

POLICY BRIEF



AI for All Abilities: Operationalising Inclusivity for AI Development and Governance

2025

Apoorv Kulkarni, Expert - Artificial Intelligence Systems, Rising Flame Foundation (India)
Rachael Wallach, Founder & Chief Executive Officer, Limber Technologies (United States of America)



02

Digital
Transformation



Abstract

As global consensus coalesces around a human-centred approach to artificial intelligence (AI), asymmetries in its distribution and accessibility threaten to create and perpetuate an "AI divide", especially for the 15% of the global population living with disabilities – 80% of whom reside in developing countries (WHO). "AI has the potential to exacerbate existing inequalities if not managed properly, which could lead to further economic disparities for people with disabilities" (OECD).

When AI fails to prioritise disability inclusion, it risks reinforcing societal inequities, disproportionately affecting persons with disabilities and impeding their access to socio-economic opportunities. As highlighted by the Special Rapporteur on the UN Convention on the Rights of Persons with Disabilities, current AI development practices often rely on "poor or unrepresentative data sets that are almost bound to lead to discrimination, a lack of transparency in the technology, and a short-circuiting of the obligation of reasonable accommodation". Such failures are a clear deviation from G20 AI Principles 1 and 2, which emphasise inclusive and human-centric innovation. Ensuring full accessibility for persons with disabilities in AI design and governance contributes directly to Sustainable Development (SDG) 10 (Reducing Inequalities) and SDG 8 (Decent Work and Economic Growth), as well as the African Disability Protocol, 2018. Moreover, the International Labour Organization's (ILO) finding that 7% of GDP is lost to disability exclusion underscores the high price societies pay for ignoring accessibility.

The brief provides actionable recommendations for the G20 to ensure AI systems benefit and empower persons with disabilities rather than perpetuate discrimination. Building on evidence from academia, disabled people's organisations (DPOs) and multilateral bodies, it outlines how the G20 can support a regulatory framework that (1) provides disability-inclusive human-centred AI governance; (2) incentivises design practices to achieve universal accessibility; and (3) drive investment in research and innovation for accessible and affordable AI applications.

Under South Africa's presidency, the G20 has a unique opportunity to ensure that AI emerges as an agent of inclusive growth rather than an agent of exclusion. This policy brief seeks to support the T20 Task Force 2 on Digital Transformation (under the sub-theme, the Regulation of Emerging Technologies) to lay the foundation of a universally inclusive AI future.

Keywords: Artificial Intelligence (AI), human-centred AI, AI governance, emerging technologies, digital transformation, disability inclusion, AI divide, digital accessibility, accessible AI, universal design, inclusive innovation, persons with disabilities, developing countries, G20 AI principles, SDG 10 – reduced inequalities, SDG 8 – decent work and economic growth, African Disability Protocol (2018), data bias, algorithmic discrimination, disability exclusion, inclusive AI governance

Diagnosis

Artificial intelligence (AI) is rapidly becoming a core technology across sectors, from public services to healthcare. Yet as governments and markets expand AI adoption, a critical equity issue remains overlooked: the exclusion of persons with disabilities from AI design, deployment, and governance. Globally, 15% of the world's population live with disabilities,¹ with prevalence rates even higher in Africa, particularly among those under 60, according to the World Report on Disability (2011).²

The UN Special Rapporteur on disability rights observes that AI development frequently relies on poor or unrepresentative datasets, resulting in technologies that are inaccessible or discriminatory by default.³ The OECD similarly warns that AI can serve as both an enabler and an inhibitor of employment opportunities for persons with disabilities, depending on how it is governed.⁴ This is significant given the economic implications of disability inclusion/exclusion. For instance, Accenture observes that disability-inclusive companies outperform peers, achieving 28% higher revenue and 30% higher profit margins.⁵ On the other hand, the International Labour Organization (ILO) estimates that up to 7% of GDP is lost annually due to disability exclusion.⁶

¹ ("World Report on Disability" 2011)

² ("World Report on Disability" 2011)

³ (Quinn 2022)

⁴ (Touzet 2023)

⁵ ("Getting to Equal" n.d.)

