of non-disabled workers (n=8).

Impact of AI on Job Security



Many participants expressed their appreciation for tools with integrated AI in the workplace. "It makes the job very simple. I don't have to do much thinking since it's already . . . planned out for me by [company name redacted] various systems," one survey participant noted. Another worker shared similar positive sentiments, noting that "AI has a significant impact on me by enhancing my accessibility, productivity, and inclusion in the workplace." Many other workers revealed similar sentiments, affirming that natural language processing tools, like ChatGPT or Gemini API, increased

their workplace efficiency, reduced their workload by automating routine tasks, and even contributed to improved mental health and reduced burnout by alleviating the pressures of often repetitive work.

However, many other workers voiced opinions that were just the opposite, expressing that, ultimately, AI complicated how things operated at their workplaces. One participant stated that, "I felt like the AI complicated pick paths, creating a very stressful work environment." Another survey respondent noted that "it's irritating that the company seems to not understand that the algorithm doesn't work for all facilities of XYZ type, and someone needs to be able to tweak it for each facility."

Industries such as manufacturing, warehouse, transportation, and retail have seen significant shifts due to automation. One major study conducted by McKinsey and Company found that further automation had the potential to eliminate 73 million U.S. jobs by 2030, which would equate to a staggering 46 percent of the current job numbers and could displace 20 million manufacturing jobs by 2030.[23] As of February 2023, there were 1.32 million people employed in the warehousing and storage industry, representing a 2.74 percent decrease in employment compared to February 2022, just one year prior.[16] Black, Latinx, and women workers are at significantly higher risk for job loss due to automation than their white and male counterparts, further highlighting the disparity that exists for historically marginalized workers in this age of automation.[24] While the struggle between automation and job insecurity has been deeply entwined within labor history over the past century, the rapid integration of generative AI-driven automation into the general labor market over the past decade continues to create a legitimate concern for (disabled) workers today, particularly those with disabilities.

"When you look at the labor statistics in this country," Michelle, a disability expert, cautioned, "the most concerning storm is coming. The hurricane force winds in that people with disabilities are highly over concentrated in manual skills jobs. And those are the very jobs that are going to get dramatically disrupted by technology, AI and digital transformation." A detailed look at different subcategories of trade industries using the North American Industry Classification System (NAICS) shows that most disabled people working in trades are employed by the industries of manufacturing, construction, trade (retail or wholesale), and transportation.[25]

Due to unrealistic productivity standards, with no margin of error, disabled workers expressed

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[23] Manyika, J., Lund, S., Chui, M., Bughin, J., Woetzel, L., Batra, P., Ko, R., & Sanghvi, S. (2017, November 28). *Jobs lost, jobs gained: What the future of work will mean for jobs, skills, and wages.* McKinsey & Company. https://www.mckinsey.com/featured-insights/future-of-work/jobs-lost-jobs-gained-what-the-future-of-work-will-mean-for-jobs-skills-and-wages

[24] Jeffrey, A. (2021, October 29). *Preparing students of color for the future workforce.* Center for American Progress. https://blog.dol.gov/2023/02/13/employment-of-people-with-disabilities-in-skilled-trade-professions

[25] Rosenblum, D., & Ruth, A. (2023, February 13). *Employment of people with disabilities in skilled trade professions.* U.S. Department of Labor Blog. https://blog.dol.gov/2023/02/13/employment-of-people-with-disabilities-in-skilled-trade-professions

fear and stress about being replaced. Denzel, a disabled worker, expressed that "you're always cautious whatever you're doing. . . . You're trying to impress your employer; you're trying to impress your fellow employees . . . you're always trying to work more than you can. More than your disability can accommodate at the moment."

Disabled warehouse employees are worried their employment opportunities will become obsolete. Sachal, a disabled worker, shared that they "don't need you because you've trained a machine to do it." Meanwhile, Sharell, a disabled warehouse worker, explained that "individuals who have . . . a physical disability . . . such as standing and sitting . . . could easily be replaced with the AI. [And] they really don't have to accommodate and make it accessible because of the AI."

Data Privacy and Protection Concerns

An increase in use and advancements to AI are accelerating at speeds faster than can be managed. It is essential to be aware of the risks and take necessary measures to protect employees' privacy and physical safety.

Additionally, data privacy and security concerns continue to arise as these systems collect and utilize a vast amount of sensitive information about products, operations, and employee personal data. The secure handling and ethical use of all data collected within smart warehouse environments are not currently enforced in a uniform way; policies surrounding data privacy

and employee surveillance are mostly either nonexistent or require major improvements.

On the warehouse floor, Robert, an organizing professional, spoke of his concern that

> "if they use AI to run the automated machinery, that they're doing at these centerline facilities, the minute you're not having true human interaction, to see, with your eyes, on the ground of what's going on [and] make decisions that directly impact what's going on with human work, to me is wrong. It's not a safe thing to do for you to rely on a computer to think that you're going to foresee or see something that's going to happen, or could happen, is not how you protect workers."

As AI becomes increasingly integrated into the workplace, people must be cognizant of the barriers faced by people with disabilities throughout the employment lifecycle, especially those with intersecting identities who are at heightened risk for discrimination. Proactively addressing these issues will be crucial to mitigating the harms of technology and set the stage for its serving as a force for good in the workforce, promoting inclusion, safety, and removing systemic barriers for disabled workers.

Recommendations related to AI are available in Section 5 of this report.

Surveillance Technology

This section discusses the use and impact of surveillance technology within the workplace. Themes discussed include the benefits and risks of using surveillance technology in the workplace, how disabled workers experience bias and discrimination from surveillance tools that can perpetrate ableism in the workplace, and how implementing these technologies to track employee productivity can undermine worker power, leading to injury and harming worker mental/physical health.

For the purpose of this report, the term "surveillance technology" will be used. AI-powered surveillance technology is an umbrella term for technologies used by employers to both continuously and automatically gather employee data and track and manage workers' time spent "off-task." Unlike monitoring technology, a more metric-based technology that perhaps does not serve as surveillance, AI-enabled surveillance technology is comprised of a greater number of components and is intended to be used for different purposes. Monitoring technology typically involves observing processes, tools, or systems to ensure compliance with standards or to improve operational efficiency. In contrast, surveillance technology generally refers to tools and systems designed to gather data on workers themselves, often to watch and assess their behavior, performance, and efficiency. Surveillance technology is primarily used to observe low-wage, manual labor and an entry level workforce rather than managerial and executive level staff.

Employee "surveillance is nothing new," but, according to a worker's rights and technology expert, "what's kind of different about surveillance today is that companies can really do it on a level of detail that was impossible in the days before automated system." And while surveillance technology has the potential to be harmful to all workers, there is a particularly heightened risk for disabled workers because such technologies, which include productivity tracking software, trackable badges, wearable technology, GPS tracking and geofencing, and video monitoring systems, are designed in ways that disproportionally and negatively impact physically, visually, developmentally, and auditorily disabled employees. As Faith, a warehouse worker with disabilities told us:

> "Say if you go to the bathroom for five minutes; it's going to tell what time you signed out and signed in and know your activities and movement. If you go to the bathroom for ten minutes, there's gonna be a black bar beside your name letting them know that okay, well, you stayed away from your station for ten minutes. So even if you

> ain't feeling good or something like that, it's going to be frustrating because, what if you go to the bathroom and there's a line. And most times, there's only one bathroom where we work at and it's like thousands of people that work there."

For managers, surveillance technology normalizes and simplifies micro-management. These various uses of technology track workers to the second and are often combined with AI to automatically assess their performance. It increases the pace at which workers are forced to work, reduces workers' sense of autonomy and dignity, and increases their mental health strain. Further, these technologies are often tied to management decisions. Predetermined and unyielding productivity levels are built around assumptions of what it means to be productive and "on task." Relentless and automated surveillance exploits people with disabilities in ways that are hidden from view. Employees are often unaware that they're being surveilled and how that data directly impacts their performance and employment status. "A lot of these systems tend to be opaque," explained Kara, a research expert in the field, "so workers only find out that they're being measured in that particular way when they are penalized for it." Or, as Trevor, an injured warehouse worker, noted, "I think a lot of people like feel the sense of monitoring, but they probably just like we're conditioned to it."

During the height of the COVID pandemic, many people quickly learned how essential warehouse and manufacturing workers are to their daily lives. This hidden and rarely appreciated workforce is often the most

vulnerable to being surveilled. Andrew, a tech and disability policy expert, stressed that:

> [Whether] "you're a driver who's being monitored to make sure you're making deliveries fast enough, or you're in a warehouse, you're more likely to be in those jobs if you're a person of color, if you're lower socio-economic status, if you have less educational attainment. . . . It's targeted at people who have less power in society. And often, the more intersectional your identity is, the more likely it is that you have less power and are more surveilled. [And} the more kind of different you are from this imaginary typical person that AI is built around, the worse it's going to perform on you."

The mere presence of surveillance is enough to make people unwelcome in their workplaces. Surveillance technologies can create or contribute to an accusatory and unhealthy work environment. It puts people with disabilities in positions where they have to justify their behavior while being investigated and flagged as being possibly problematic.

Disabled workers expressed that "being watched all the time" is a humiliating and degrading experience. While some have said the purpose of these technologies, as explained to them by their employers, is to "protect you" and ensure nothing is stolen, participants expressed "it's like you're in jail," and "the only thing that matters is a number." Use of these technologies undermines the trust between employers, managers, and workers that would otherwise keep a workplace honest, productive, and welcoming. Further, surveillance technologies can cause chilling effects on freedom of expression, assembly, and association, which can prevent workers from effectively organizing with each other.

The results of this study indicated a relationship between surveillance technologies, work pacing, and injury. According to sources, the number one priority stressed during the employee onboarding at (company name redacted) is safety, followed by productivity. However, Trevor explained that:

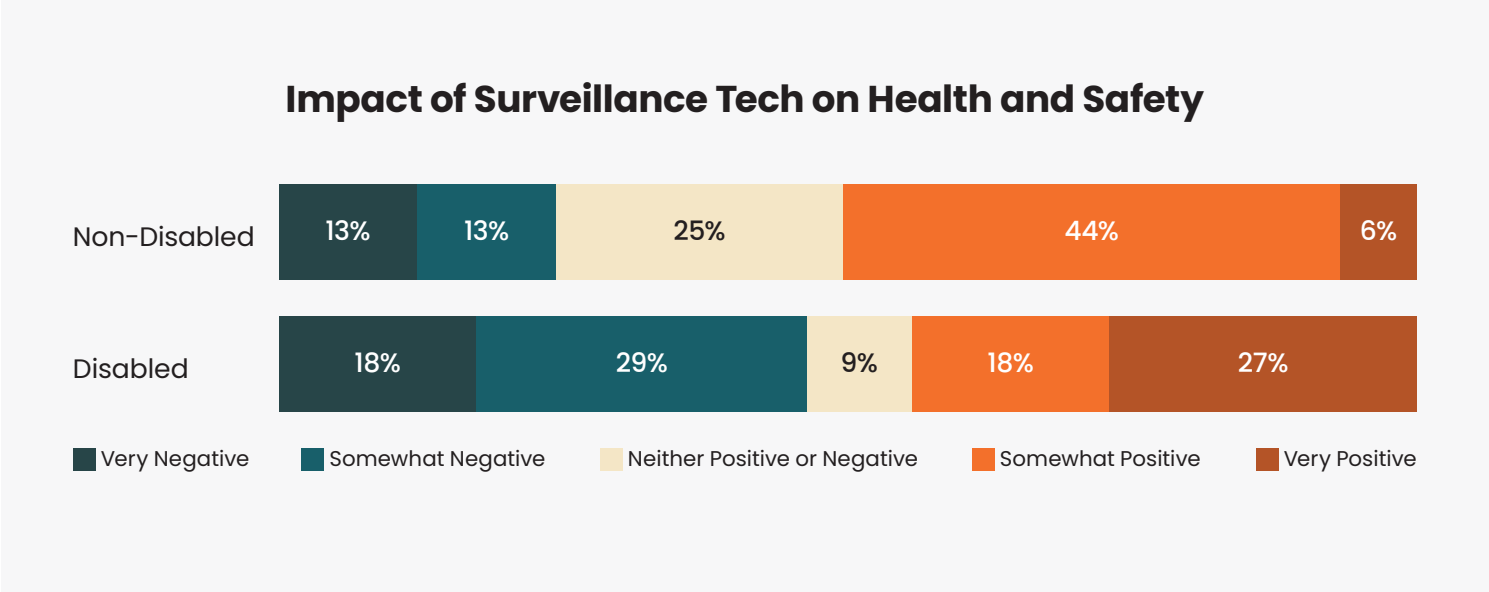
> "When I was in my first warehouse, we literally had someone who was deaf working the pit machines. They were working a reach truck, which is like a forklift. And it's just crazy to me, because you always, like use your horn when you . . . leave an aisle or anything to let people know you're coming. And these can be . . . very dangerous situations. And it just felt like there was no additional measures with having a deaf person do a reach truck. . . . Why is this like happening with no extra precautions? I feel like safety is a very like, an afterthought, a lot of times."

The unreasonable increase of productivity demands accelerates employee work pace, which

for many workers results in short and potentially long-term physical harm and injury. Further, both primary and secondary data show that there is no legal requirement that would behoove companies to track, record and demonstrate the number of injuries that occur specifically to disabled workers due to these technologies.

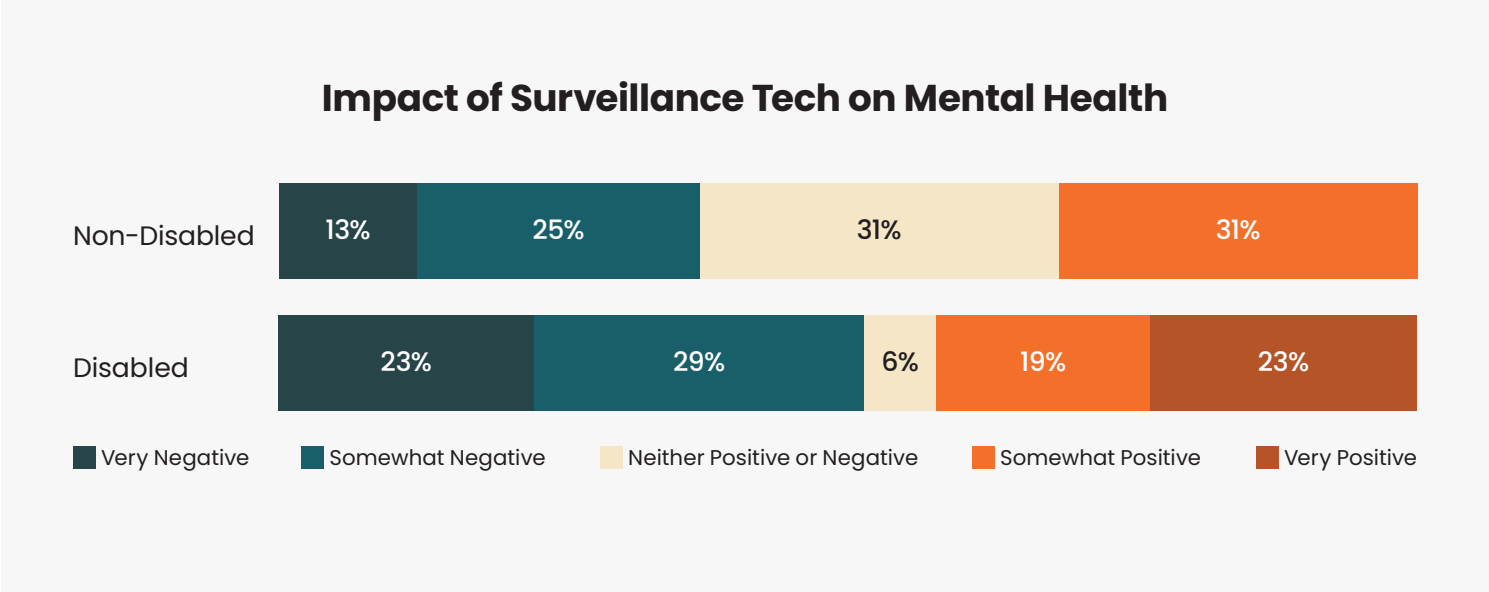
Employees perceive surveillance tech in various ways. Some believe it protects them from harm, can support claims of harassment, and acts as a strong deterrent against criminal activities. Others consider the use of surveillance technology as intrusive rather than protective and cite examples of it being used to stalk co-workers and weaponized against employees by micromanaging managers. In addition, it is important to understand the nuances of beliefs around surveillance within varied cultural contexts. Over the course of our interviews, it became apparent that many employees within warehousing, manufacturing, and retail were immigrants who, based on their lived experiences and learned behaviors, held different cultural beliefs of what safety and surveillance means compared to Westernized, North American-centric views and expectations.

