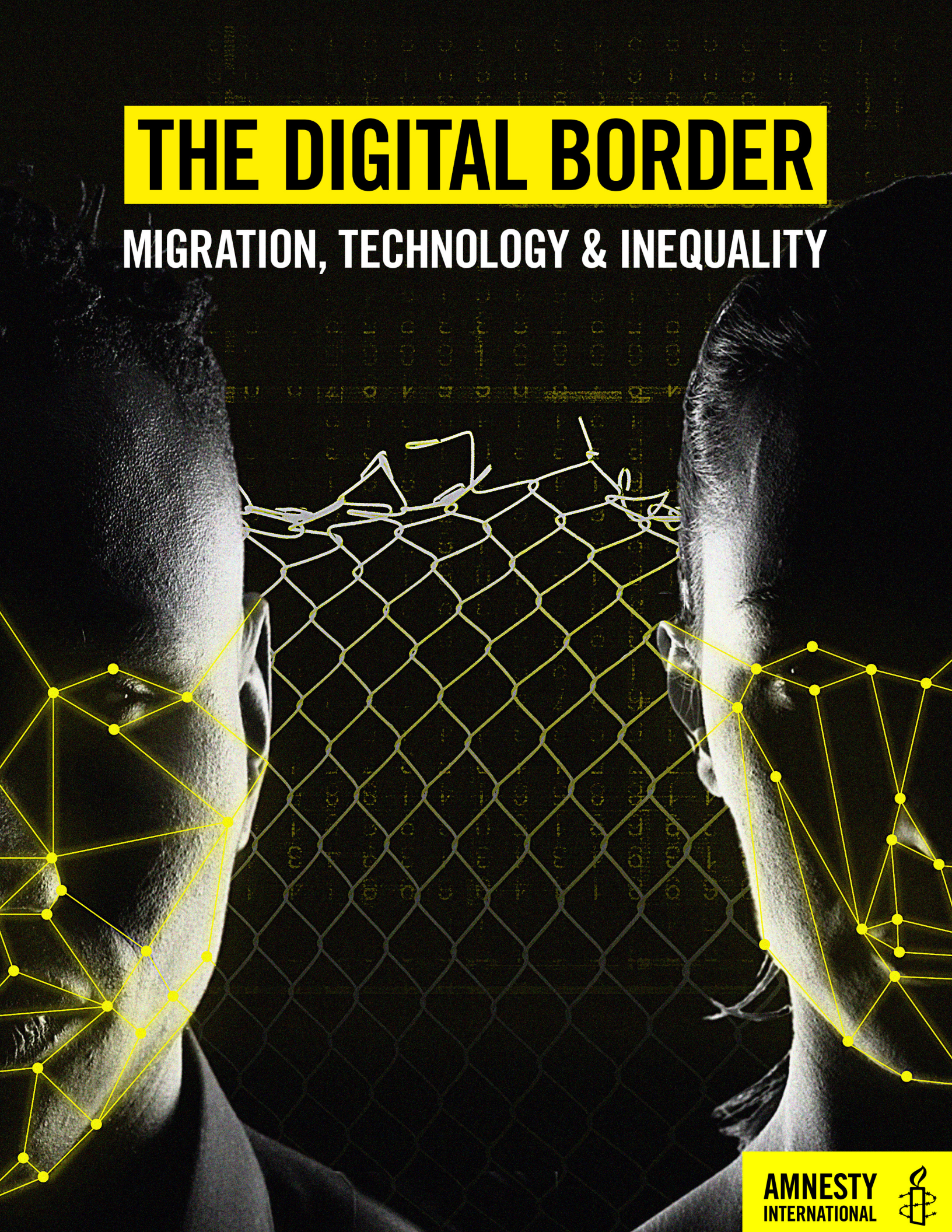
THE DIGITAL BORDER

MIGRATION, TECHNOLOGY & INEQUALITY



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KEY TERMINOLOGY A-Z

A

ALGORITHMS

An algorithm is a list of mathematic rules which solve a problem. The rules must be in the right order –think of a recipe. Algorithms are the building blocks of Artificial Intelligence (AI) and Machine Learning (ML). They enable AI and ML technologies to train on data that already exists about a problem so that they are able to solve problems when working with new data.