⁶ (Buckup 2009)

To fully grasp the issues around disability exclusion in AI, it is essential to unpack the specific ways in which AI systems can generate harm.⁷

Table 1: Sociotechnical classification of AI harms and examples of impact on persons with disabilities⁸

| Type of harm | Explanation | Example |
|--------------------------------|--|---|
| Allocation harm | Occurs when AI systems deny or restrict access to information, opportunities, or resources for certain identity groups, thereby impacting their material wellbeing. ⁹ | Algorithmic hiring tools risk discrimination by flagging mental health traits, leading to allocation harm and raising equal opportunity concerns. ¹⁰ |
| Quality-of-service harm | Arises when algorithmic systems systematically underperform for specific groups – such as persons with disabilities, ethnic minorities, or individuals of different gender identities – resulting in unequal or degraded outcomes. ¹¹ | Facial recognition errors can misclassify individuals with disabilities, leading to denial of age-restricted services. ¹² |
| Stereotyping harm | AI model outputs reinforcing beliefs about the attributes and behaviours of individuals from specific social identities, perpetuating harmful social hierarchies. ¹³ | Text-to-image (T2I) models have been observed to reduce disability to wheelchair use, neglecting diversity in disability, and to depict individuals as passive or incapable, reinforcing harmful stereotypes. ¹⁴ |

⁷ (Barocas et al. 2017)

⁸ (Fairlearn, n.d.)

⁹ (Shelby et al. 2023)

¹⁰ (James 2024)

¹¹ (Shelby et al. 2023)

¹² (Rondina et al. 2025)

¹³ (Vassal et al. 2024)

¹⁴ (Mack et al. 2024)

| | | |
|-------------------------------------|--|--|
| <p>Erasure harm</p> | <p>Occurs due to the lack of adequate representation of individuals belonging to a particular social group(s).¹⁵</p> | <p>Self-driving vehicles may struggle in environments with diverse mobility needs, as demonstrated by an accident involving a visually disabled Paralympian.</p> |
| <p>Representational harm</p> | <p>Occurs when algorithmic systems reinforce biased assumptions about individuals, cultures, or experiences, perpetuating dominant narratives that distort identity and undermine a sense of belonging.¹⁶</p> | <p>T2I models are known to generate dehumanising visuals when depicting disability, focusing on horror themes, disembodied limbs, or assistive devices, lacking diversity and nuance.¹⁷</p> |

See Appendix 1 for specific instances wherein AI harms have been observed for people with disabilities.

AI holds tremendous potential to enhance disability inclusion, as observed from the impact of visual descriptions for visually disabled students and AI-powered sign language interpreters for those with hearing loss. Additionally, text-to-speech software, speech recognition systems, and predictive text tools empower individuals with diverse abilities. Therefore, designing AI systems that understand, anticipate, and prevent harms is essential for fostering improved disability inclusion.¹⁸

¹⁵ (Vassel et al. 2024)

¹⁶ (Vassel et al. 2024)

¹⁷ (Mack et al. 2024)

¹⁸ (Sumaira et al. 2024)

The drivers of AI-related harms for persons with disabilities¹⁹

- People with disabilities are often not seen as core users of AI systems, and developers frequently lack the training to make products accessible. This leads to their needs being overlooked during design, with potential harmful impacts.
- Disabled people are rarely involved in AI development, resulting in missed use cases and accessibility gaps. Their lived experiences are crucial to identifying harm, and without their input, harmful assumptions persist, especially at intersections of marginalisation.
- AI systems often use datasets that misrepresent or underrepresent disabled individuals, leading to biased outputs that perpetuate harmful disability stereotypes.
- Despite global recognition of AI-related accessibility challenges, the harms affecting disabled people are rarely systematically measured, monitored, or addressed.²⁰

Recommendations

1. Catalyse global commitment to disability-inclusive AI through a G20 resolution

Under South Africa's leadership, the G20 AI Task Force (AITF) with the Digital Economy Working Group (DEWG) should champion a unified resolution on disability-inclusive AI governance. Such a declaration would catalyse policy

¹⁹ (Vassel et al. 2024)

²² (Shelby et al. 2023)

²³ (Saphra et al. 2024)

²⁰ (El Morr et al. 2024)

coherence, accelerate implementation, and ensure that accessibility is central to the evolving global AI agenda.²¹

The resolution should:

- outline bold and clear target outcomes and a timeframe to achieve the same;
- establish milestones, including the development of a roadmap to coordinate activities among member countries; and
- institute a regular reporting structure for measuring and publishing the progress made.