While, on the surface, surveillance technology may help optimize workflow and resource allocation, balancing the need for productivity optimization with employee privacy and ethical considerations remains crucial for the successful and ethical implementation of surveillance systems in these various workplace environments.

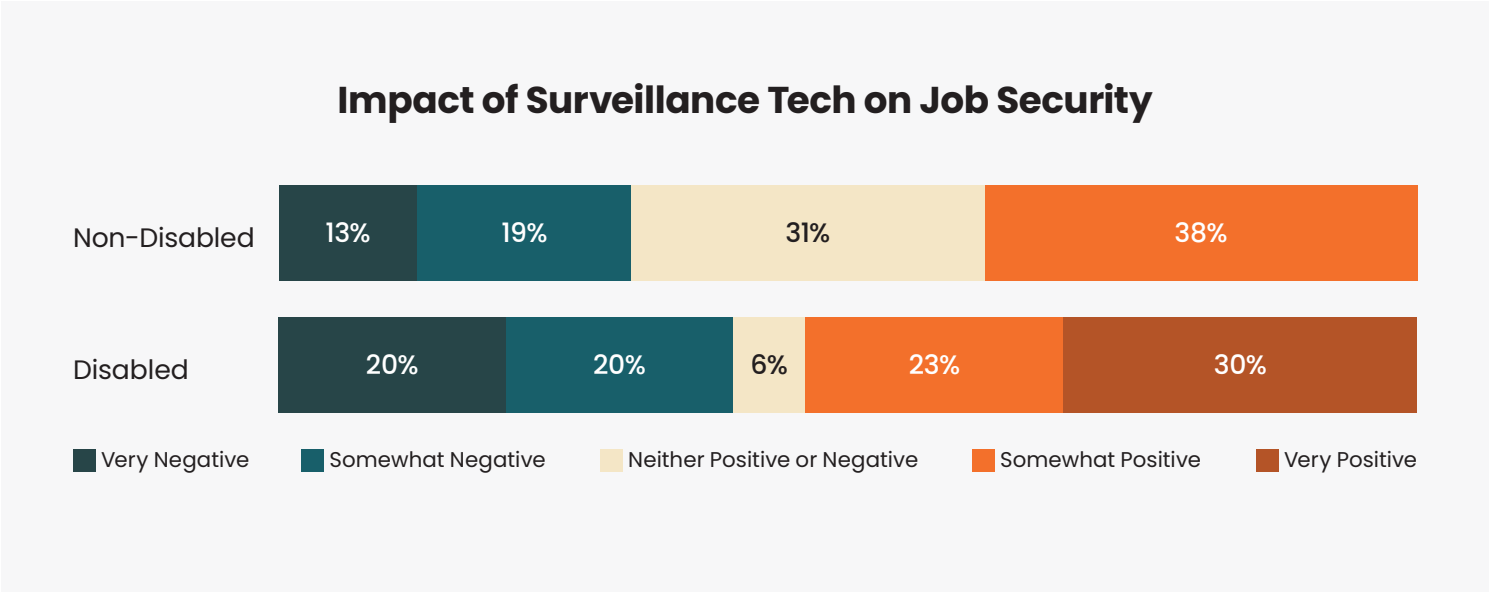


The survey found that, in general, disabled workers had a significantly more negative view of the impacts of surveillance technology in the workplace compared to non-disabled workers. Of workers with disabilities, 42 percent (n=37) reported that surveillance technology negatively affected their health and safety, in contrast to just 26 percent (n=4) of non-disabled workers. In contrast, 45 percent of disabled workers (n=35) and 50 percent of non-disabled workers (n=9) reported either a somewhat

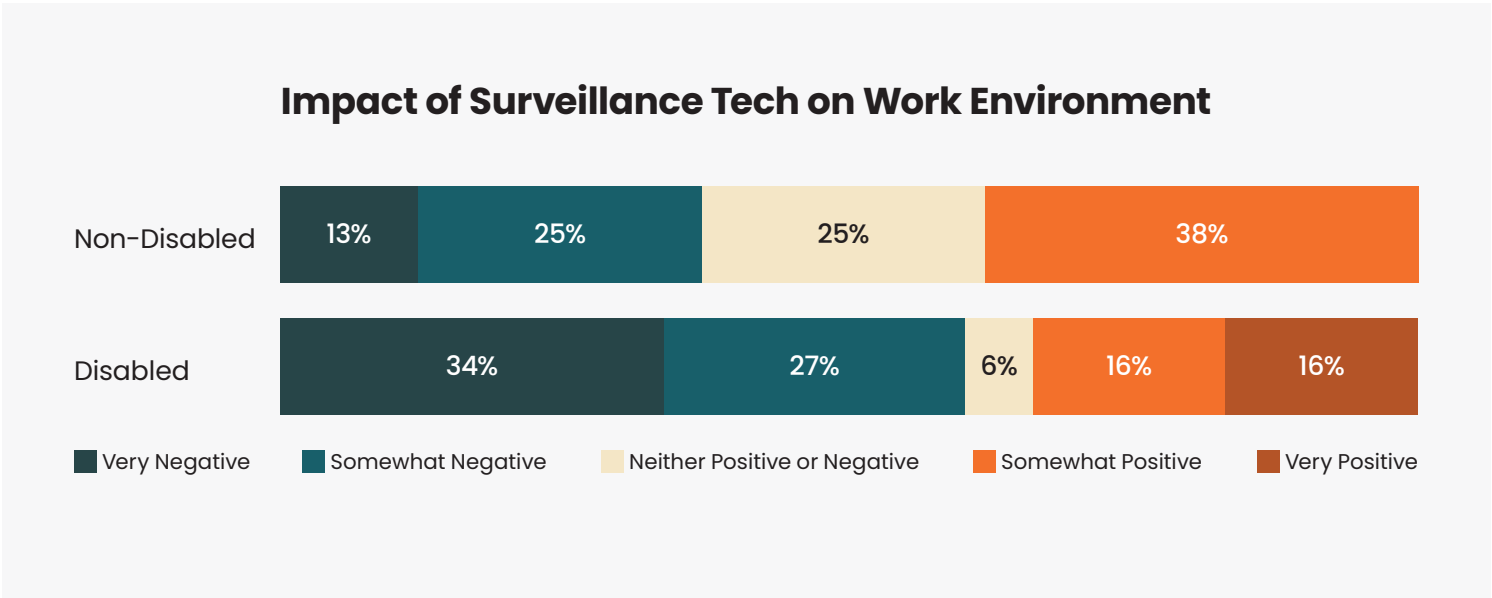
positive or very positive impact of surveillance technology, highlighting a similar divide within the views of disabled and non-disabled workers.



Disabled workers similarly exhibited divided views on how surveillance technology impacted their mental health, with 52 percent reporting somewhat or very negative impacts on mental health (n=41) compared to 42 percent (n=33) who reported either somewhat or very positive impacts.



When asked about the impact of surveillance technology on job security, disabled workers held similarly polarized views, with 40 percent (n=32) reporting negative impacts and 53 percent (n=42) reporting positive impacts of surveillance tech on job security.



In addition, 61 percent of disabled workers (n=48) felt that surveillance technology had either a somewhat or very negative impact on their workplace environments. In comparison, only 38 percent (n=6) of non-disabled workers felt that surveillance technology negatively impacted their work environments.

Workplace injuries represent a significant concern for workers, as they not only affect immediate physical health and job performance but can also lead to long-term or permanent disabilities, further exacerbating existing inequities for disabled individuals in the workforce. In 2022, the U.S. Bureau of Labor Statistics reported 2.8 million nonfatal workplace injuries and illnesses.[26] Many of these injuries, even when minor, have the potential to cause long-lasting chronic pain and harm to worker wellbeing. For instance, musculoskeletal injuries accounted for 30 percent of all workplace injury cases in 2020, many of them resulting in long-term chronic pain and reduced mobility.[27] Further, dealing with a chronic work-related injury often involves significant socio-economic challenges, many times leading to the loss of a job, economic insecurity, and the need for extensive medical care and rehabilitation.

Workers in physically demanding jobs such as in-person customer service, warehousing, construction, manufacturing, and healthcare, are particularly vulnerable, and the risk is exponentially higher for disabled workers. Workplace injuries can compound the heightened social and economic barriers disabled employees face, such as accessing quality healthcare, fair wages, and employer support for necessary workplace accommodations. Mirroring sentiments from

[26] U.S. Bureau of Labor Statistics. (2023). (rep.). *Employer-reported workplace injuries and illnesses – 2021-2022.* https://www.bls.gov/news.release/osh.toc.htm
[27] U.S. Bureau of Labor Statistics. (n.d.). *Occupational injuries and illnesses resulting in musculoskeletal disorders (MSDS).* https://www.bls.gov/iif/factsheets/msds.htm

previous studies on the topic of technology and workplace injury,[28] an interviewee during this study reported that "in many cases, working under these technologies increases levels of stress and anxiety, that increases the pace of work" accompanying "an increased chance of being hurt on the job." They continued with an important question that points to the implications of career defining work injuries: "After people work at [a company], are they basically saddled with chronic pain, [will they] have a disability [condition] for the rest of their work career?"

National survey results show that out of the total respondents, 61 percent (n=66) reported being injured at work at least once. Of those injured at work, 59 percent (n=39) said that their injury was due to an interaction with technology in the workplace. Alarmingly, 36 percent (n=24) of people injured at work said their injury impacted them for a minimum of three months, with 15 percent (n=10) of them noting that their injury still impacts them currently. The highest numbers of reported workplace injuries were in office operations and administration (n=25), warehousing (n=17), customer service and retail (n=11), and delivery (n=10), with musculoskeletal injuries being the most common due to poor ergonomic conditions. Importantly, 64 percent of disabled workers reported being injured on the job, compared to 44 percent of non-disabled workers, indicating that disabled workers face heightened vulnerability to and risk of further compounded injury that may also exacerbate pre-existing disabilities.

Table A: National Survey Results - Worker Injury

Question	Response	Group (n)	% of Sample
Injured at Work (N=108)	Yes	66	61%
	No	42	39%
	Unknown/Refuse	0	0%
Injury due to Technology (N=66)	Yes	39	59%
	No	23	35%
	Unknown/Refuse	4	6%
Length of Injury Impact (N=66)	A few weeks or less	42	64%
	A few months	14	21%
	Ongoing	10	15%

[28] Scherer, M., & Brown, I. X. Z. (2021, July 24). Warning: Bossware may be hazardous to your health. Center for Democracy & Technology, https://cdt.org/wp-content/uploads/2021/07/2021-07-29-Warning-Bossware-May-Be-Hazardous-To-Your-Health-Final.pdf

As documented extensively by the Center for Democracy & Technology, current labor law fails to fully capture the harms posed to mental and physical health by such surveillance technologies, or to provide adequate tools for meaningful enforcement of the general requirement for all employers to provide a safe and healthy workplace.[29] The Occupational Health and Safety Administration, which is responsible for issuing health and safety regulations impacting workers, is limited in its investigative, monitoring, and enforcement capabilities, and has not yet provided specific guidance on the use of surveillance technology and its attendant risks. Nonetheless, existing legal frameworks do offer some protections – employers may face legal liability if their software penalizes workers for taking bathroom breaks, automatically docks pay for leaving workstations, or fails to accommodate disabled workers.

Ultimately, the use of surveillance technology in the workplace often disempowers low-wage and entry level workers, reinforcing problematic hierarchical structures within organizations. By continuously monitoring employees, managers can exert control over other workers' performance, creating an environment of diminished trust and micromanagement. While there are some benefits for companies to use surveillance technology, e.g., to improve workplace safety, monitor employee productivity, and increase protection for valuable assets, its current use in the workplace has greater negative impacts on workplace environments, including high turnover rates, increased worker injuries, mental and emotional stressors, and job security.

Recommendations related to Surveillance Technology are available in Section 5 of this report.

[29] Scherer, M., & Brown, I. X. Z. (2021, July 24). Warning: Bossware may be hazardous to your health. Center for Democracy & Technology, https://cdt.org/wp-content/uploads/2021/07/2021-07-29-Warning-Bossware-May-Be-Hazardous-To-Your-Health-Final.pdf

Algorithmic Discrimination and Bias

This section explores the various ways in which technology, particularly with integrated AI, exhibits algorithmic bias and discrimination that directly impacts disabled workers. Themes explored include how algorithmic bias is originated during technology development, how the algorithms behind commonly used tools in the workplace (for example hiring software and productivity tracking programs) can directly harm disabled workers, particularly those with multiple marginalized identities, and ultimately how the algorithms behind these tools reflect deeply rooted societal biases.

AI-powered software used in conjunction with surveillance displays several forms of bias that both mirror and perpetuate societal stigmas and discriminate against marginalized populations. Most often, machine learning algorithms are trained and evaluated by splitting data from a single source into training and test sets. Andrews assures that "because there's a lack of consideration for people who are different from a statistical average, . . . that almost always is going to put disabled people at risk."

The meaning of bias differs between social scientists and the general public, compared to someone doing computational work. Computer scientists and software engineers are likely to be trained to think a technological measurement is unbiased because it is not affected by human biases; a mathematical meaning of bias does not recognize the complexities of being human. In addition, as one anti-surveillance activist explained, "If you already got discrimination in the workplace against people with disabilities, there's no reason to expect that AI will fix that. Machine learning will replicate those patterns, not correct them."

Embedded algorithmic bias stifles career advancement and makes it harder for people with disabilities to find and maintain employment and live as full members of their community. Bias denies individuals who are not statistically normal a chance to show that they are committed, reliable, effective workers and limits the likelihood that they interact with non-disabled people. In addition, it reduces the number of opportunities that an already underrepresented population gets. For example, many hiring algorithms may inadvertently discriminate against women, people of color, and people with disabilities, as they were trained on what ideal resumes may look like —generally ones from an existing employment pool, which, in most cases, exhibit traits either directly attributable to or close proxies for membership in systematically privileged groups. For instance, an employment lawyer examining one resume screening algorithm that

was trained on resumes of already successful employees found that two of the factors the algorithm determined most strongly correlated with success were having the first name "Jared" and having played lacrosse – characteristics that can apply to any person but tend to be more closely associated with white men.[30]

While, in theory, it is possible to eliminate all biases from AI, the reality is, according to every participant asked, that this is not true. Celia, a disability attorney, strongly expressed that "no one would agree that you can remove bias from a person, you can't remove bias from anything a person creates, either." People's biases are embedded into the algorithms they create. AI algorithms, on a small or large scale, are trained on datasets. Currently, most datasets are neither diverse nor are they representative of the general public and, in the rare case, that disabled individuals are included within a training dataset, there is a glaring lack of diversity within the disabled population. Many experts agree that bias does infiltrate algorithms through these flawed training datasets, making it nearly impossible to disentangle once the AI system has begun developing. They cannot simply "unlearn" bias if it is deeply ingrained into a system's core. As a technology expert interviewed said:

> "There's always going to be bias that gets picked up in data, because society is biased. Systemic bias . . . is going to get captured in various information that we collect about people. There's no amount of improvement to AI that's gonna solve human bias in society [and] capture the shades of humanity."

While bias may never truly be eliminated from certain technologies, there must be diverse datasets with intersectional diversity, including diversity within the disabled population. It is crucial for developers and distributors to continuously evaluate and independently audit their systems for discriminatory impacts against disabled and multiply marginalized communities.

Recommendations are available in Section 5 of this report.

[30] Mark Girouard as quoted in Schellmann, H. (2021, June 23). Podcast: Hired by an algorithm. *MIT Technology Review.* https://www.technologyreview.com/2021/06/23/1043082/podcast-hired-by-an-algorithm-2/

Robotics

This section explores the use and impacts of robotics in the workplace, including the influence they have on disabled employees. Specifically, the impact of robotics on job security, worker health and safety, and workplace environment is explored, with discussions on the misconceptions and misinformation workers receive from their employer regarding the use of autonomous robotics.

The use of robotics in the workplace increases efficiency and productivity, "eliminates manpower, reduces cost" and, debatably, reduces employee injury. However, these technologies also reveal the uneven relationships of humans with their environment.

Their presence contributes to job eliminations and limits job prospects. An expert in the field of warehouse logistics explains that "[a company will] invest [...] 50,60, $70,000 in [automated robotics] for one year. They'll make that up and knock two or three workers on the line that [...] normally do that type of work, and they'll [company] make their money up in less than a year."