ALGORITHMIC MANAGEMENT

The use of computer programmed procedures for the coordination of labor input in an enterprise or organization, which can take the form of a diverse set of technological tools and techniques to remotely manage workforces.[1] These methods rely on data collection and surveillance of workers to enable automated or semi-automated decision-making.[2] However, when algorithmic management is used in situations in which companies are able to avoid legally classifying workers as employees, and therefore avoid the legal protections afforded to them, workers are at risk of more precarious and dangerous working conditions, and have little recourse to restitution or the ability to opt out, particularly in scarce and competitive labor markets.[3]

ARTIFICIAL INTELLIGENCE (AI)

There is no widespread consensus on the definition of AI because the term does not refer to a singular technology and rather encapsulates myriad technological applications and methods. Most formal definitions will refer to a range of data-driven processes which enable computers to execute very specific or more general tasks, such as decision-making or solving problems, in place of or to assist humans. Amnesty International intentionally takes a broad definition of AI in order to adequately and holistically interrogate the human rights impacts of the various components, practices and processes that underlie AI technologies. Broadly speaking, AI is any technique or system that allows computers to mimic human behavior.

[1] International Labour Organization and the European Commission, *The Algorithmic Management of Work and its Implications in Different Contexts*, June 2022, https://www.ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_849220.pdf, pp. 5-6.

[2] Data & Society, *Explainer: Algorithmic Management in the Workplace*, February 2019, https://datasociety.net/wp-content/uploads/2019/02/DS_Algorithmic_Management_Explainer.pdf?app=true, pp. 3-4.

[3] For more, see: Veena Dubal, "On algorithmic wage discrimination," November 2023, Columbia Law Review, Volume 123, No. 7, https://columbialawreview.org/content/on-algorithmic-wage-discrimination/; Macy L. Gray and Siddarth Suri, *Ghost Work: How to Stop Silicon Valley from Building a New Global Underclass*, 2018.

B

BIOMETRIC DATA

Data that is based on physical/biological features of individuals for example fingerprints, iris prints, facial imagery, and other highly personal characteristics. This data is often collected and stored for the purposes of identifying an individual or authenticating their identity.[4]

BORDER-INDUSTRIAL COMPLEX

This concept (also sometimes referred to as the border surveillance industry or immigration-industrial complex), refers to the closely intertwined relationships between governments and the private sector, including tech companies in asylum and migration management systems.[5]

E

EXTERNALIZATION

A range of migration management policies that focus on shifting the responsibility of providing international protection to refugees and asylum seekers to other countries, or on enlisting source or transit countries in tightening control over their borders. Externalization policies share the objective of preventing or punishing irregular border crossings by refugees, asylum seekers and migrants, often mobilizing and leveraging international financial aid.

[4] The Engine Room, *Primer: Biometrics in the Humanitarian Sector*, July 2023, https://www.theengineroom.org/wp-content/uploads/2023/07/TER-Biometrics-Primer-2023.pdf, p. 5.

[5] Al Jazeera, "Why climate action needs to target the border industrial complex," 1 November 2019, https://www.aljazeera.com/opinions/2019/11/1/why-climate-action-needs-to-target-the-border-industrial-complex; Tanya Golash-Boza, "The immigration industrial complex: why we enforce immigration policies destined to fail," 18 March 2009, Sociology Compass, Volume 3, Issue 2, https://doi.org/10.1111/j.1751-9020.2008.00193.x.

G

GPS TECHNOLOGIES

Global Positioning System: a navigational system used to identify the longitudinal and latitudinal position of people, objects and places across the planet.

I

INTERNALIZATION

A series of increasingly common migration practices, carried out in coordination with externalization of borders, in which border policing mechanisms and practices are brought inward from a nation's physical border. This may take the form of increased interior policing of immigrants, including methods of surveillance with the goal of detecting, detaining, and deporting migrants.[6]

INTEROPERABILITY

The ability of one system or database to seamlessly exchange or find information within another system or database.