2. Ensure fair representation of persons with disabilities in AI governance and standard-setting bodies

G20 nations must ensure ongoing, meaningful participation of disabled individuals and DPOs in AI governance and standard setting at all levels to benefit from their lived experiences and expertise.^{22,23}

Involving disabled people and DPOs at all governance levels will:

- ensure policies accurately reflect the diverse accessibility needs and preferences of the disability community;
- enable early and ongoing identification, as well as mitigation of, unintended biases or harms in AI systems; and
- enhance the legitimacy, acceptance, and practical effectiveness of standards and regulations, leading to broader compliance and implementation.

²¹ Refer Appendix 2 for examples of initiatives which can help in implementation of the recommendation

²² This approach aligns with the disabled community's motto "nothing about us without us," which emphasizes that policies affecting persons with disabilities must be developed with their direct input.

²³ Refer Appendix 2 for examples of initiatives which can help in implementation of the recommendation

3. Develop measurement and monitoring frameworks for AI harms affecting persons with disabilities

The AITF can take the lead to collaboratively establish comprehensive standards, guidelines, and frameworks dedicated to continually identifying, understanding, inventorying, measuring, and mitigating AI harms experienced by persons with disabilities. There is a need for both a use-case agnostic as well as use-case specific guidance for disability-inclusive AI development and governance.²⁴

This will:

- provide clear methodologies to identify and document AI harms specific to disability communities;
- enable accurate, timely detection and mitigation of biases and discriminatory practices embedded within AI systems; and
- support accountability and transparency among AI developers and deployers, reinforcing responsible AI development.

The AITF could also champion community-led, open-source tools to automate the measurement of inclusivity in AI systems. These efforts would help scale accessible AI design.

4. Capacity building for meaningful participation of persons with disabilities and disabled people's organisations

The DEWG should establish accessible capacity-building initiatives (through direct grants or structured programmes) to empower persons with disabilities and DPOs for meaningful participation in AI governance and evaluation processes.²⁵

The recommended capacity-building measures should:

²⁴ Refer Appendix 2 for examples of initiatives which can help in implementation of the recommendation

²⁵ Refer Appendix 2 for examples of initiatives which can help in implementation of the recommendation

- mobilise dedicated funding to support the sustained participation of persons with disabilities and DPOs in AI governance forums and standard-setting processes. Such funding is essential to enable ongoing advocacy, ensure meaningful representation, and build capacity for long-term engagement in shaping inclusive AI ecosystems;
- promote the development and dissemination of market-based solutions that provide accessible educational resources and training modules tailored for persons with disabilities and DPOs. These may cover foundational AI concepts, governance frameworks, and effective advocacy strategies; and
- create structured mentorship and exchange programmes to facilitate knowledge transfer and peer-to-peer learning among global disability communities, policymakers, and AI practitioners.

5. Establish a dynamic, transparent global knowledge platform

The AITF should develop and maintain an open-access global knowledge platform dedicated to disability-inclusive AI. This platform can function as a dynamic dashboard, capturing and showcasing best practices, successful policy implementations, and demonstrable real-world applications of inclusive AI, while transparently identifying ongoing challenges and areas for improvement.²⁶

The platform should include:

- interactive functionalities such as issue reporting, upvoting mechanisms for prioritising identified accessibility barriers, user-driven feedback loops, and incident documentation to continuously engage communities and foster collective accountability;

²⁶ Refer Appendix 2 for examples of initiatives which can help in implementation of the recommendation

- regular publication and dissemination of measurable outcomes, case studies, impactful success stories, and comprehensive lessons learned from diverse regional and national experiences; and
- structured needs discovery processes to identify emerging priorities and critical gaps, guiding future research, development, and policy interventions.

References

Barocas, Solon, Kate Crawford, Aaron Shapiro, and Hanna Wallach. 2017. "The problem with bias: allocative versus representational harms in machine learning." *9th Annual conference of the special interest group for computing, information and society*.

Buckup, Sebastian. 2009. *The Price of Exclusion: The Economic Consequences of Excluding People with Disabilities from the World of Work*. N.p.: Internat. Labour Office, Skills and Employability Department.

El Morr, C., B. Kundi, F. Mobeen, S. Taleghani, Y. El-Lahib, and R. Gorman. 2024. "AI and disability: A systematic scoping review." *Health Informatics Journal* 30 (3). 10.1177/14604582241285743.