Respondents to the national survey had complicated opinions on autonomous technology and robotics within the workplace, with many disabled workers responding with a more positive view of robotics and autonomous technologies. Disabled workers seemed to have a more positive outlook on the integration of autonomous technologies at work, not only as it affects their work environment but also their job security. Forty nine percent of disabled workers (n=38) felt that autonomous robotics had a positive impact on their job security, and 54 percent (n=42) reported that these technologies positively impacted their workplace. Again, the majority of non-disabled workers, 53 percent (n=8), felt that their job security and their workplace environments were neither negatively nor positively impacted by autonomous robotics. However, in their open-ended responses, most workers, including many participants who indicated positive or neutral responses, mentioned concern about autonomous robotics impacting the number of available jobs if the use of automated robotics takes the place of (disabled) workers and eliminates warehouse and retail workforce that, according to one concerned disabled worker, "we're not going to bring back."

Further, automated robotics elicit new and unforeseen physical risks to employees, a problem noted by Robert, a logistics warehousing and safety expert:

> "Working in the warehouse of (company name redacted)], you already have a fast-paced working environment in these facilities as it is. Now you're where you're . . . having to worry . . . about robotic and

automated machinery. Not knowing if they're gonna stop when they see you like they're supposed to. "

According to one seasoned warehouse professional:

> "Working in logistics in the warehouse, we deal with predominantly, I'd say 80 percent ergonomic-related injuries. Lifting, bending, twisting, back injuries, strains and sprains. Contusions, smashed fingers, broken fingers. . . . But with new technology coming in, . . . we're starting to be faced with different work-place hazards, like these automated robots that they want rolling around the building, you know, delivering parts and stuff."

According to the national survey, while only 23 percent of disabled workers (n=18) said they felt negatively about the impact of autonomous robotics on their physical health and safety, 39 percent of disabled workers (n=30) felt that autonomous robotics negatively impacted their mental health in the workplace. Non-disabled workers were more likely to feel neutral about the physical and mental health impacts of autonomous robotics, with 53 percent (n=8) reporting neither positive nor negative feelings about the impacts. This difference in sentiment and optimism towards autonomous robotics in the workplace observed in the national survey results could stem from several factors. Many large companies promote autonomous robots as productivity-boosting tools, often emphasizing benefits while minimizing potential drawbacks. This is particularly true in how they market these technologies to workers with disabilities, highlighting assistive features while omitting possible negative impacts on physical and mental health, work environment, and job security. Moreover, there is a notable lack of research and public information on the specific effects of autonomous robotics, especially concerning disabled workers.

Recommendations are available in Section 5 of this report.

Health, Safety and the Work Environment

This section discusses the multiple health and safety risks that technology pose to disabled workers, particularly those working in warehouse and manufacturing sectors, and their hesitation to report work injuries and unionization due to fears of retaliation, reduced hours/pay, and termination.

Currently, workplace temperature conditions remain highly unregulated in the U.S. In workplaces such as warehouses and manufacturing plants. Workers, especially disabled workers whose disability causes heat sensitivity, face severe health risks like heat stroke and heat exhaustion during warmer months. Due to global temperature increases and more extreme weather patterns, this issue is incredibly urgent for disabled workers. Gayle, a disabled warehouse worker, discussed this, saying that:

> "We work in a plant and it's hot. You feel like you're about to pass out. Well, people have passed out, and they don't have anybody there if somebody passes out, or [that] knows what to [do]. . . . They started passing out [ice] pops."

A former warehouse safety representative emphasized that "90 percent of the warehouses in the Inland Empire (a region in Southern California) or throughout the country are not required [by OSHA] to have air conditioning. They could have fans to help with air movements." If an employee starts to experience heat stress, some companies offer air-conditioned rooms. However, the time used to cool down in these rooms may potentially be flagged "off task" and result in disciplinary actions. Some people with disabilities, such as those with diabetes or with psychosocial disabilities that require the use of psychotropic medications, are prone to quicker dehydration and elevated heat sensitivity.

Some disabled workers expressed that they're afraid to report when they've been hurt on the job in fear of retaliation or being the target of blame for the injury. According to one respondent:

> "My husband was in a situation quite a few years ago, where he hurt his knee while working. He went to urgent care with the knowledge from (company name redacted) and they gave him codeine for the injury. And then when he was drug tested, because he was given codeine, he failed the test, and they fired him. You know, and we had to fight to get him reemployed."

While this is the testimony of one individual, it is reasonable to think that this is not an isolated example of how employees are undervalued, expendable, and deeply concerned about their job security.

In many cases, unions are the primary mechanism through which workers can advocate for safer working conditions. Unions serve to support and protect employees and fight on behalf of employees in the collective bargaining unit; however, there was a perception amongst participants across the United States that unionization is disincentivized or even illegal through "right-to-work" laws and employer union-busting/union prevention practices. Advocates of right-to-work laws claim that organized labor is detrimental to workers' ability to secure jobs when union membership is a condition of employment at a particular work site. Such laws prohibit employers from requiring union membership (membership in a bargaining unit) as a condition for employment, thus promoting the idea that workers should have a "right to work," regardless of whether they are members of a union or wish to join a union. In contrast, opponents of such laws view them as stifling workers' attempts to organize and further deepen economic injustice by diluting the bargaining power of unionized workers. The states that have right-to-work laws are Alabama, Arizona, Arkansas, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Michigan, Mississippi, Nebraska, Nevada, North Carolina, North Dakota, Oklahoma, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, West Virginia, Wisconsin, and Wyoming.[31]

Participants working in a warehouse environment expressed that they are unlikely to unionize for a number of reasons, primarily due to legitimate fear of retaliation from their employers, with one warning that "[w]hen somebody says, if you step out of line, you'll be fired, and you need the medical insurance, so, you shut up. "

[31] National Conference of State Legislators: https://www.ncsl.org/labor-and-employment/right-to-work-resources

It's difficult to organize workers in general, but in a burn-and-churn work culture with high employee turnover rates, a disposable labor culture, safety concerns, and fear of retaliation by cutting hours and termination, employees, especially in a marginalized group with many living in rural areas and employment deserts "don't, [feel] confident that they're gonna win that fight. So, they just don't see . . . a point in it. They would just rather . . . go find another job," as noted by one participant.

In addition, as was observed by one individual, this is compounded for people with disabilities living at or below poverty level "where you don't really have the strength dealing with your disability [let alone have the strength to pursue] litigation." These constraints make it difficult for workers to challenge unsafe conditions or advocate for stronger health protections, leaving disabled workers, contract/seasonal workers, and those in hazardous environments at extreme risk.

Recommendations are available in Section 5 of this report.

Accommodations

This section discusses the necessities of adequate accommodations in the workplace, as well as the many barriers workers, particularly disabled workers, face during the accommodation request process. The importance of incorporating disabled workers into the workforce for fostering equity and business success is also discussed. Finally, this section addresses the requirements and consequences of disclosing disability, the potential impact of accommodations on a company's bottom line, and specific recommendations for designing with accessibility in mind.

A Catch 22; Requirements and Consequences of Disclosing Disability

In the United States, people with disabilities are required to self-identify and, as most participants describe, undertake a complicated and exhausting legal process to be eligible for accommodations in the workplace. It puts disabled people in a precarious and vulnerable situation which, as one disability advocate explained, they "are oftentimes forced to choose between disclosing their disability to their employer, which could have negative consequences and repercussions . . . or . . . forced to self-accommodate in ways that oftentimes can be harmful to their productivity."

> Anybody with an undisclosed disability is at a disadvantage, because they can't claim protections that are due to individuals with disabilities, and yet it's a catch 22. If you disclose that you have a disability, you open yourself to discrimination.
>
> – Disabled advocate

Disabled workers interviewed expressed that, often times, their employer required workers with disabilities to re-submit their accommodation requests monthly, even those who have a permanent disability and require long-term accommodations. These practices leave disabled people feeling frustrated and defeated, constantly having to justify themselves and creating an unhealthy and unwelcome work environment for people with disabilities. As Michael, a disabled worker, observed, "It's a gatekeeper environment. The assumption is that you're trying to get away with something." In addition, in most cases, employees do not know what accommodations are available to them to request. Kelly, a professional champion of inclusive design and accessibility, explained that "there's no clear line of how to request them, what they are, and how to actually implement them."

Some respondents interviewed were certain that responses to their requests for accommodation were intentionally drawn out "to encourage them to move on [and] to leave of their own accord so that [the company] doesn't have to accommodate them." For those who finally have their request approved, accommodations offered aren't taken seriously and, in many cases, offer only a "cookie cutter" recommendation, despite the ADA's requirement of an individualized, interactive process to determine reasonable accommodations. Further, seasonal workers are often ineligible for company medical care and are "essentially left out on your own to get . . . accommodations."

Many employers fear that providing accommodations will be expensive or cost prohibitive. U.S. Department of Labor-funded research surveying over 4,400 employers, however, showed that more than half paid nothing to provide accommodations, and those who paid a one-time expenditure had a median cost of only $300.[32]

Respondents from our national survey mirrored these sentiments, with 61 percent (n=66) saying they had submitted an accommodation request

at least once during their experience at work. Of those who had submitted an accommodation request, 27 percent (n=18) had their request fully denied, and an alarming 33 percent of participants who had submitted a request (n=22) stated that their accessibility needs were not met, even if their accommodation request was granted. One disabled worker surveyed stated, "They didn't have enough chairs for everyone, so sometimes I didn't get one if people who needed it 'more' were there, or they were claimed before I got there."

Accommodations and the Company Bottom Line

Companies that make accommodation requests laborious or routinely deny requests may directly affect the company's employee retention rate. According to a Human Resources professional, employers "don't want to keep hiring people all the time; they want them to stay [and providing] accommodations are the key to doing that."

> "It's why I left [company name redacted] because they wasn't too accommodating. [Because of my diabetes], I can't stand too long, I need to have breaks [to eat, go to the bathroom, take my insulin]. They want you to stand for 12, 14 hours a day, you know, in a warehouse; it was hot; I have to be cool." (Warehouse worker with a disability)

> "At [company name redacted], I actually wanted some accommodation in which I was deprived from it. For example, work schedule, that sometimes I wanted to visit my doctor due to my disability, but I was refused. So, I actually left the work." (Delivery service worker with a disability)

> "This building was the reason that I left because I was working on new machinery and for some reason, like it was causing . . . pressure in my foot and giving me . . . pain. I tried to get an accommodation; I could not get one." (Warehouse worker with a disability)

With a reported uptick in the number of CEOs with disabilities, according to the Disability IN 2022 Disability Equity Index report,[33] the hope is that corporate culture will evolve to welcome and encourage every employee to feel comfortable to disclose, if they wish.

[32] National Conference of State Legislators: https://www.ncsl.org/labor-and-employment/right-to-work-resources

Workplaces designed with accessibility in mind reduce the need for individual requests for accommodations. Historically, accommodations and design features for people with disabilities (like closed captioning, speech-to-text software, or curb cuts) are universally beneficial. In the meantime, to galvanize real change in the workplace and cultivate an inclusive work environment for people with disabilities, here are a few recommendations to consider. While specific strategies will be different for every company, some recommendations identified in the research include:

- An accommodations fund or a centralized budget for cost-bearing accommodations, assistive technologies, and other workplace modifications to improve accessibility.
- One centralized company coordinator who has the background, experience, and in-depth knowledge in providing accommodations for workers with disabilities and prioritizing worker's interests.
- It would benefit companies to genuinely engage with local organizations and disability rights experts, whose wealth of knowledge can help human resources, managers, and company leadership understand the diverse accommodations available to allow their employees to be successful in their various roles.
- With collective buy-in that includes C-Suite, managers, human resource professionals, and workers with disabilities, a company's accommodation request process needs to be simplified and better formalized, streamlined, and systematized.
- Accommodations need to be thought of more broadly in terms of how they could support everyone and foster a more inclusive work environment for every employee.
- Although there is no one size fits all, one way to address bias is through accommodations.

Additional recommendations are available in Section 5 of this report.

[33] Disability: IN. (2023). *2022 Disability Equality Index Report.* https://disabilityin.org/2022-dei-report/

Intersecting Identities and Technology

This section considers the impact of technology on individuals with intersecting identities. The concept of intersecting identities is based on the idea that factors such as gender, race, class, and disability converge to shape individual experiences, particularly in the workplace. Disabled workers with multiple marginalized identities face compounded challenges that others don't. This section highlights these intersecting identities and showcases one example of an especially underrepresented, understudied population by exploring the unique experiences of First Nation peoples.

Warehouse, manufacturing, and retail workers are rarely seen in the workplace as individuals and, in many industries, people with disabilities are often treated like a faceless monolith. Workers who hold multiple marginalized identities that intersect and influence the way that person experiences their lives, both at work and outside of it, face magnified prejudices and challenges. Nia, a warehouse and retail disabled worker, expressed that "[we] are nothing more than a cog in the wheel."

Benjamin, a disabled corporate accessibility expert observed that for people with disabilities, "there's a multiplicative, not an additive effect for 'isms' . . . If you've got some other intersecting identity, then that's going to be . . . compounded," making these technologies so much harder for people with intersecting identities to get through these arbitrary gates. For example, "facial recognition," Sylvia, a disability advocate explained, "performs the worst on women of color because . . . the models are trained on datasets that are disproportionately images of white and sometimes Northeast Asian men."

In an increasingly automated and technology-driven workplace, the implications of intersecting identities become even more

pronounced. As previously mentioned, things like surveillance technology and tools, integrated with AI, often prioritize efficiency over a holistic understanding of an employee's humanity and wellness. This mechanistic approach risks reducing individuals to mere units of production, disregarding their unique identities and the socio-economic factors that inform their experiences. Many disabled BIPOC, first-generation, low socioeconomic status, and/or LGBTQIA+ workers face heightened physical, emotional, financial, and systemic barriers in their everyday lives that significantly impact their experiences at work. A nuanced understanding of diversity within the disabled experience and additional intersecting identities is crucial to addressing the obstacles in the employee life cycle.

First Nations, Native, and Indigenous Communities and Disability

It is important to understand that the term "Indian country" represents a group as diverse as the term disability does. Hanska, a member of the Oglala Lakota Nation explained that in the "200 languages left, and in the 1000s that were here before European contact, [none] have a word for disability; it does not exist," making this a greater challenge to "sell disability services to a traditional tribe." To some tribal communities, disability is seen "as a curse, or something bad that happened in the family; [for others] it's seen as a blessing in terms of those skill sets that people have. So again, there's no one perspective of disability."

While technology, namely AI, has revolutionized many workplaces by innovating and streamlining new and existing processes, it has also deepened and widened the gap between the digitally advanced and the digitally disadvantaged. Not everyone has equal access to technology; on some reservations, in particular, those that are predominately rural, access to the internet is non-existent, as are individuals having the skills required to leverage technology effectively.

We're sovereign nations in America; we're not minorities. We are members. I'm first a member of the Oglala Lakota and then I'm also an American citizen as well. So, I'm a citizen of both.

– Educator, disability advocate, filmmaker and member of the Oglala Lakota (Sioux) Nation

Tribal communities are generally exempt from requirements of the Americans with Disabilities Act under Titles I and II unless they choose to incorporate its provisions into tribal law. As an Oglala Lakota Nation member stated, "it's up to the individual tribal nation to incorporate ADA regulations. So as a sovereign nation, I'm very proud that my tribe Oglala Lakota was the first to incorporate ADA standards within the tribal constitution. But we don't have any money to enforce it."

As organizations continue to adopt technologies with little to no human oversight, it becomes imperative to advocate for more inclusive legislative and corporate policies and practices that recognize and value the full spectrum of worker identities and individualism.

Additional recommendations are available in Section 5 of this report.

Good Practices for Stakeholder Engagement and Coalition Development

This section outlines some key practices to incorporate when engaging stakeholders and developing an impactful and inclusive coalition. This section further underlines the important need for collaboration across stakeholders and includes key recommendations on how to foster thoughtful, effective and sustainable collaboration within and between movements.

Technology is progressing at a staggering rate, faster than policy makers, both legislative and corporate, can keep up with. However, if stakeholders work together to amplify the needs and demands of disabled workers, there is hope.

Building a thoughtful and impactful coalition that supports disabled workers requires bringing together stakeholders with diverse backgrounds, regional expertise, and relationships in a variety of communities, especially communities and people who will be directly impacted by changes to technology and policy. These coalitions should include local community organizers, disability advocates, labor advocates, disabled workers with diverse disabilities across all demographics, including Native/Indigenous people, experts in the field of technology, for-profit companies, researchers, and policy representatives. These voices and perspectives all need to be engaged from the start and throughout the course of a project or advocacy campaign. Cross-movement solidarity is essential to advocating for systemic change, addressing the diverse needs of all community members and ensuring that the voices of disabled individuals, particularly from marginalized backgrounds, are not only heard but appreciated.