INTERSECTIONAL DISCRIMINATION

When discrimination on different grounds operates together to produce compound or distinct disadvantages. For example, if a Black or Muslim asylum seeker is more likely to experience migration-related detention, the discrimination and violation of their human rights is due to a combination of their perceived or real race, national origin, immigration or citizenship status.

[6] Cecilia Menjívar, "Immigration Law Beyond Borders: Externalizing and Internalizing Border Controls in an Era of Securitization," November 2014, Annual Review of Law and Social Science, Volume 10, https://www.annualreviews.org/doi/abs/10.1146/annurev-lawsocsci-110413-030842, p. 353.

N

NON-REFOULEMENT

The legal obligation for states not to return or transfer anyone to a place or jurisdiction where they would be at real risk of persecution or other serious human rights violations or abuses.

S

"SMART" BORDERS

The use of technological systems in reinforcing borders, for example biometric identification and registration, the automated detection of human movement and object recognition, automated entry/exit systems at the border, and/or apps used to govern asylum applications, to name a few.

T

TECHNOCOLONIALISM

How some researchers have referred to the data-hungry nature of many of today's information and communications technologies, particularly when they are leveraged in humanitarian contexts and/or with the personal data of highly marginalized populations. Technologies that make use of data of highly marginalized populations often play a role in entrenching inequalities between the Global Majority and Global Minority, and ultimately, reflect the historical inequalities of extraction and colonialism.[7]

[7] Mirca Madianou, "Technocolonialism: digital innovation and data practices in the humanitarian response to refugee crises," July 2019, Social Media + Society, Volume 5, Issue 3, https://doi.org/10.1177/2056305119863146.

INTRODUCTION

Amidst human rights violations around the world, many of which are fueled by growing global inequality,[8] the role of technology has continued to permeate into more areas of daily life.[9] Racial, economic, and social inequities around the world have shaped and driven the movement of persons across municipal and international borders, many of whom are fleeing the effects of conflict, intractable poverty, political oppression, or the climate crisis. 2023 recorded the highest ever number of forcibly displaced people – an estimated 110 million.[10] Many governments and political movements around the world have weaponized xenophobic rhetoric about refugees and migrants, often blaming domestic instability on migrants and refugees or otherwise mobilizing support for externalization and privatization of borders.[11]

Human rights organizations around the world have documented grave and escalating[12] rights violations against refugees,[13] asylum seekers,[14] internally displaced people,[15] and migrants.[16] At the same time, the role of new forms of digital technology in and around international borders has continued to grow. Many states and international organizations have increasingly integrated new technologies into the systems that process and manage movement of persons.[17] Some forms of digitization at and around borders may be considered a form of pushback against refugee and migrant rights.[18] Such technology-enabled security practices also justify and undergird the expansion of discriminatory tools in policing,[19] social services,[20] and beyond, which impact not just migrants and refugees, but a range of racialized and marginalized groups.

This briefing will provide an overview of how migration fits into an intersectional framework of technology, inequality, and human rights. Building upon previous work by Amnesty International and others, this briefing will outline how uses of new technology are central to a trend of violations of human rights at borders around the world, and provide a broad outline of forms of technology used by states and non-state actors in migration management and asylum systems. The second of a series of four briefings by Amnesty International USA on technology and inequality, this report will demonstrate how concerns around digital rights and the rights of asylum seekers, refugees and migrants are increasingly interrelated, and must be considered within a broader trend of criminalization of marginalized peoples' lives that is often enabled and facilitated by new forms of technology.

[8] Amnesty International, D*igitally Divided: Technology, Inequality, and Human Rights* (Index: POL 40/7108/2023), 2 October 2023, https://www.amnestyusa.org/reports/digitally-divided-technology-inequality-and-human-rights/, p. 8.

[9] Amnesty International, *Digitally Divided* (previously cited), p. 5.

[10] Office of the UN High Commissioner for Refugees (UNHCR), Mid-Year Trends 2023, 25 October 2023, https://www.unhcr.org/us/media/mid-year-trends-2023, p. 2.

[11] Human Rights Watch, "Refugees, Asylum Seekers, Migrants, and Internally Displaced Persons," 31 August 2001, https://www.hrw.org/legacy/campaigns/race/refugeepresskit.html.