Fairlearn. n.d. "Fairness in Machine Learning." Fairlearn. Accessed April 7, 2025.

https://fairlearn.org/main/user_guide/fairness_in_machine_learning.html .

Gerard Quinn. 2022. "Report of the Special Rapporteur on the Rights of Persons with Disabilities on Artificial Intelligence." Report of the Special Rapporteur on the Rights of Persons with Disabilities on Artificial Intelligence: : European Institutions (EU, CoE).

<https://ai.equineteurope.org/library/report-special-rapporteur-rights-persons-disabilities-artificial-intelligence>.

"Getting to Equal: The Disability Inclusion Advantage." n.d. Accenture. Accessed April 7, 2025.

<https://www.accenture.com/content/dam/accenture/final/a-com-migration/pdf/pdf-89/accenture-disability-inclusion-research-report.pdf>.

James, Ness. 2024. "Access to services: The promises and pitfalls of AI for people with disabilities." European Disability Forum. <https://www.edf-feph.org/access-to-services-the-promises-and-pitfalls-of-ai-for-people-with-disabilities/>.

Mack, Kelly. 2024. ""They only care to show us the wheelchair": disability representation in text-to-image AI models." *Proceedings of the 2024 CHI Conference on Human Factors in Computing Systems*, (05). <https://doi.org/10.1145/3613904.3642166>.

Quinn, Gerard. 2022. "Report of the Special Rapporteur on the Rights of Persons with Disabilities on Artificial Intelligence." European Institutions (EU, CoE), (3).

<https://ai.equineteurope.org/library/report-special-rapporteur-rights-persons-disabilities-artificial-intelligence>.

Rodrigues, Charlene. 2021. "Tokyo Paralympics: Toyota suspends self-driving buses after visually-impaired athlete injured in collision." Independent. <https://www.independent.co.uk/asia/east-asia/paralympics-self-driving-bus-crash-injury-b1910475.html#:~:text=The%20Japanese%20automaker%20said%20Friday%2C%20it%20had%20suspended,conscious%20and%20could%20walk%20back%20to%20his%20residence.>

Rondina, Marco, Fabiana Vinci, Antonio Vetro, and Juan Carlos De Martin. n.d. "Facial Analysis Systems and Down Syndrome." *Communications in Computer and Information Science* 2133. 10.48550/arXiv.2502.06341.

Saphra, Naomi, Lawrence Weru, and Maitreya Shah. 2024. "Why AI fairness conversations must include disabled people." Harvard Gazette. <https://news.harvard.edu/gazette/story/2024/04/why-ai-fairness-conversations-must-include-disabled-people/>.

Shelby, Renee, Shalaleh Rismani, Kathryn Henne, AJung Moon, Negar Rostamzadeh, Paul Nicholas, N'Mah Yilla-Akbari, et al. 2023. "Sociotechnical Harms of Algorithmic Systems: Scoping a Taxonomy for Harm Reduction." ACM Digital Library. <https://dl.acm.org/doi/fullHtml/10.1145/3600211.3604673>.

Sumaira, Aslam, Safina, Faisal Omair, and Kamal Hira. 2024. "Analyzing AI's Role in Promoting Diversity and Inclusivity within Educational Systems, Addressing different Learning Styles and Needs." *Review of Applied Management and Social Sciences*, (December). 10.47067/ramss.v7i4.446.

Touzet, Chloé. 2023. "Using AI to support people with disability in the labour market." OECD. https://www.oecd.org/en/publications/using-ai-to-support-people-with-disability-in-the-labour-market_008b32b7-en.html.

Vassel, Faye-Marie, Evan Shieh, Cassidy R. Sugimoto, and Thema Monroe-White. 2024. "The Psychosocial Impacts of Generative AI Harms." *Proceedings of the 2024 AAAI Spring Symposium Series* Vol. 3 No. 1 (May). <https://doi.org/10.1609/aaais.v3i1.31251>.

"World Report on Disability". 2011. World Health Organization (WHO). <https://www.who.int/teams/noncommunicable-diseases/sensory-functions-disability-and-rehabilitation/world-report-on-disability>.