Historically, collaboration and solidarity between disability rights movements and labor rights movements have been limited. This has partially stemmed from disagreements over policy, ableism in workplace organizing, and harms that both sides have experienced that have not been fully addressed. This context matters, because it continues to impact how advocates in both movements organize and collaborate in the present. Despite these differences, disability rights movements deeply impact labor rights movements even as labor rights movements deeply impact disability rights movements. It is essential to come back to a shared vision — both between and within movements. Throughout the course of this research initiative, we intentionally engaged stakeholders from both movements by acknowledging this context and proactively asking stakeholders what they needed to advance their work and how this research could support them. By advancing cross-disability and cross-movement solidarity across broader disability and labor rights initiatives, coalitions strengthen their collective impact and become more effective.

Participants suggested the following practices and structures to be adopted across stakeholders:

- **Structurally, a coalition needs strong and well-articulated leadership** that drives the mission forward, sets the agenda, clearly states benchmarking goals, and ensures the end goal is met within a collectively agreed upon timeframe. Providing clarity and explicit details not only helps avoid miscommunication but is also an important cognitive and communication accessibility support for people who process information at different paces. In organizing spaces, this is called making a "hard ask," whereby you explicitly request the action that you want a stakeholder to take.
- **Coalition leaders should be mindful of members' time and capacity and understand** that they may be working with communities that are already under-resourced, under-staffed, and under-funded, and may be experiencing engagement fatigue. In disability spaces, we talk about leaving no body or mind behind and moving at the pace of individuals' capacities and shifting access needs.
- **Provide resources and remuneration for members** (including non-profits and disabled workers) who are often at the bottom of the economic ladder for their time, knowledge, expertise, and labor.
- **Structurally, a cross-section of representation from all sectors is essential.** Recruit genuinely interested people, both disabled and nondisabled,

with a variety of lived and professional expertise on the issues you are researching or organizing around. Expect that there may be disagreements between coalition members and acknowledge that not all disagreements will be resolved throughout the course of your work.

- **Oftentimes, there is little cross-movement education, socialization, and pollination within and outside a coalition.** Approach stakeholders with grace when there are disagreements and misunderstandings. Build time into your coalition and stakeholder meetings to explain the context and assumptions from which you are working and seek to understand how your stakeholders are thinking.
- When engaging with (disabled) workers and communities, **use language that is easy for people to apply to themselves. Across different communities, cultures, and generations, there are very diverse understandings around disability and persistent stigmas. The language you use to describe disability should be affirming and responsive to how disabled people identify and describe themselves. This includes being intentional about using person-first or identity-first language and providing a clear explanation of your definition of disability.**

Ultimately, diverse collaborations, strong leadership, and sound practices can significantly advance policy and community outcomes. While progress may seem slow at times, working as a larger movement, sharing resources, and maintaining solidarity with other movements and fellow coalition members will pave the way forward.

Additional recommendations are available in Section 5 of this report.

Research Limitations

Recruiting participants for research on worker rights and disability rights presented several complex challenges due to the marginalized status of the target population and the sensitivity of covering topics relating to people's jobs and livelihoods. The target population for this study was disabled workers, particularly from large companies in the warehousing, retail, manufacturing, delivery, logistics, and customer service industries. Oftentimes, these industries employ certain tactics to discourage worker organizing and unionization. Hence, many worker groups and unions are apprehensive about participating in outside research.

Further, concerns about privacy and confidentiality play a significant role in recruitment challenges. Statistically, disabled workers are at higher risk for disciplinary action, retaliation from employers, and job insecurity. Participating in research around the sensitive topics of this study can be concerning for some

people. A historical distrust of institutions due to systemic discrimination compounds this issue, leading to skepticism about the intentions behind research initiatives.

Trevor noted that, "getting to talk with [PwD] might be a little more difficult because like, you know, they might feel . . . intimidated" because ". . . they're talking about their work in ways that could be negative." He went on to say that workers "fear retaliation or things like that, because companies do that all the time."

It is also crucial to understand the intersectionality of disability and labor rights, and take every precaution to protect disabled workers, particularly those with multiple marginalized identities. Many people do not feel safe disclosing their disability, either at work or publicly due to internalized and societal ableism. Work culture and public feelings towards disability vary widely, depending on geographic region and cultural norms. Unsurprisingly, research recruitment was more difficult in states that historically have fewer worker protections and higher levels of discrimination.

Due to these barriers and the sensitive nature of this research, the research team encountered challenges during the recruitment phase of this study. The team intentionally built solid relationships and prioritized reciprocity, particularly with workers and other advocacy organizations.

In addition, due to the exploratory and broad nature of this initial study, the research team decided to concentrate on key urban locations. Because of this, audiences and perspectives of disabled workers living in more rural areas that may deal with unique challenges related to geographical remoteness were not captured.

Research at the intersection of technology, disability, and employment remains largely unexplored, and the key to overcoming recruitment challenges and ensuring that research accurately represents diverse experiences of disabled workers is to build deeper relationships with trusted advocacy groups, community organizers, unions, and directly impacted workers.

Research Methodology

This research aimed to gain insight into the lived experiences of warehouse, manufacturing, retail, and logistical workers with disabilities through discussions with various community stakeholders. Research activities included: (1) community listening sessions/focus groups with workers with disabilities to capture the lived experiences and sociopolitical concerns unique to the region; (2) key informant interviews across sectors and industry to further explore unanticipated insights and nuances of technology in the workplace; and (3) a national survey of workers with and without disabilities.

Table B. Community Research Activities and Participants		
	Sessions	**Participants**
Focus groups (in-person & virtual)	9	20
Interviews	N/A	30
Surveys	N/A	108

Note that all participants' names included in the research report have been replaced by pseudonyms to protect individuals' privacy and safety.

Focus Group Methodologies

From April to July 2024, the research team conducted nine semi-structured focus groups, in-person and virtual, with 20 directly impacted workers who self-identified as disabled and worked, either in the past or presently, at a large company in retail, warehousing, logistics and supply, delivery, or customer service operations. In order to obtain a more representative national sample, focus groups were conducted in key urban areas throughout the regions of the U.S. Specifically, the team led virtual focus groups in Philadelphia, Pennsylvania (n=4), Seattle, Washington (n=2), Los Angeles, California (n=1), San Bernadino, California (n=1), and Chicago, Illinois (n=1), as well as an in-person focus group in Los Angeles, California (n=3). Additionally, two virtual focus groups were held and open to participants from across the U.S. (n=8 total). An in-person focus group was scheduled to be held in Orlando, Florida; however, no participants attended.

Stakeholder Interview Methodology

One-on-one semi-structured and structured interviews were conducted with 30 individuals: workers with disabilities (n=5), as well as experts from academia (n=4), research (n=1), policy (n=1), multi-sector companies nationwide including tech (n=5), non-profit (n=7), and advocacy (n=7).

National Survey Methodology

A national survey was open from April 8, 2024, to August 1, 2024, to disabled and non-disabled workers from all 50 states and the District of Columbia in the U.S. The survey was available in both English and Spanish. Survey respondents were required to either currently work or have worked in the past at a large company in retail, warehousing, logistics and supply, delivery, or customer service operations. The sample included respondents who completed more than 75 percent of the survey (N=108). Of the 108 respondents, 83 percent (n=90) identified as disabled, and 17 percent (n=18) identified as non-disabled (Appendix 2). Out of the disabled respondents, 83 self-identified as disabled, and seven qualified as disabled through our disability questionnaire.

Survey participants were eligible to be entered into a drawing for a $400 Visa gift card if they completed the survey.

IV. Policy Landscape Analysis

Federal Guidance and Landscape Summary – Artificial Intelligence

As of 2024, the U.S. does not have a comprehensive federal consumer data protection law, nor one that fully addresses equity or accessibility in algorithmic technologies, including artificial intelligence (AI). Instead, the governance of AI is largely accomplished through patchwork application and interpretation of existing statutory and regulatory authorities (on civil rights, consumer law, labor and employment law), emerging case law, and sub-regulatory guidance. Implications of the discriminatory or biased effects of AI for people with disabilities are also subject to existing disability rights nondiscrimination protections.

This summary provides a landscape analysis to allow a broad group of stakeholders to better understand how artificial intelligence (AI) in the employment sector disparately impacts disabled workers.[34] AI-enabled disability discrimination often differs from other types of AI-enabled discrimination, such as race, gender, and age, because disabilities manifest in such widely varying forms and different disabled people (even with the same disability) have diverse and fluctuating access needs.[35] These considerations can also impact race, gender, and age-related discrimination, but it can be easier to measure and identify a discrete group defined by shared racial or gender identities than it is to quantify or categorize disabled people as a single group or to account for disability-related discrimination. For example, in the hiring context, a job candidate may not disclose their disability identity because of fear of discrimination, but an automated hiring tool

[34] Note: The term "disabled worker" refers to someone who identifies as disabled, while the term "someone in need of reasonable accommodations" refers to a person who may need an accommodation based on a medical diagnosis, but who does not identify as being disabled or does not fit one of the legal definitions of disability.
[35] Trewin, S. (2018, November 26). *AI fairness for people with disabilities: Point of view.* arXiv. https://doi.org/10.48550/arXiv.1811.10670

might identify a disability-correlating factor, such as employment gaps or job titles with the word "disability" in them and thus assess them as being less qualified than other candidates.[36]

Negative AI effects stem from a Collect, Select, and Detect failure. Humans choose what data to collect (from real-world sources) or manufacture (to simulate real-world sources). Humans select the data sets to train and refine an AI tool. AI identifies and detects patterns within that data selection. This is the foundation of AI. Most AI data sets do not include data from disabled workers or workers in need of reasonable accommodations, resulting in AI built upon biased data sets. This bias excludes the largest minority of workers – the disability community. Excluding the disability community from obtaining jobs, earning promotions, and holding leadership positions harms everyone – including the business community – by leaving out the rich and varied experiences, perspectives, and resources of disabled workers.

Federal Guidance on AI and Disability

Federal attention to AI's impact on people with disabilities has generally addressed three areas: (1) civil rights implications in automated decision-making tools affecting hiring; (2) equity in data collection (relevant to research/ development); (3) accessibility either in AI tools not purpose-built for people with disabilities or accessibility enabled by use of AI (such as increasing accuracy in automated captioning). Consumer and worker advocacy groups have focused on both the use of AI in the hiring context (especially in AI recruitment and selection tools) and the use of AI on the job (such as in worker surveillance, union prevention, or workflow management). This guidance has largely failed to address the health and safety implications of workplace AI use or implications for worker organizing and collective bargaining.

AI in hiring leads to disparate effects on employment candidates with disabilities, as analyzed in the 2022 Joint Agency guidance (interpretive authority that clarifies the requirements of law but has less authority than statutory or regulatory language itself) from the U.S. Equal Employment Opportunity Commission (EEOC) and the U.S. Department of Justice (DOJ).[37] This guidance applies to secondary issues, including data collection practices, whereby people with disabilities often go uncounted and unrepresented, causing a data gap.

Additionally, the White House's Office of Science and Technology Policy (OSTP) documents issues of public access, wherein apps and online applications are not accessible to end users or consumers. This report examines and

[36] Rajkumar, S. (2022, August 8). *How to talk about disability sensitively — and avoid ableist tropes.* NPR. https://www.npr.org/2022/08/08/1115682836/how-to-talk-about-disability-sensitively-and-avoid-ableist-tropes

[37] EEOC, "Select Issues: Assessing Adverse Impact in Software, Algorithms, and Artificial Intelligence Used in Employment Selection Procedures under Title VII of the Civil Rights Act of 1964," EEOC-NVTA-2023-2, 05-18-2023. EEOC, "The Americans with Disabilities Act and the Use of Software, Algorithms, and Artificial Intelligence to Assess Job Applicants and Employees," EEOC-NVTA-2022-2, 05-12-2022.

analyzes these implications. Third, this report highlights issues of privacy, security, and civil rights, considering the unique circumstances of the disability community and the experiences of people with disabilities. While there has been a surge of laws and policies to address the use of AI on the federal, state, and local level, more definitive action, in the form of future regulations, is necessary to ensure the employment sector does not unlawfully discriminate against the disability community when using AI.

1. EEOC Guidance: AI in Hiring

In conjunction with the U.S. Department of Justice's Civil Rights Division, the EEOC published a comprehensive technical assistance document in May 2022 titled "The Americans with Disabilities Act and the Use of Software, Algorithms, and Artificial Intelligence to Assess Job Applicants and Employees." The Commission's document is formatted in a question-and-answer format, including a total of sixteen questions that span seven sections: 1. Background; 2. ADA Basics (questions 1-3); 3. Algorithmic Decision-Making Tools and Reasonable Accommodation (questions 4-7); 4. Algorithmic Decision-Making Tools That Screen Out Qualified Individuals with Disabilities (questions 8-12); 5. Algorithmic Decision-Making Tools and Disability-Related Inquiries and Medical Examinations (question 13); 6. Promising Practices for Employers (question 14); and 7. Promising Practices for Job Applicants and Employees Who Are Being Assessed by Algorithmic Decision-Making Tools (questions 15-16).

The Commission offered clarification and guidance regarding existing requirements under the law or agency policies. As written, answers to questions were supported by specific scenarios and examples. The document does not hold any force and effect of law, and the recommendations and so-called promising practices are not binding. Guidance regarding the use of AI in hiring is framed in relation to potential ADA and other civil rights violations.

The Commission referred to AI used in hiring and employment as "Algorithmic Decision-Making Tools" because these are ways in which employers aim to standardize, automate, or otherwise outsource the labor of selection, assessment, and other employment-related decisions.[38] Types of AI applications in this setting might include resume scanners and chatbots or gamified software designed to test attributes less essential or entirely irrelevant to the work, such as "cultural fit" and other aptitudes or personality traits. Another form of AI includes surveillance technology or video interviewing software that analyzes speed of work and keystrokes, or that tracks an employee's location.[39]

[38] EEOC, "Select Issues: Assessing Adverse Impact in Software, Algorithms, and Artificial Intelligence Used in Employment Selection Procedures under Title VII of the Civil Rights Act of 1964," EEOC-NVTA-2023-2, 05-18-2023. EEOC, "The Americans with Disabilities Act and the Use of Software, Algorithms, and Artificial Intelligence to Assess Job Applicants and Employees," EEOC-NVTA-2022-2, 05-12-2022.
[39] *Id.* at "Background."

When these tools are designed and implemented without considering the category of disability or the richly diverse demographic of disabled folks, they are susceptible to replicating bias (Question 10). This could in turn lead to discrimination, even without specific animus, and thus to an employer's potential liability for violations of the ADA or other civil rights laws. The Commission noted that employers are, in many cases, liable for ADA violations incurred because of the algorithm decision-making tools that they use, even if they did not design said AI/Algorithms, because employers have delegated decision making on their behalf to the algorithmic decision-making tools (and/or their developers). (Questions 2 and 3, Question 7)

Even without discriminatory assessments (such as in automated personality tests), AI hiring tools can illegally "screen out" disabled job applicants through basic accessibility issues in a user interface or the inherent design of a particular tool. Some chatbots may be inaccessible based on visual or other processing or communication disabilities. Tools that predict aptitude and ability based on speech patterns do not account for people with speech and communication disabilities. Surveillance technology used for algorithmic decision-making does not account for how disabilities might affect speed of work; how one moves, expresses emotions, or communicates; or how often a person needs to use the bathroom or take breaks away from a workstation. Other tools or assessments that screen out applicants based on employment gaps are more likely to negatively impact disabled people who have had to take time off due to disability, illness, or medical procedures, as well as caregiving for relatives with disabilities. Further, screening out applicants on the basis of employment gaps does not directly relate to one's ability to fulfill the duties needed for a certain job (Questions 8 and 9).

The Commission cautioned that personality tests (often gamified) meant to measure a candidate or worker's ability to successfully perform job duties or fit into company culture rarely directly address their capacity to fulfill essential duties of a job. Further, such tests are particularly likely to be vulnerable to disability-based discrimination when conditions such as depressive disorder, trauma, or autism are involved. The Commission recommended against these types of assessments/tools because there is too much room for bias and discrimination, especially if disability impacts communication or emotions, where these (with or without reasonable accommodation) may not in fact have any bearing at all on one's ability to do the work and their cultural "fit." The Commission also cautioned against so-called "bias-free" and "verified" tests, which rarely account for disability (Questions 10 and 11).

Further, the Commission warned that these types of assessments can be a source of inadvertent ADA violations when one's medical condition leads to discrimination, even if information on the individual's medical condition is not explicitly solicited. Finally, in the document, it was noted that there are ADA restrictions on soliciting disability or medically related information, yet some AI tools may do this inadvertently if an assessment's questions

either directly or indirectly elicit any information on physical or mental impairments or health and disability status (Question 13).[40]

The document offered guidance to employers as well as applicants and workers. The Commission referred to these at the end of the document as "Promising Practices." Employer guidance falls into four general categories: 1. communication with developers and designers of AI tools; 2. functions or characteristics to avoid in AI tools; 3. preparedness in relation to accommodations needs; and 4. communication with applicants/employees. The Commission recommended that, prior to incorporating any AI tool, employers check with developers or vendors as to whether the tool was developed with individuals with disabilities in mind. Areas to consider included were experts on various types of disabilities (including cognitive, intellectual, mental health) included in development? Is the user interface broadly accessible? Do materials exist in alternative formats? Which ones? Are there types of disabilities that the tool would be inaccessible to, even with the formats available? (Question 12)

Employers should only include assessments that measure essential duties as directly as possible. The Commission specifically cautioned against adopting tools that relied on correlation or inference instead of "directly measur[ing] necessary abilities and qualifications for performing a job." Personality assessments, voice, and keystroke measurement and assessment are among the types of tools vulnerable to inadvertent disability discrimination due to "norm" dependent data that do not support disability-inclusive hiring (Questions 12 and 14).

The Commission recommended that employers include informing applicants/workers that they can request reasonable accommodations and clearly indicating how to do so. Second, EEOC suggested training staff to readily recognize and promptly respond to requests for accommodations of various kinds. Alternatively, employers may designate AI tools or vendors to process accommodations requests. The Commission also reminded employers that they were required to grant equal consideration to candidates with accommodations, and to maintain confidentiality of any medical information provided in connection with accommodations requests.

In communicating with candidates/employees, the Commission recommended that employers provide clear and accessible information (preferably in plain language) as to when and how algorithmic decision-making tools are used, what they are monitoring or assessing, and what

[40] Also, in a specific guidance document on pre-employment inquiries relating to medical questions or examinations (https://www.eeoc.gov/pre-employment-inquiries-and-medical-questions-examinations) the EEOC explained that according to the ADA, employers may not ask applicants to disclose disability status, or to discuss the nature of a disability. Employment offers may not be contingent on medical examinations. Generally speaking, an employer may only inquire about disabilities or medical documentation in the context of an accommodations request. Finally, any collected medical information or data must be kept confidential and separate from an employee/applicant's records. More in-depth guidance in EEOC's "Enforcement Guidance on Disability-Related Inquiries and Medical Examinations of Employees under the ADA" (https://www.eeoc.gov/laws/guidance/enforcement-guidance-disability-related-inquiries-and-medical-examinations-employees).

factors affect ratings. Doing so would help applicants/workers more easily understand whether they will need to request accommodations. Finally, the document provided specific guidance to applicants/workers who needed accommodations or believed they had experienced bias and discrimination in the hiring process or workplace, before, during, and after a given assessment or application process (Questions 15-16).

This guidance largely reflected many of the recommendations from the Civil Rights Standards for 21st Century Employment Selection Procedures,[41] jointly developed by the Center for Democracy & Technology and the American Association of People with Disabilities, which itself builds upon the findings and warnings articulated in CDT's 2020 report on disability discrimination in hiring by use of algorithm-driven tools.[42]

2. Data Collection and Public Access

Increased development and deployment of AI tools by employers can exacerbate underlying equity issues – sometimes referred to as "AI Justice" issues[43] – regarding data collection and public access. AI can store and share large amounts of data while algorithmic tools can identify and exclude people with disabilities from opportunities. For workers with disabilities, employers' potential access to sensitive physical or mental health, family, or social connection information could lead to privacy concerns as well as potential for that information to be shared, transferred, or breached (through unauthorized access) by third parties. Of particular concern for people with disabilities is potential access to employer-collected personal data by government entities (such as public benefits/services agencies or law enforcement) or private entities involved in decision making around credit terms, insurance rates, or access to housing.

Data breaches, which are an increasingly common occurrence, can compromise sensitive and personally identifying data, and enable bad actors to compile and connect otherwise disparate data to build more detailed profiles of individuals. Data breaches can become more damaging and dangerous for individual job applicants, workers, and consumers when entities collect more data than necessary, retain data for longer than necessary, or fail to secure their data effectively. Recently, Congress considered but did not pass the American Data Privacy and Protection Act, which would have established baseline consumer data privacy protections through mandatory notifications, data collection and retention limitations, and public and private rights of action.

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[41] Civil Rights Standards for 21st Century Employment Selection Procedures, Dec. 2022, https://cdt.org/wp-content/uploads/2022/12/updated-2022-12-05-Civil-Rights-Standards-for-21st-Century-Employment-Selection-Procedures.pdf

[42] Brown, L. X. Z., Shetty, R., & Richardson, M. (2020). *Algorithm-driven hiring tools*: *Innovative recruitment or expedited disability discrimination?* The Center for Democracy & Technology. https://cdt.org/wp-content/uploads/2020/12/Full-Text-Algorithm-driven-Hiring-Tools-Innovative-Recruitment-or-Expedited-Disability-Discrimination.pdf

[43] The term *AI Justice,* like similar terms – economic justice, racial justice, disability justice, environmental justice – refers to the lack of equal justice and fairness in society within specific areas of law. AI Justice aims to ameliorate unjust AI practices and policies while promoting fair laws and regulations. For more information, read Michelle Maiese & Heidi Burgess, *Types of Justice,* Beyond Intractability (July 2020), https://www.beyondintractability.org/essay/types_of_justice.

Additionally, public access issues in employer use of AI include (1) accessibility,[44] (2) transparency (disclosure of use of AI),[45] (3) input from the disability community, particularly disabled experts in accessible design and technology ethics, in development and deployment of AI,[46] and (4) limited legal recourse due to lack of consistent, clear guidance on the applicability of existing nondiscrimination and consumer protection laws to employer use of AI or significant enforcement mechanisms.

Transparency does not necessarily translate to offering a meaningful opportunity to opt-in (non-use of AI is default without explicit and affirmative consent) or opt-out (use of AI is default, with a clear and easily accessible means of opting-out); however, without transparency, it is impossible for a worker to exercise a meaningful choice either to opt-in or opt-out, let alone to request any appropriate reasonable accommodations surrounding use of the AI tool.

3. Privacy, Security, and Civil Rights

AI-enabled data collection in the workplace carries numerous implications for worker privacy, security, and civil rights. Employers now use AI to conduct surveillance on the job (regardless of a worker's location in the workplace), using an array of digital tools to collect information about a worker's activities, movements, and biometric data that can include finger and palm prints, hand geometry, facial and iris scans, and voice recognition.[47] People with disabilities may not have provided informed consent when these AI tools are used in the workplace, consent that employers should obtain when using AI tools because there are potential risks (not merely potential benefits) with employer use of data.[48] Employers may now collect highly detailed and sensitive data about workers that was previously inaccessible, and use such data to further train and refine algorithmic tools either in use by a particular employer or by the developer of a particular tool. Employers should have a greater

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[44] Accessibility means being able to use public interfaces, such as websites, software, or other digital tools, and most commonly impacts disabled people for whom a user interface may be inaccessible due to its design impact on the nature of their disability or the assistive technologies that they use.

[45] See, H.R. 7532, the Federal AI Governance and Transparency Act, introduced in March 2024. This bill would apply to federal entity use of AI systems, requiring agencies using AI to provide a notification process for any individual or entity substantively and meaningfully affected by an agency determination influenced by AI, and to request alternative review without the use of AI. This would not apply to all possible uses of AI impacting federal workers with disabilities, nor to employer use of AI impacting any worker in the private sector.

[46] See, e.g., arguments for designing AI with a focus on justice for disabled people as opposed to fairness (Cynthia Bennett & Os Keyes, "What is the Point of Fairness?", in Interactions, Vol. 27, Iss. 3 (2020), https://interactions.acm.org/archive/view/may-june-2020/what-is-the-point-of-fairness); collaborating with people with disabilities in a participatory design process throughout development of new technologies (Rua M. Williams & Juan E. Gilbert, "'Nothing About Us Without Us' Transforming Participatory Research and Ethics in Human Systems Engineering," in Advancing Diversity, Inclusion, and Social Justice Through Human Systems Engineering (eds. Rod D. Roscoe, Erin K. Chiou, Abigail R. Wooldridge) (CRC Press, 2019)); including disabled people in discussions of use and purposes of AI systems (Damien Patrick Williams, Disabling AI: Biases and Values Embedded in Artificial Intelligence, in Handbook on the Ethics of Artificial Intelligence (ed. David J. Gunkel) (Edward Elgar Publishing, 2024), 245-260).

[47] Almufareh, M.F., Kausar, S., Humayun, M., & Tehsin, S. (2023). A conceptual model for inclusive technology: Advancing disability inclusion through artificial intelligence. *Journal of Disability Research, 3*(1), 1–11. https://www.scienceopen.com/hosted-document?doi=10.57197/JDR-2023-0060 *See generally,* Matt Scherer, Lydia X. Z. Brown, *Warning*: *Bossware May Be Hazardous to Your Health, Center for Democracy & Technology,* Jul. 24, 2021, https://cdt.org/insights/report-warning-bossware-may-be-hazardous-to-your-health/

[48] Innovatrics. *Biometric Data.* https://www.innovatrics.com/glossary/biometric-data/

responsibility to protect the data that they collect, store, and use from workers, especially particularly sensitive data. Employers could institute data minimization practices along with clear disclosure, mechanisms for opting in or out of specific forms of data collection, and limited retention practices. Use of appropriate encryption and de-identification for data used or stored by a particular tool can reduce risk of unauthorized access to sensitive and personally identifiable information.[49]

Security issues overlap with privacy and civil rights issues. According to the White House Office of Science and Technology Policy's Blueprint for an AI Bill of Rights, AI systems developers should be conscious of risks of discrimination, biased decision making, and health and safety risks for individuals and communities. Protecting people from improper use is paramount.[50] This document, however, served as a nonbinding administration's policy statement, rather than a comprehensive and legally binding executive order or directive to an agency to issue regulations using the federal rulemaking process under the Administrative Procedures Act.

Employer use of AI carries civil rights implications for disabled workers, who can also belong to many other protected classes based on gender, sexual orientation, race, ethnicity, nation origin, age, or veteran status.[51] Discriminatory use of AI can violate Title VII of the Civil Rights Act of 1964, Title I of the Americans with Disabilities Act (ADA), the Health Insurance Portability and Accountability ACT (HIPAA), and the implied right to privacy under the Fourth Amendment of the U.S. Constitution. The following states have proposed legislation or have current laws related to AI and Civil Rights: Colorado; Connecticut; Georgia; Illinois; New Jersey; New York; Oklahoma; Maryland; Rhode Island; Hawaii; and Washington.[52] (See state policy analysis discussion below)

Conclusions – Federal Regulations and AI and Disability

AI "feeds on" broadly circulated and accepted data, thus replicating existing biases and issues of underrepresentation of marginalized groups. Without close attention paid, both during in the hiring process and in the workplace, bias and denial of opportunities to participate will be replicated by AI tools. This careful scrutiny needs to both directly and broadly involve disabled constituents with diverse disabilities, especially those who experience multiple forms of marginalization.

It is far more difficult – if not impossible – to retroactively attempt to reverse engineer

[49] See Almufareh, M.F. *Journal of Disability* (supra [47])
[50] The White House Office of Science and Technology Policy. (n.d.). *Blueprint for an AI bill of rights.* https://www.whitehouse.gov/ostp/ai-bill-of-rights/
[51] Dyson, I. (2023, July 24). *How AI threatens civil rights and economic opportunities.* Brennan Center for Justice. https://www.brennancenter.org/our-work/analysis-opinion/how-ai-threatens-civil-rights-and-economic-opportunities.
[52] Schlemmer, M. D., Lunetta, K. E., & Shine, Z. W. (2024, July 1). *AI in the workplace: The new legal landscape facing US employers.* Morgan Lewis. https://www.morganlewis.com/pubs/2024/07/ai-in-the-workplace-the-new-legal-landscape-facing-us-employers

an algorithmic tool to identify and remove bias than it is to design it to be as equitable, accessible, accountable, and transparent from the outset, with continual auditing and modification as needed. Furthermore, objectivity or fairness approaches to AI that does not ask about or consider human differences will inevitably replicate exclusionary and biased systems, including against people with disabilities.

Current State Legislative and Regulatory Proposals

While federal regulators have paid greater attention to emerging issues related to AI and algorithmic-driven technologies in recent years, policymakers have tended to focus on AI as either a catalyst for a potentially catastrophic far future event (in the vein of apocalyptic science fiction) or as an unquestioningly positive development for society. States have devoted considerably more time and resources to addressing the potential and proven biases and discriminatory impacts of AI and algorithmic technologies, with a raft of legislative proposals and new policies at the local and state level addressing the immediate impacts of such technologies. Advocates have seen states move much more quickly than federal policymakers to offer proposed regulatory and legislative frameworks to capitalize on the potential benefits of AI and algorithmic technologies and to mitigate the risks and harms of those same technologies. A majority of states, for instance, now use algorithmic decision-making models for eligibility determinations in Medicaid-funded long-term supports and services for people with disabilities and elders, and many others are adopting such technologies in sectors that include the family regulation system (child and adult protective services and family courts), public benefits and cash assistance programs for low-income individuals and families, and the criminal legal system through predictive policing and risk assessment tools.

Workplace technology issues ripe for legislative and regulatory intervention generally fall into three areas. The first area includes protections for job seekers and workers in general that are not specific to the use of technology in hiring or the workplace. These protections generally comprise labor and employment law – including protections for collective bargaining and organized labor – as well as anti-discrimination and civil rights law. The second involves protections for job seekers and workers with disabilities that are not necessarily

specific to the use of technology in hiring or the workplace. Most pertinently, Title I of the Americans with Disabilities Act protects both disabled job seekers and disabled employees against discrimination by prospective or current employers. Title I covers all activities relating to recruitment, hiring, and employment, and is not limited to the use of technology to aid or enable those functions.

The third focuses on regulating the use of artificial intelligence and algorithmic decision-making systems, in general, whether related to hiring, the workplace, or disability nondiscrimination. This can include proposed regulatory or legislative intervention focused on civil rights protections relating to technology, even if they do not enumerate disability specifically. Lack of enumeration poses a problem for enforcement and vindication of rights; however, other protected classes can be proxies (strong or weak) for disability. Weak proxies can include poverty, level of educational attainment, gender identity and expression, and race/ethnicity; stronger proxies can include income source (e.g. public benefits income) or eligibility for and participation in public benefits programs. Even when not functioning as a proxy, however, protections for other protected classes will benefit disabled people in those same classes. These issues are related to but distinct from the general regulation of technologies.

Largely, there are regulatory and legislative mechanisms already in place for the first and second categories, and only emerging regulatory and legislative frameworks related to the third. In the absence of strong federal regulations regarding algorithmic technologies and artificial intelligence, such emerging technologies are governed by a regulatory patchwork at the state (and sometimes local – municipality or county) level that is often outdated, non-comprehensive, and insufficiently equipped to make assessments or take enforcement action in regard to discriminatory design, deployment, or outcomes.

Connecticut's legislature has considered one of the most comprehensive bills addressing AI in the current legislative session, while members of the California legislature have discussed 19 bills related to AI regulation this session. The Connecticut bill offers various mechanisms to assess AI capability, directs various government agencies to study and incorporate AI, creates an advisory council, seeks to advance broadband access, and provides ample detail on how

directives need to be implemented. The advisory council would be subject to an appointment policy requiring members to have connections with the AI industry, a background in consumer protection, or an understanding of technology policy.

Nonetheless, none of these bills explicitly focus on or address the impact AI has already had or may have in the future on people with disabilities, even when they reference disability as a protected class for which discrimination is prohibited. These bills state that deployers or developers must take every available action to prevent algorithmic discrimination, but legislators could adopt more precise language, and states could further refine mechanisms for public and private enforcement of anti-discrimination and bias auditing requirements, including requirements for third-party auditing at each stage of the development and deployment process and public disclosure of the results of such audits.

Industry-Sponsored Legislative Efforts

In at least 9 states,[53] with likely more to come, tech industry lobbyists have collaborated with legislators to introduce or support introduction of bills that attempt to regulate AI decision making in a range of settings, including employment, housing, healthcare, and access to government benefits. These bills appear reasonable on a superficial level but contain significant shortfalls and limitations that fail to meaningfully protect consumers and workers, especially those with disabilities.

Importantly, these bills do not address the myriad ways in which AI-driven decisions can harm disabled workers and consumers through poor design, discriminatory use, or discriminatory impact, nor the differential impact of disability discrimination on diversely disabled people and disabled people who belong to multiple marginalized communities. For example:

- While the bills all require impact assessments, those assessments focus exclusively on statistically disparate impact testing, which cannot capture many of the ways in which AI tools can harm disabled consumers and workers. The Equal Employment Opportunity Commission last recommended statistical disparate impact testing decades ago. It is ineffective as an assessment of actual disability discrimination because of the extremely diverse nature and presentation of different disabilities. While some algorithmic tools may discriminate against people with a wide variety of disabilities, others might predominantly affect people with specific disabilities but not others.
- These bills do not include any requirement for companies to consider accessibility or implementation of disability accommodations when developing or deploying AI tools. This

[53] The pending bills are in California (AB 2930), Connecticut (SB 2), Georgia (HB 890), Illinois (HB 5116 and HB 5322), New York (S5641A), Oklahoma (HB 3835), and Rhode Island (H7521)

omission would ultimately require those deploying such tools to retrofit their programs for accessibility, potentially harming disabled people in the interim until a retrofit would be complete.