Appendix 1: Examples of AI harms affecting people with disabilities

| Type of harm | Example |
|-------------------------|---|
| Allocation harm | Derek Mobley, who has anxiety and depression, was rejected from over 100 roles by an AI hiring tool despite being qualified. The AI assessments allegedly flagged traits linked to his mental health, denying him fair access to employment – a clear case of allocation harm. A US federal court allowed the case to proceed, citing concerns over equal opportunity in algorithmic hiring. ²⁷ |
| Quality-of-service harm | A facial recognition system used by a Swiss insurer severely misjudged the age of individuals with Down syndrome – estimating men as much older and women as much younger. Some adults were classified as under five years old, leading to denial of age-restricted services. ²⁸ |
| Stereotyping harm | T2I models often depict people with disabilities using reductive, harmful tropes – eg, always in wheelchairs, shown as sad, passive, or incapable. Research published in ACM found assistive devices often took visual precedence over the person, resulting in dehumanised and stereotypical imagery. ²⁹ |
| Erasure harm | The incident at the 2021 Tokyo Paralympics in which a self-driving Toyota e-Palette vehicle struck visually impaired judoka Aramitsu Kitazono underscores the potential dangers of autonomous technology in sensitive environments. Despite the presence of onboard operators, the vehicle failed to detect Kitazono at a pedestrian crossing, leading to injuries that forced his withdrawal from competition. ³⁰ |
| Representational harm | The University of Washington's CREATE team found that T2I models generated disturbing images for prompts like "person with disability", including horror-themed visuals, disembodied limbs, or overemphasis on assistive devices. These images lacked representation across race, gender, age, and disability types, reinforcing narrow, dehumanising views. ³¹ |

²⁷ (European Disability Forum 2024)

²⁸ (Rondina et al. 2025)

²⁹ (Mack et al. 2024)

³⁰ (Rodrigues, 2021)

³¹ (Mack et al. 2024)

Appendix 2: Examples of initiatives that can help in implementation of recommendations

| Recommendation | Relevant examples |
|---|---|
| 1. Catalyse global commitment to disability-inclusive AI through a G20 resolution | G20's Brisbane 25 by 25 commitment |
| 2. Ensure representation of disabled people in AI governance and standard-setting bodies | The ILO's tripartite model offers a blueprint for inclusive AI governance |
| 3. Develop measurement and monitoring frameworks for AI harms affecting persons with disabilities | <p>Use-case agnostic framework: NIST's Artificial Intelligence Risk Management Framework (AI RMF 1.0)</p> <p>Use-case specific framework: PEAT AI & Disability toolkit (which specifically looks at hiring).</p> <p>Open-source tools to automate measurement of inclusivity in AI systems: Fairlearn toolkit</p> |
| 4. Capacity building for meaningful participation of persons with disabilities and DPOs | <p>Global Disability Summit's Capacity-Building Programme</p> <p>International Disability Alliance's BRIDGE CRPD-SDGs Training Initiative</p> |
| 5. Establish a dynamic, transparent global knowledge platform | <p>G20 Tourism and SDGs Dashboard</p> <p>G20 EMPOWER KPI Dashboard</p> <p>OECD Short-Term Indicators Dashboard</p> |

Appendix 3: Acknowledgement of expert inputs

This policy brief greatly benefitted from the valuable inputs and time provided by the following experts, researchers, and practitioners. Their guidance was instrumental in shaping the understanding and insights presented here. The authors extend their deepest appreciation for their contributions:

- Borhane Blili-Hamelin, Data Scientist III, TD
- Cecily Morrison, Microsoft Research
- Christina Mallon, Global Director of Inclusive Design, Microsoft
- Hanna Wallach, VP & Distinguished Scientist, Microsoft

- Ioana Tanase, AI and Accessibility Program Manager
- Kalika Bali, Senior Principal Researcher, Microsoft Research India
- Shea Brown, CEO, BABL AI

We would also like to express our gratitude to several other experts whose valuable insights and contributions significantly enriched this brief. Although they have chosen to remain anonymous, their support and guidance were instrumental in strengthening this publication.

T20 South Africa Convenors



The Institute for Global Dialogue (IGD)



The South African Institute of International Affairs (SAIIA)



The Institute for Pan-African Thought and Conversation (IPATC)

© T20 South Africa and the original authors

This publication is licensed under the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License (CC BY-NC-ND 4.0).



This license enables reusers to copy and distribute the material in any medium or format in unadapted form only, for noncommercial purposes only, and only so long as attribution is given to the creator.

To view a copy of this license, visit <https://creativecommons.org/licenses/by-nc-nd/4.0/>

For publication enquiries, please contact t20@t20southafrica.org

Website: www.t20southafrica.org