- All but one of these bills assign investigation and enforcement authority to the state Attorney General rather than a dedicated civil rights or anti-discrimination enforcement agency. This would prevent those who have expertise and experience in identifying violations of civil rights laws, including disability discrimination, from having primary responsibility for investigating and enforcing alleged violations and failure to cure identified and admitted violations.
- More broadly, these bills seem calculated to create a system in which discrimination-by-AI is treated differently from other forms of discrimination; the bills all create a new definition of "algorithmic discrimination" that is divorced from the states' existing anti-discrimination laws. That is deeply concerning, given the lack of consideration of disabled workers and consumers that these bills reflect.

The bills also contain definitions and carve-outs that will allow companies to easily avoid notice and impact assessment requirements. Many of the bills are either new acts or amendments to labor statutes. One companion set of bills, NY – A9315 and NY – S7623, which relate to restricting the use of electronic monitoring and automated employment decision tools, amend both the current labor statutes and civil rights statutes to accomplish their goals. As of May 2024, both bills were in committee without further movement. The most potentially impactful tech industry-backed bills appear to be in Oklahoma, New York, Maryland, New Jersey, Rhode Island, and Illinois.

California

The California state legislature has considered several relevant bills during the 2023-2024 legislative session. Proposed bills pertaining to artificial intelligence address issues that include workers' rights and workplace accountability, artificial intelligence in political advertisements, disclosure policies, consumer protection, public contracts, state support for a research hub, and provision of universal basic income due to the prospect of artificial intelligence potentially fueling job displacement.

The Worker Rights: Workplace Technology Accountability Act (CA – AB1651) would require agencies to periodically update their plans to respond to changing technology and how it impacts workers' well-being. The California Consumer Privacy Act of 2018 (CCPA) granted consumers various rights to personal information collected or sold by a business, furthering the constitutional right to privacy and ensuring that, in the event of any conflict between the act and other laws, the provision of the law providing the greatest protection for consumer privacy rights would prevail. This newer bill would require employers and vendors to perform certain tasks pertaining to the ways in which they collect their workers' data. It would allow workers to review, correct, and secure data collected from them by their employer. It would limit the employer to using the worker data to that specific issue. This bill would require the Labor and Workforce Development

Agency to coordinate with various departments to enforce worker data protections created by this bill. The Labor and Workforce Development Agency would have to adopt regulations to administer and enforce these provisions. To advise on these regulations, the Labor Commissioner would have to convene a committee of stakeholders, including representatives of the Department of Industrial Relations and the Department of Fair Employment and Housing

The California Consumer Privacy Act of 2018 (CA – AB1824) became law in September 2024. The Act requires a business receiving consumers' personal information as part of a merger, acquisition, bankruptcy or other transactions to comply with a consumer's opt-out direction to the business transmitting the information.

The California AI Transparency Act (CA – SB942) also became law in September 2024. The Act requires covered providers to create an AI detection tool with which a person can query the covered provider about the extent to which various forms of media, in whole or part, are created by generative AI systems. That tool must be made available via a URL website. California must now create a Generative AI Registry Fund, and the Legislature must appropriate sufficient funds to the Department of Technology to do so. Providers will pay a registration fee to the Generative AI Registry Fund. A covered provider that violates this law could be liable for a civil penalty of $5,000 per violation to be collected in a civil action that can be filed only by the Attorney General.

The Department of Technology: High-risk Automated Decision System Act (CA – AB302) became law in October 2023. The new law expanded the pre-existing obligations of the Director of Technology, who supervises the Department of Technology, to report to the Governor; the Director of Technology was required to coordinate with other agencies to conduct a comprehensive inventory of all high-risk automated decision systems on or before September 1, 2024, an inventory that would include a description of the categories of data and personal information used by the automated decision systems. The Department must submit an annual high-risk report.

The California Artificial Intelligence Research Hub Act (CA – SB893) would require the Government Operations Agency, the Governor's Office of Business and Economic Development, and the Department of Technology to collaborate to establish a California Artificial Intelligence Research Hub in the Government Operations Agency. The hub would serve as a centralized entity to facilitate collaboration between government agencies, academic institutions, and private sector partners to advance artificial intelligence research and development with the goal of harnessing the technology's full potential for public benefit while safeguarding privacy, advancing security, and addressing risks and potential harms to society. This bill was re-referred to committee in July 2024.

CA – AB3050 would require the Department of Technology to issue regulations for watermarks for AI-generated material. At minimum, this bill would necessitate AI-generating entities

California Continued

to include digital content provenance in the watermarks. It would prohibit an AI-generating entity from creating AI-generated material that does not meet the minimum requirements for a watermark. This bill would attach liability to an entity or individual using an AI-generated deep fake, permitting a person harmed by the AI-generated content to recover actual damages in a private action and would allow the Department to assess a civil penalty ranging from $250-$500. The bill was referred to committee in March 2024 with no further movement.

The Generative Artificial Intelligence Accountability Act (CA – SB896) became law in September 2024. This Act expanded the previous laws requiring the Secretary of Government Operations to develop a coordinated plan to investigate the feasibility of developing standards for the state departments to determine digital content – specifically, evaluating the impact of deep fakes (AI-generated content that is hyper realistic and can be used for deceptive or predatory purposes). The new law requires the Government Operations Agency, the Department of Technology, and the Office of Data and Innovation to produce a State of California Benefits and Risk of Generative Artificial Intelligence Report explaining the potential benefits or risks of generative AI to California energy infrastructure, with particular attention to the possibility of "mass casualty events." The report must also evaluate the risk of using generative AI when communicating with individuals. The law requires evaluation of all automated decision-making systems before being adopted. It prohibits discrimination against members of any protected class, although it does not specifically enumerate disability.

The Artificial Intelligence Technology Act (CA – SB970) defines various terms related to AI and synthetic voice, video, and image recordings produced by AI. It would clarify that use of synthetic recordings is deemed to be false personation for purposes of these criminal provisions. This bill would require the Judicial Council to develop and implement screening procedures for these types of records introduced as evidence, to identify those which are synthetic, as well as developing and promulgating educational materials to assist in identifying when a person has used AI to tamper with evidence. The bill would require any person or entity that sells or provides access to AI technology that is designed to create synthetic image, video, or voice to provide a consumer warning that misuse of the technology could

result in civil or criminal liability for the user. The Department of Consumer Affairs would have to specify the form and content of the consumer warning and would impose a civil penalty for violations of the requirement. This bill was heard in May 2024, with no further movement since that time.

The Political Advertisements: Artificial Intelligence Act (CA – AB2355) became law in September 2024. The new law added to existing law that prohibits a person or entity from distributing with actual malice materially deceptive audio or visual media for a candidate with the intent to injure the candidate's reputation or deceive voters until January 1, 2027. This law requires people, committees, or other entities that distribute qualified political advertisements to give notice of any advertisements that were generated by AI. It also permits any registered voter to bring an action in Superior Court that would seek a temporary or permanent restraining order or injunction against any qualified political advertisement using AI-generated material that violates the disclosure requirements.

The Artificial Intelligence: Legal Professionals Act (CA – AB2811) would require an attorney to execute and maintain for a period of 7 years an affidavit certifying whether generative AI was used in the drafting of each document that the attorney files, or intends to file, in the state or federal court within California and to file the affidavit with the court if the 7-year period has not expired. This bill was scheduled for a hearing in committee in April 2024, but its primary sponsor requested cancellation.

The Universal Basic Income: Employment Replaced by Artificial Intelligence Act (CA – AB3058) would establish the California Unconditional Benefit Income (CalUBI) Pilot Program until January 1, 2029. CalUBI would be administered by the Employment Development Department and would provide assistance to individuals who become unemployed because of automation or artificial intelligence. The bill would allow an eligible individual to receive $1,000 each month for 12 months, starting as late as January 1, 2027, until January 1, 2028. The bill would require the Department to adopt regulations to implement the CalUBI Pilot Pilot Program on or before January pursuant to the Administrative Procedure Act. Income received from this program would not be considered taxable income for state income taxes. The Department would have to submit a report to the Legislature of policy recommendations based on the performance of the CalUBI Pilot Program no later than December 1, 2028. This bill states that it is the intent of the Legislature to enact legislation to promote economic security and stability for California residents by creating a UBI pilot program for residents replaced in the workplace by the adoption of AI. This bill was scheduled for a hearing in committee in April 2024, but its primary sponsor requested cancellation.

The Automated Decision Tools Act (CA - AB2930**)** would require deployers or developers to provide an impact assessment to the Civil Rights Department within 7 days of a request. If they did not comply, they would face a

fine of $10,000 or more. It would also require the notification of consumers or individuals impacted by the decision to use an automated tool. It would prohibit any deployer or developer from using AI tools that resulted in algorithmic discrimination of various groups depending on race, color, ethnicity, sex, disability, English proficiency, etc. It would authorize public attorneys to bring a civil action against any deployer or developer to court for algorithmic discrimination violations. Deployers or developers would be able to cure the alleged violation within 45 days of written notice by the public attorney. This bill was designated an "inactive file" in August 2024.

This bill has noticeable flaws that undermine its intent. Deployers or developers who operate companies with fewer than 25 employees would not have to fulfill the impact assessment requirement unless their AI tool impacted more than 999 people per year. The bill mandates creation of a governance program that designates at least one employee responsible for overseeing compliance for technical tools and safeguards. One employee maintaining what possibly will be a significant infrastructure does not seem sufficient. Further, under this rule, impact assessment results would have to be maintained for two years, a length of time that does not seem to be of sufficient duration. While this bill empowers public attorneys to bring civil actions against deployers and developers, it limits the right to bring civil action to only those state actors who can levy fines, but civil penalties are limited to $25,000 per violation.

Connecticut

Connecticut's Act Concerning Artificial Intelligence (CT - SB2) contains eight main provisions:

1. Establishes requirements for developing and deploying certain AI systems
2. Establishes an Artificial Intelligence Advisory Council
3. Prohibits dissemination of certain synthetic images
4. Prohibits distribution of deceptive media during elections
5. Establishes requirements for state agencies to study potential uses of generative AI and propose pilot projects
6. Requires the Commissioner of Administrative Services to provide training on generative AI
7. Requires the Chief Workforce Officer to incorporate AI into training programs and design a broadband outreach program
8. Requires establishment of a "Connecticut Citizens AI Academy"

The requirements for developing and deploying certain AI systems outline the documentation and disclosing process, establishing guidance for risk management by the "Artificial Intelligence Risk Management Framework" published by the National Institute of Standards and Technology, notification requirements to consumers, and a deployers or developers' role in compliance to law enforcement or laws. The Attorney General would also have the responsibility to submit a report on January 1, 2027, revealing the number of violations, nature of violations, and the violations cured within the 60-day cure period.

The Artificial Intelligence Advisory Council would make recommendations of the best

practices for ethical and equitable use of AI. Initially, the council would assess the White House Office of Science and Technology Policy's "Blueprint for an AI Bill of Rights." The voting members of the council would be part of the legislative department. State House and Senate leadership, as well as the governor, would be entitled to make appointments to the council. Appointees (voting members) would need to have professional experience or academic training related to representing an industry in AI, knowledge or experience of consumer protection, or academic studies with a concentration in technology and technology policy. The bill enumerates eight additional non-voting members from the Attorney General, Chief Data Officer, or the Chief Court Administrator amongst others.

Section 9 would amend state law to prohibit individuals from distributing images, film, or video tape recordings that include synthetic images, succinctly defining a "synthetic image" as one that is "partially or fully generated by a computer system, not wholly recorded by a camera." Violators would be liable to the same penalty as those who distribute sensitive material to hurt a person's image.

The restrictions on deceptive media during an election cover a 90-day period preceding a primary or general election. Deceptive material would be any media that depicts any human engaging in speech or conduct in which they would not regularly engage. An exception allows a person or any other third party to distribute deceptive media during the 90-day period. Individuals are permitted to distribute deceptive material if it comes with a disclaimer that informs viewers or listeners that the media was manipulated, if it is video played throughout, if it is audio read at the beginning and end, and if it provides a citation directing the viewers of the source of manipulated media.

Each state agency would receive a directive to study generative AI and how it can be incorporated to make them more efficient. A report on potential pilot projects utilizing generative AI would be submitted to the Department of Administrative Services. Agencies would need to solicit input from the employees concerning any incorporation of generative AI.

The final section of the bill proposes establishing the "Connecticut Citizens AI Academy" on behalf of Charter Oak State College. It would offer online courses concerning AI and responsible AI use. Upon completion of those courses, individuals would be awarded certificates or badges created in consultation with Charter Oak State College.

This bill was favorably reported by the House in April 2024, with no further movement since then.

Georgia

GA – HB890 would amend Chapter 3 of the Official Code of Georgia Annotated. The bill offers some definitions of automated decision tools. This bill would prohibit use of AI tools that discriminate against several classes of people, specifically, "disability or handicap" and "genetic information." It does not contain

any enforcement or monitoring mechanism, nor does it offer guidance to determine discriminatory impact. The bill was read in the House in January 2024 without further movement since then.

Hawaii

Hawaii has considered one bill (**HI – HB2152**) related to generative artificial intelligence use in state government branches, departments, and agencies. This bill amends the existing Revised Statutes by adding a new chapter titled "Artificial Intelligence." It would require the Hawaii Office of Enterprise Technology Services to conduct risk assessments of AI tools before procurement, prepare guidelines for state uses of AI, offer trainings on the use of AI for achieving equitable outcomes, and provide reports to the state legislature. The bill went to the Committees on Higher Education & Technology and Labor & Government Operations in January 2024, with no further movement since that time.

Illinois

In the 2023-2024 legislative session, Illinois has considered several bills related to artificial intelligence and automated decision tools used by commercial entities (IL – HB 5116 and IL – HB 5322) and state government (IL - HB4836 and IL – HB 5228), four of which saw movement in March-April 2024 and one in February 2024. All bills are House bills without companion bills in the Senate.

The Automated Decision Tools Act (IL – HB5116) would require an entity deploying an automated decision tool to perform an impact assessment for any tool that uses, designs, codes, or produces that includes specified information. The bill would provide for some oversight by the Attorney General and the Department of Civil Rights. The bill's last action was on February 8, when it was referred to the House Rules Committee. As currently drafted, it would take effect no later than January 1, 2026.

HB5116 uses language similar to that of the California bill when addressing automated tools. Both bills focus on establishing impact assessments and employ similar wording when defining terms and enumerating "consequential decisions" subject to required impact assessments. Just as in the California bill, covered entities would need to perform annual impact assessments and maintain the results for two years. Developers or deployers would have similar requirements for notifying those impacted by AI.

Some of the flaws in the California bill exist in the Illinois proposal as well. Developers or deployers with fewer than 25 employees would be exempt from the governance program, unless the tool impacted more than 999 people per year. The fines would be no more than $10,000 per

violation and those who commit a violation would have 60 days to cure the violation before becoming liable for those fines.

There are some slight differences between the California bill and Illinois bill. Illinois proposes a 60-day period in which a covered entity may cure a violation to avoid a fine, as opposed to the 45-day period proposed in California. Additionally, unlike the California bill, which would limit enforcement via civil action to the public attorney general's office (or other public counsel), the Illinois proposal permits any person to bring a civil case against a covered entity for violations. In addition to other legal remedies, prevailing plaintiffs would be entitled to compensatory damages, declaratory relief, and repayment of reasonable attorney's fees and costs.

The Illinois Commercial Algorithmic Impact Assessments Act (IL – HB 5322) would require entities developing and deploying automated decision tools to perform and report risk assessments and impact assessments. The Attorney General would have the power to oversee compliance upon request. This bill defines "algorithmic discrimination," "artificial intelligence," "consequential decision," "deployer," "developer," and other terms. The bill went to the House Rules Committee again in April 2024 without further movement.

An Act concerning State Government (State Agencies-AI Systems) (IL – HB4836) would amend the Departments of State Government Law of the Civil Administrative Code of Illinois, 20 ILCS 5/5-735 new. It would require all state agency or state-funded artificial intelligence systems to follow the trustworthiness, equity, and transparency standards framework established by the National Institute for Standards and Technology's AI Risk Management Framework. The bill would require a state agency or a third-party deploying a state-funded artificial intelligence system to submit a National Institute for Standards and Technology-based algorithmic impact assessment to the General Assembly, the Illinois Auditor General, and the Department of Innovation and Technology, the submission of which would be overseen by a chief artificial intelligence officer or chief intelligence officers appointed at the discretion of the chief executive officer of each state agency submitting the report or the entity deploying a State-funded artificial intelligence system that is submitting the report. It would also require the Department of Innovation and Technology to create two standardized algorithmic impact assessments, one for State agencies and one for entities deploying a State-funded artificial intelligence system and includes requirements for the assessment. On March 12, it was assigned to the House Cybersecurity, Data Analytics, & IT Committee.

IL – HB 5228 and **IL – HB5099** are essentially the same bill introduced by the same sponsor (Rep. Abdelnasser Rashid) on the same day but assigned different numbers and referred to separate House Committees. IL – HB 5228 and IL – HB5099, both entitled "AI Use in Government Contracts," would amend the Illinois Procurement Code. The bill would require any vendor that contracts for government

services, grants, or leases or purchases of software or hardware to disclose if artificial intelligence technology is, has been, or will be used while fulfilling the contract or in the goods, technology, or services being purchased. The bill would require vendors to provide the disclosure to the chief procurement officer, the Department of Innovation and Technology, and the General Assembly. It would allow a state agency, at its discretion, to require that a vendor provide detailed information on the technology's capacity, data sets, and limitations on the use of artificial intelligence technology and would allow the chief procurement officer to disqualify a vendor who fails to provide the required disclosure or provides false or misleading information from contracting with the state for up to 2 years.

IL – HB 5228 had progressed the furthest when it passed from referral to the Rules Committee and was assigned to the Executive Committee in March 2024 but was reassigned to Rules in April 2024. IL – HB5099 was referred to the Rules Committee in February and saw no further movement.

Maryland

An Act relative to Labor and Employment – Automated Employment Decision Tools – Prohibition (MD – HB1255 and SB957) would amend the existing state code in 3-718 – Article – Labor and Employment. This bill would prohibit private industry employers, subject to a certain exception, from using an automated employment decision tool to make certain employment assessments. This bill would prohibit an employer from using an automated employment decision tool to screen applicants for employment or otherwise help the employer decide on compensation or other terms, conditions, or privileges of employment in Maryland and outlines penalties for an employer violating notification requirements. Both chambers heard the bills in March 2024.

New Jersey

New Jersey has one standalone bill and two bills with companions in the Assembly and Senate, all of which have had actions between February and March 2024.

NJ – A3855 and **NJ – S2964** would create standards for independent bias auditing of automated employment decision tools via amendments to existing labor statute, supplementing Title 34 of the Revised Statutes (Title 34 - Labor and Workmen's Compensation). The Assembly bill went to the Committee on Science, Innovation and Technology in May 2024. The Senate bill went to the Labor Committee in March 2024. Neither bill has had further movement since then.

NJ – A3854 would regulate the use of automated employment decision tools in hiring decisions by supplementing Title 34 of the Revised Statutes (Title 34 - Labor and Workmen's Compensation) and references “bias audits.” This bill was combined with NJ – A4030 (below) and went in its new version to the Labor Committee in May 2024 without further movement.

NJ – A4030 and **NJ – S1588** would regulate the use of automated tools in hiring decisions

to minimize discrimination in employment via amendments to the existing labor statute, supplementing Title 34 of the Revised Statutes (Title 34 - Labor and Workmen's Compensation). The Assembly bill went to committee in May 2024, and the Senate bill went to committee in January 2024; neither has had further movement since then.

New York

The New York State Legislature has considered six relevant bills in the current legislative session, two of which have companion bills in both the Assembly and the House:

The Legislative Oversight of Automated Decision-making in Government Act (LOADinG Act) (NY – A9430 and NY – S7543) will regulate the use of automated decision-making systems and artificial intelligence techniques by state agencies. The LOADinG Act will require state agencies to disclose any current use of automated decision-making systems, prohibit state agencies or third parties performing state functions from using automated decision-making systems without meaningful human review, and require state agencies using automated decision-making systems to publish impact assessments. Specifically, the LOADinG Act prohibits use of automated decision-making systems for "the delivery of any public assistance benefit or in circumstances that impact the rights, civil liberties, safety, or welfare of an individual" without meaningful human review. The bill does not define what constitutes meaningful human review, nor does it provide for any enforcement mechanism or penalty for violations. This bill passed in the House and Senate in June 2024 and has been awaiting signature by the Governor.

NY – A9314 and NY – S5641A would establish criteria for the sale of automated employment decision tools via amending the current labor statutes. Both bills went to their respective chamber's labor committees in February 2024 with no further movement.

NY – A9315 and NY – S7623 would restrict the use of electronic monitoring and automated employment decision tools by amending both the current labor statutes and civil rights statutes. In May 2024, the Assembly bill went to the Ways and Means Committee and the Senate bill went to the Labor Committee, with no further movement since that time.

NY – A7859 would amend the existing labor statutes to require employers and employment agencies to notify candidates for employment if machine learning technology is used to make hiring decisions prior to the use of such technology. It was referred to the Labor Committee in January 2024 without further movement.

Oklahoma

The Oklahoma Artificial Intelligence Bill of Rights (OK – HB3453) would define "artificial intelligence" and "real person" and enumerate eight ways in which Oklahomans are entitled to information about the use of AI. This bill, which is identified as a partisan measure sponsored by Republican members of the House, aims to establish the rights of Oklahomans when

interacting with artificial intelligence and includes specific privacy provisions. As enumerated, these rights are (1) the right to know when interacting with AI or a real person "in an interaction where consequential information is exchanged"; (2) the right to know when contracts or other legally binding documents are generated by AI without human review; (3) the right to know when realistic images or text are generated by AI; (4) the right to rely on watermarks to verify authenticity and originality of creative content; (5) the right to know that any company including personal data in an AI model is using reasonable security measures to protect the data; (6) the right to give or deny consent to AI use of their image or voice; and (7) protection against "unlawful discrimination through algorithmic or model bias" against various protected classes, including disability. The Oklahoma House passed the bill and it was referred for a second reading in the Senate Judiciary Committee in March 2024, where it died in committee.

Two other related bills in Oklahoma's House create new acts but neither has seen movement since February 6, with each was referred to the House Rules Committee. OK – HB 3835 (HB 3835), introduced by Representative Alonso-Sandoval (D), creates the **Ethical Artificial Intelligence Act** which, among other provisions, enumerates "the presence of any sensory, mental, or physical disability" as a protected class. OK – HB3293, introduced by Representative Kyle Hilbert (R), creates the **Oklahoma Artificial Intelligence Act of 2024,**

which would establish a standalone law not incorporated into the general code of the state.

Rhode Island

Rhode Island has two active bills with companions in both chambers. Each set of bills was introduced contemporaneously and are moving along the same timeline. The House Innovation, Internet, & Technology Committee heard both of these bills in March 2024, and one was passed into law in June 2024.

The Rhode Island Data Transparency and Privacy Protection Act (RI – HB7787 and RI – SB2500) took effect in June 2024, passing both chambers and coming into effect without the Governor's signature. This law establishes data privacy protections for the personal data of the citizens of Rhode Island. The new law requires any commercial website or internet service provider conducting business in Rhode Island to designate a controller who must provide a mandatory notice disclosing all types of personal data collected about consumers, all third parties to whom the entity has sold or

might sell personally identifiable information, clear and conspicuous disclosure of use of any personal data for targeted advertising, and a means for consumers to contact the entity. The law excludes data regulated under existing federal statutes, including the Fair Credit Reporting Act, Health Information Privacy and Accountability Act, and Family Educational Rights and Privacy Act. The law prohibits entities from collecting sensitive data of a known child without verifiable parental consent.

Consumers now have the right to confirm whether or not an entity is processing or accessing personal data, correct inaccuracies in their personal data, request deletion of their personal data, obtain copies of their personal data, opt out of targeted advertising, sale of personal data, or "profiling in furtherance of solely automated decisions that produce legal or similarly significant effects." The Attorney General – who has the sole enforcement authority – may require entities to conduct a confidential data protection assessment. Violations will result in a fine of $100-$500 per unlawful disclosure of personal data. There is no private right of action permitting individual consumers to enforce their rights under the law.

An Act Relating to Commercial Law – General Regulatory Provisions – Automated Decision Tools (RI – HB7786 and RI – SB2888) addresses private commercial law. It would amend Title 6 of the General Laws (Commercial Law — General Regulatory Provisions) by adding a new Chapter 60 on "Automated Decision Tools." The bill would require companies that develop or deploy high-risk AI systems to conduct impact assessments and adopt risk management programs. These requirements would apply to both developers and deployers of AI systems with different specific obligations based on their role in the AI ecosystem. RI – HB7786 was heard by the Innovation, Internet and Technology Committee in March 2024. Earlier the same month, RI – SB2888 was referred to the Senate Commerce Committee.

The House Innovation, Internet, and Technology Committee referred two additional related bills for further study. Both bills (RI – HB7521 and RI – HB7158) pertain to the use of automated decision tools by state government:

- **An Act Relating to State Affairs and Government – Automated Decision Tools – Artificial Intelligence (RI – HB7521)** would amend Title 42 of the General Laws (State Affairs and Government) by adding a new Chapter 166 titled "Automated Decision Tools." The bill would create new requirements for the developers or deployers of artificial intelligence and allow civil action against these developers or deployers by the attorney general and local solicitors. The Committee referred the bill to study in February 2024.
- **The Artificial Intelligence Accountability Act (RI – HB7158)** would require the Department of Administration to provide an inventory of all state agencies using artificial intelligence, establish a permanent commission to monitor the use of AI in state government, and make recommendations for state government policy and other

decisions. The Committee referred the bill to study in January 2024.

The prior legislative session saw passage of several proposed bills addressing AI, and state legislators will likely reintroduce many that did not pass in the legislative sessions beginning in January 2025. Those reintroductions could come with amended language, and state legislators may also choose to introduce new proposed legislation. State legislators will be poised to take under consideration a wide range of measures that could either significantly strengthen the AI regulatory framework or weaken regulators' ability to meaningfully monitor and limit the real risks that AI poses to workers. The prevalence of industry-backed bills that explicitly preclude a private right of action could see further erosion of the ability of individual workers and consumers to vindicate their rights in the legal system. Nonetheless, legislators' frequent reliance on vague and overbroad language referencing bias and discrimination will also be ripe for reform and refinement, ideally with the expertise of those with knowledge and experience addressing civil rights violations and societal impact of marginalization.

Worker advocates and disability rights advocates have the opportunity to develop and support advancement of legislative proposals that situate algorithm-enabled discrimination as furthering discriminatory actions and impact as already recognized in the law. Algorithm-enabled discrimination, alongside non-algorithmic technologies that cause or further discriminatory impact would require analysis and auditing firmly rooted in well-established understandings of discrimination, including disparate impact theory. Strengthening the regulatory framework around AI in the workforce need not be the only means of legislating or regulating effectively to protect workers' rights, including the rights of workers with a disability. As these proposed bills demonstrate, in part through their scope of subjects, legislative and regulatory action can also improve protections for worker organizing, disability civil rights, and health and safety conditions for workers whose low-wage jobs can lead to exploitative conditions. Enumerating disability as a protected class is an important move in the right direction; legislators and regulatory bodies should also seek to ensure meaningful enforcement mechanisms through public action and private right of action as well as protection for workers who exercise their rights.

V. Implications and Recommendations for the Field

Our research demonstrated the clear risks of discrimination and harm through employer use of AI, robotics, and related technologies impacting disabled workers, along with the potential for emergent use of AI technologies in the workplace to help increase accessibility for some workers with disabilities. Overall, however, respondents were clear in identifying concerns of demonstrated and potential harms of intrusive data collection, surveillance technologies, biased decision making, and robotics. This project aimed at identifying recommendations that have surfaced in a literature review, research, and the stakeholder convening that employers, workers, advocates, tech companies, researchers, and policymakers can use to both mitigate the harms of new technologies in the workplace and to harness the potential benefits of those technologies. These recommendations include best practices, supported by research and community knowledge, to design, develop, deploy, and regulate those technologies in accordance with principles of disability rights and justice, civil rights and consumer rights legal frameworks, and community-informed research practices.

Looking ahead, there is much work to be done. The following recommendations were identified through the research and through the stakeholder convening held in Washington, DC from September 16-18, 2024 with 32 participants and the staffs of the National Disability Institute and New Disabled South. Participants represented a cross-sector group of stakeholders with backgrounds in workers' rights and labor, disability rights and self-advocacy, technology research, technology law and policy, disability rights law and policy, and the technology industry. These recommendations also draw upon existing recommendations and proposals in the field and are offered as guidance for the development of more specific, detailed research, legislative, regulatory, and company policy proposals, as well as advocacy objectives to support workers' rights and disability rights.

Recommendations – Artificial Intelligence

For **researchers, non- profits, and organizers:**

- Make intentional efforts to ensure ethical and accurate data collection practices that meaningfully include disabled workers.
- Centralize existing data on AI and make it easily accessible both within and across stakeholders.

For **companies** and **employers:**

- Shift use of AI from automated decision making to automated data collection.
- Ensure decision-making power is returned to managers, and mandate human oversight practices across all AI-powered decision-making systems.
- Take responsibility for and work toward mitigating the negative repercussions that AI-generated output, evaluations, predictions, and assessments have on their workers, including health, safety, financial stability, and privacy concerns.
- Develop and fully implement policy that supports robust and effective safety and privacy protection measures and responsible handling of both potential and current workers' (disabled and nondisabled) data.

For **hiring managers:**

- Ensure that the language of job descriptions is inclusive and reflects realistic job expectations and requirements.
- Incorporate transparency about how your team uses technology. Ensure that (potential) employees can make informed decisions about who they want to work for and in what capacities.
- Advocate internally for transparency and disclosure to candidates of how your company uses these various technologies and what your company does with the data it collects.

For **(disabled) workers:**

- Share concerns with co-workers, worker advocates, employee resource groups, and union representatives.
- Engage and form alliances with trusted managers in organizing efforts. Managers, while not routinely included in employee resource groups, could serve as valuable informants about the activities that happen within a company.

For **tech industry, computer engineers,** and **software developers:**

- Acknowledge and understand algorithmic bias in the human context.
- Provide accommodations, alternative options, and multimodal interfaces wherever possible. No one format will work for all people, but multimodality will help mitigate ableist bias.

- Companies need to ensure that they audit and/or test these technologies in-house, particularly if they have been outsourced or purchased off the shelf.
- Ensure that new technologies are inclusive, with accessibility built into systems at the start. Assistive technology and modifications have traditionally been after-market features added on to various software, sometimes at an extra cost to the end-user.
- Include and support developers with disabilities as partners, co-leads, and team members in the design, development, and prototyping processes.
- Adopt an equitable and inclusive (re)design approach and rethink how the user experience is defined. Invest in partnerships with social scientists, disabled workers, and ethical tech experts.
- **Computer scientists and software engineers** need to intentionally, systemically and universally include people with disabilities in how these technologies (namely within hiring and surveillance) are designed, developed, tested, adopted and, most importantly, included in the feedback loop.
- While the impetus of the **developers** of any technology is to get to market first, changes to the outcome of development technology need to be made at the onset. Instead of creating automated systems to screen out people with disabilities in the application and hiring phase, systems should be designed to screen in people with disabilities who are otherwise qualified, in compliance with legal obligations under Title I of the Americans with Disabilities Act.
- Prior to bringing a product to market, **tech companies** should engage independent, third-party auditing mechanisms to identify potential layers of either explicit or implicit bias inherent to the technologies' processes and assess and evaluate these technologies to identify usability and access barriers for people with disabilities.

For **researchers:**

- Ensure further research is conducted to explore the negative externalities (human, social, environmental) caused by the use of AI in current employee-facing technologies.

Recommendations - Surveillance Technology

- For **companies,** externalize the intended use of surveillance technology to focus on collecting data to support employee well-being, for example on the temperature in a warehouse and indoor air quality, rather than on the personhood of the employee.
- It is paramount that **employers** clearly, honestly, and fully inform (disabled) employees on what type of surveillance technology is being used, by whom, and how the data collected reflect their productivity and impact their employment status.
- Standardization harms people with disabilities. Working together, **employers and tech companies** have the power to reshape the warehouse and manufacturing cultures. Instead of using

algorithms to quantify individual productivity, the implementation of a more communitarian workplace environment, whereby quotas are achieved and measured by a collective approach and across more longitudinal output, meaning a week or month as opposed to hourly or daily, creates a more equitable work environment and a synergy between workers and managers without compromising productivity.

Recommendations - General

- **Development** of digital security, privacy and scaling up tools is needed to support worker organizing efforts, particularly those that are small to medium in scale, and primarily active on social media platforms. This is especially helpful for those organizing across distances.
- **Corporate culture** needs to redefine productivity to mitigate the high turnover rate of new workers and prioritize a more sustainable productivity approach that promotes long-term employee retention with the goal of maintaining a more experienced and dedicated workforce.
- For **non-profits, organizers, and advocates:**
  - Provide direct financial, technical, legal, and security (both digital and in-person) assistance to workers and organizers, regardless of scale and type of organization.
  - Join, build, and collaborate with coalition partners within and external to the disability rights, disability justice, workers' rights, and tech justice spaces to expand outreach and strengthen efforts.
- For **researchers:**
  - Explore how a company's investment in creating a positive work environment for disabled people has the potential to increase its bottom line in the mid- to long-term.
  - Transcend ethnocentrism and approach studies from an emic, meaning the perspective from within the culture, rather than an etic (outsiders') perspective. Collaborate with directly impacted people as co-researchers and co-designers.
  - Continue to identify resource gaps, collect accurate and inclusive data, and centralize data findings such that they are easily accessible to all stakeholders, including disabled workers.
  - Explore government funding opportunities to conduct research beyond disability-specific grants. These could include opportunities for funding from the Department of Defense, Department of Labor, Department of Commerce, Department of Housing and Urban Development, and Department of Transportation.
  - Explore the relationships between Employee Resource Groups (ERG), Sustainable Development Goals (SDG), and affinity groups and worker success and belonging across industry spaces and fields.
- **Nonprofit and Organizers** should collaborate and build a collaborative disability justice and disability rights clearing house that provides tools, information, and resources for disabled workers and disability service providers nationwide.

- **Stakeholders across all sectors,** including workers, need to build a collective narrative and amplify disabled worker stories.
- **Stakeholders across all sectors** should actively lobby to eliminate regulatory blocks that classify tools powered by tech as medical devices, e.g., AirPods Pro 2 with hearing aid capability for users with mild to moderate hearing loss.

Recommendations – Policy

- Federal and state legislators have an opportunity to create a clear regulatory framework over AI, automated decision systems, and algorithmic decision systems that affect people's rights, health, safety, and work environments, including requirements to protect individuals' data and privacy, as well as ensuring compliance with nondiscrimination laws. Such regulatory functions must explicitly enumerate physical and mental disabilities, chronic health conditions, and genetic information as particularly sensitive data and protected classes for civil rights monitoring and enforcement purposes.
- Federal and state legislators can ensure that workers' rights to organize, collectively bargain, and advocate for themselves and one another are adequately protected, including the right to protection from retaliation. This includes appropriate funding allocations for workers' resources, such as funding for worker centers.
- Federal and state regulators have a duty to craft regulations protecting workers against harmful and risky work conditions caused or exacerbated by the use of AI or automated systems in the workplace, especially those that could cause illness, injury, or long-term disability. This can include setting specific limits on workplace requirements imposed by surveillance technologies.
- Federal and state legislators can craft tax incentives to employers for adopting and developing assistive technologies, architectural or technological modifications for disability accessibility, or hiring and retaining workers with disabilities and workers displaced or at risk of displacement by automation.
- Federal and state research funding entities can solicit and incentivize research proposals to include meaningful engagement or collaboration with disabled people and other marginalized communities or use participatory models when studying the development and deployment of AI and other automated and algorithmic technologies.
- Federal and state legislators are positioned to craft legislation that allows a private right of action for individuals seeking redress of violations impacting them, as well as permitting attorney general oversight and investigation and enforcement authority by civil rights agencies.
- Federal legislators may codify provisions currently included in the proposed Protecting the Right to Organize Act (PRO Act), which would weaken "right to work" provisions in relevant states while further strengthening protections for workers under the existing National Labor Relations Act. The most recent iteration of this bill has broad support from worker advocacy organizations and

unions, as well as limited bipartisan support. These provisions include prohibiting employers from holding mandatory meetings to discourage workers from forming unions or organizing, firing workers who are attempting to join a union, and making adverse decisions against workers based on immigration status. Provisions would also allow labor unions to collect dues from all workers in a workplace even in "right to work" states, workers in the gig economy (such as those working on rideshare or delivery apps) to form unions and engage in collective bargaining, and workers to collect individual damages payments when employers violate the law, as well as imposing monetary fines by the National Labor Relations Board for any violations.

- Explore the business incentives that cause companies to approach decisions in a particular way by speaking with capital strategists, shareholders, and pension fund managers. This will help contextualize where important ROI (return on investment) mechanisms and levers exist and provide a plan for how to use socially responsible investors to raise concerns.
- Incentives exist for organizations, employers, and technology designers to really think about the implications of the technology. However, an inclusive organizational culture is an important prerequisite for implementing that technology in ways that are actually accessible and affirming.

Recommendations – Research

This project was only a starting point. More research is needed to gain a more comprehensive view of this topic and explore the extensive diversity and nuances within disability and how disabled people interact with technology in a multitude of work environments. It is particularly important to account for diversity within disabled experiences, especially for those with intersecting identities, such as First Nations, Native, and Indigenous communities with disabilities or people with disabilities from the LGBTQIA+ community or other marginalized identities. Disability research led by disabled researchers is especially important, as they hold expert insight from their lived experiences and can apply trauma-informed methods crucial to conducting studies that ethically and meaningfully reflect the priorities and needs of the community. Additional lines of research to explore include:

- How does technology impact people with disabilities in the gig economy and those engaged as temporary and seasonal workers, independent contractors, freelancers, and remote workers?
- How does technology disproportionately impact multiply marginalized individuals, and how do identities like race, ethnicity, and gender identity influence the ways in which disabled workers experience technology's impacts in the workplace?
- What are the differences between how technology is used, implemented, and its impacts on workers (including workers with disabilities) across different regions, different states, and in rural vs. urban areas in the U.S.?

- Explore worker centers and networks as resources to support worker organizing in addition to and as a resource for existing labor unions. How can workers build community and bargaining power both within and beyond existing labor unions? How can workers protect their right to organize without retaliation when organizing is inhibited by surveillance technology? How can unions better advocate for disabled workers and against disability discrimination?
- What is the impact of software developers' siloed thinking, the competitive nature of the tech industry, and the failure to provide ethics-focused education (consistently or at all)? How can marginalized people be centered in design considerations in computer science education? How can computer science programs meaningfully incorporate ethics education and promote inclusive design practices? How can industry leaders support the professional development of disabled programmers and designers, especially those from multiply marginalized communities?
- First Nations, Native, and Indigenous perspectives: Where do members of "progressive tribes" who live close to urban areas work? How are they impacted by these advancing technologies? How does technology impact tribes and nations in more remote areas?
- How does consumer buying power influence the inclusion of people with disabilities in for-profit tech companies?
- What does inclusion mean? Is the meaning universal and can it be measured?

VI. Appendices

1. Glossary of Terms

Algorithm

An algorithm is a step-by-step set of instructions or rules designed to solve a problem or complete a task. It provides a clear procedure for processing data and making decisions, often used in programming, mathematics, and various fields to achieve specific outcomes efficiently. Artificial intelligence uses algorithmic models, but an algorithm does not need to be part of any digital device or software program.

Artificial Intelligence (AI)

There is no one agreed-upon definition of this term. Researchers and policy advocates have many ideas of what "artificial intelligence" means. When participants were asked how they define artificial intelligence and asked to explain its purpose, their responses were as broad as for the term, "disability." The general consensus in this study is simply that artificial intelligence does tasks that traditionally have been performed by humans and is trained to "learn" by collecting data via a "kind of crowdsourcing of what's online."

Artificial intelligence may refer to programs that operate autonomously or semi-autonomously. An artificial intelligence program may use algorithmic models to evaluate, assess, synthesize, identify patterns, make predictions, or make determinations using a data set. Its data set may be artificially constructed or drawn from real sources; the data set may be static or dynamic.

Coalition

A coalition is a group of individual people and/or organizations that work together for a common purpose. A coalition can include people or groups that have very different experiences, perspectives, or approaches, as long as they have some shared purpose or values.

Disability Justice

Disability Justice is a newer framework for disability activism and advocacy. Disability Justice was created between 2005-2006 by a coalition of disabled people who were primarily from communities of color and the LGBTQIA+ community, including Patty Berne, Mia Mingus, Leroy F. Moore Jr., and Sebastian Margaret. The Disability Justice framework centers the concept of intersectionality as being

integral to disability activism, promoting principles such as cross-disability and cross-movement solidarity, as well as leadership of the most impacted. The Disability Justice framework proposes that the aims of Disability Rights are necessary but not sufficient to achieve social justice for people with disabilities. Disability Justice focuses on transforming social and cultural values and building alternatives to current systems and institutions.

Disability Rights

Disability Rights is a socio-cultural framework that considers disability to be a social issue. The Disability Rights framework proposes that many challenges and difficulties that disabled people experience are due to societal structures, attitudes, assumptions, and policies, rather than being attributable to set physical or mental impairments. That framework focuses on changing, reforming, improving, or enforcing laws, policies, practices, systems, and institutions as ways to improve conditions for people with disabilities and promote equal access and equal opportunity.

Emic

Emic refers to an insider's view of a culture, focusing on how members understand their own beliefs and practices.

Etic

Etic refers to an outsider's perspective of a culture, analyzing said culture from an objective standpoint without the insider's interpretations.

Gig workers

A gig worker is a person who does temporary or freelance work, especially an independent contractor engaged on an informal or on-demand basis. Examples of gig workers include people who work as drivers for Uber or Lyft, people who work odd jobs on Task Rabbit or Handy, people who do food delivery for GrubHub or DoorDash, and people who work as pet sitters or dog walkers on Rover. Gig work can also include renting out part of your home on AirBnB, leasing your car on Turo or your pool on Swimply.

Guidance

Guidance issued by an executive branch agency, department, or office helps to explain how to follow the law. Unlike the language of legislation and regulations, the language of guidance is not legally binding. However, guidance helps the public understand how an agency, department, or office is interpreting the law.

Legislation

Legislation consists of statutes, or the text of bills that are passed into law, by a legislative body. Federally, Congress has the power to write legislation, while at the state and local levels, this power

rests with state legislatures (may be called a General Assembly or State Legislature), county councils, and city or town councils or boards of aldermen.

Machine Learning

Machine learning is a branch of artificial intelligence that allows computers to learn from data and improve their performance over time without being explicitly programmed. It involves recognizing patterns to make predictions or decisions. Some typical uses of machine learning include image and speech recognition, recommendation systems, and predictions based on data.

Monitoring Technology

Monitoring technology typically involves observing processes, tools, or systems to ensure compliance with standards or to improve operational efficiency.

Natural Language Processing

Natural language processing is a field of artificial intelligence that focuses on the interaction between computers and human language. It enables machines to understand, interpret, and generate human language in a way that is both meaningful and useful. It is used in applications like chatbots, translation services, sentiment analysis, and voice recognition.

Person with Disability (PwD) or Disabled Person

A person with a disability or a disabled person lives in a body or has a mind that is or is perceived as different from a supposedly "normal" or "healthy" person's body or mind, based on societal assumptions about what people's bodies or minds should be like. Disabilities can be hidden or readily apparent. A person can be disabled from birth and/or can acquire disabilities later in life due to accident, illness, genetics, injury, or violence. Disabled people often have markedly distinct sensory, communication, movement, and/or learning experiences from nondisabled people.

Both person-first (people with disabilities) and identity-first (disabled people) language are widely used within various disability communities. Not all people who are perceived as disabled or who qualify under law as people with disabilities use the terminology "disability" or "disabled" for a variety of cultural, social, and political reasons.

Disabilities can include chronic illnesses, mental health conditions, addiction, long-term trauma responses, learning disabilities, and aging-related disabilities. Disabilities may also be temporary (e.g. a workplace injury that causes pain and mobility impairments for several months) or episodic (e.g. Crohn's disease or epileptic seizures). Some disabled people consider being disabled an important part of their socio-cultural identity.

Regulation

A regulation is a "rule" created by an executive branch agency, department, or office to enforce statutes passed by the legislative body. A regulation has the same force of law as a statute. Regulations often provide more detail about requirements, standards, practices, and processes than statutes.

Remuneration

Remuneration is money paid or financial compensation for someone's work, service, or labor.

Stakeholders

A stakeholder is a person or a group that has an interest in a topic or issue. Usually, stakeholders are affected by the topic or issue. The term used throughout this report refers to and includes the following groups: companies/industry/for-profits, non-profit organizations, disability advocacy organizations (including self-advocacy organizations), researchers within and outside of academia, policymakers (both legislative and regulatory), workers with and without disabilities, and experts in the fields of law and public policy.

Surveillance Technology

Surveillance technology generally refers to tools and systems designed to gather data on workers themselves, often to watch and assess their behavior, performance, and efficiency. Surveillance technology is also oftentimes used by mid- or upper-level management to surveil more entry-level workers.

Worker Center

A worker center is a nonprofit organization that helps workers organize and increases the collective power of low-wage workers. Workers typically join a worker center when they are not already part of a union or if they are excluded from joining a union under current U.S. labor law. Worker centers tend to focus on workers from immigrant communities and/or low-wage workers.

Worker Rights

Worker Rights refer to the legal, social, and economic protections and entitlements that ensure fair treatment and dignity for employees in the workplace. These rights typically include the right to fair wages, safe and just working conditions, freedom from discrimination, the right to organize and engage in collective bargaining, protection against unjust dismissal, and the right to rest and leisure. Overall, worker rights aim to promote equality, security, and well-being in the labor environment.

2. Survey Participant Demographics

Survey open to workers with and without disabilities from April 8, 2024 to August 1, 2024.

Total Analyzed Responses (≥75% of survey complete): N=108

- Complete Responses (100% complete): N= 93
- Mostly Complete (≥75% of survey completed; answered everything except non-disability demographic questions): N=15

Demographic	Demographic Category	Number of Participants	% of Total Participants
Disability	Yes	90	83.3%
	No	18	16.7%
Age	18-24	5	4.6%
	25-34	30	27.8%
	35-44	42	38.9%
	45-54	5	4.6%
	55-64	8	7.4%
	65+	1	0.9%
	Unknown/Refuse	17	15.7%
Gender Identity	Agender	3	2.8%
	Bigender	12	11.1%
	Cisgender Female	31	28.7%
	Cisgender Male	31	28.7%
	Nonbinary	6	5.6%
	Transgender Female	1	0.9%
	Transgender Male	0	0.0%
	Unknown/Refuse	23	21.3%
Race/Ethnicity	Asian	17	15.7%
	Black/African American	18	16.7%
	First Nation/Alaskan Native	10	9.3%
	Hispanic/Latino	10	9.3%
	White/Caucasian	35	32.4%
	Multiracial	3	2.8%
	Unknown/Refuse	15	13.9%
Education	Pre-High School	4	3.7%
	High School/GED	27	25.0%
	Vocational College	6	5.6%
	Associates Degree	14	13.0%
	4-year College Graduate	30	27.8%
	Post College or Graduate Degree	9	8.3%
	Unknown/Refuse	18	16.7%

Acknowledgements

This report was authored and reviewed by staff at the National Disability Institute and New Disabled South. The project team offers deep thanks to Peyton Purcell, MPH, Project Manager, for shepherding this yearlong research project. This project was supported by the Ford Foundation.

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NDI's research was also supported by public policy fellows Theodora Danylevich, PhD; Steph Domond, BA; Erica L. Evers, BA; and Kate D. Frederick, JD, MA.

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Project Advisory Council

We are particularly thankful for the guidance and support offered by the members of the project advisory council over the past year, including:

- Ariana Aboulafia, Esq., Project Lead, Disability Rights in Technology Policy, Center for Democracy & Technology
- Cynthia L. Bennett, PhD, Senior Research Scientist for Responsible AI and Human Centered Technology, Google
- Dustin P. Gibson, Co-Director, PeoplesHub
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- Sasha Hammad, Director Worker Power, Athena Coalition
- Rua M. Williams, PhD, Assistant Professor of User Experience Design and Director of the CoLiberation Lab, Purdue University; Just Tech Fellow, Social Science Research Council

September 2024 Convening

With thanks to Peyton and Alexis (Lexi) Jones, MSW, NDI's Project Coordinator, for support in planning and hosting our stakeholders' convening. We deeply appreciate the expertise and insights offered by our convening attendees, which included advocates, organizers, academic researchers, legal experts, policy makers, technology industry experts, directly impacted workers, and governmental officials.

Additional thanks to Communication Access Real Time (CART) captioning providers Susie Galvan, Cheryl F. Little, Tammy Milcowitz, Sonya Machado, and Tracy J. Ukura, and to the Kyle Duarte Company for coordinating communication access; and to the staff of the Kellogg Conference Hotel Capitol Hill at Gallaudet University.