[12] The Hill, "As Gaza burns, other countries are quietly, illegally dumping refugees," 10 November 2023, https://thehill.com/opinion/international/4302089-as-gaza-burns-other-countries-are-quietly-illegally-dumping-refugees/; International Rescue Committee, "IRC laments the news of nearly 40 people dying in the fire at the migrant detention center in Ciudad Juárez and calls for stronger protection systems for asylum seekers," 28 March 2023, https://www.rescue.org/press-release/irc-laments-news-nearly-40-people-dying-fire-migrant-detention-center-ciudad-juarez.

[13] Amnesty International, *"Justice like any other person" – Hate Crimes and Discrimination Against LGBTI Refugees* (Index: AFR 32/6578/2023), 19 May 2023, https://www.amnesty.org/en/documents/afr32/6578/2023/en/.

[14] Amnesty International, *Mandatory Use of CBP One Application Violates the Right to Seek Asylum* (Index: AMR 51/6754/2023), 7 May 2023, https://www.amnesty.org/en/documents/amr51/6754/2023/en/.

[15] Amnesty International, *'Unbearable Living Conditions': Inadequate Access to Economic and Social rights in Displacement Camps in North-west Syria* (Index: MDE 24/5770/2022), 5 July 2022, https://www.amnesty.org/en/documents/mde24/5770/2022/en/

[16] Amnesty International, *Submission to the Standing Committee on Citizenship and Immigration: Study on closed work permits and temporary foreign workers* (Index: AMR 20/7485/2023), 30 November 2023, https://www.amnesty.org/en/documents/amr20/7485/2023/en/

[17] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, Report, *Racial and Xenophobic Discrimination and the Use of Digital Technologies in Border and Immigration Enforcement,* 22 September 2021, UN Doc. A/HRC/48/76, para. 3.

[18] Amnesty International, *Primer: Defending the Rights of Refugees and Migrants in the Digital Age* (Index: POL 40/7654/2024), 5 February 2024, https://www.amnesty.org/en/documents/pol40/7654/2024/en/

[19] Amnesty International, "Ban dangerous facial recognition technology that amplifies racist policing," 26 January 2021, https://www.amnesty.org/en/latest/press-release/2021/01/ban-dangerous-facial-recognition-technology-that-amplifies-racist-policing/.

[20] Amnesty International, *Social Protection in the Digital Age* (Index: POL 40/7771/2024), 6 March 2024, https://www.amnesty.org/en/latest/news/2024/03/global-governments-adoption-of-unchecked-technologies-in-social-protection-systems-undermines-rights/

1. HOW INEQUALITY DRIVES MIGRATION AND FORCED DISPLACEMENT

TECHNOLOGY, INEQUALITY, FORCED DISPLACEMENT, AND MIGRATION

The United Nations High Commissioner for Refugees (UNHCR) recorded a 21 percent increase in 2022 alone in the number of displaced persons, which accounts for the single largest yearly increase recorded since the UNHCR began keeping such records.[21] Because of escalating threats from insecurity and conflict, the scale of displacement around the world shows no sign of slowing. Meanwhile, many states around the world have long experimented with increasingly punitive border management and asylum policies that effectively criminalize those seeking asylum or moving across borders.[22] In addition, many political actors and parties around the world have continued to weaponize xenophobic and racist rhetoric about immigrants and asylum seekers.[23] Asylum seekers themselves often do not receive adequate protection while they are in the process of seeking a status determination, including in the form of dangerous or unhealthy living conditions at borders, or within camp settings.[24] Forcibly displaced people are often forced to seek asylum in part because of underlying structures of inequality they experience in their home context that lead to discrimination and persecution, including ethnic and religious minorities,[25] and LGBTQI+ people.[26] Many people who experience forced displacement are from countries or populations who have experienced the impacts of historical colonialism and ongoing economic extraction.[27] Forced displacement itself is often a modern manifestation of the aftermath of violent and extractive systems of colonialism, both past and present.[28] States often experiment with new technologies in the asylum or immigration process on those who, for a variety of underlying reasons, have the least ability to protect their rights, or seek redress when harmed.[29] The use of new technologies is increasing in the migration and asylum fields across the world, particularly in the arenas of policing and security, personal identification, and communication and movement of information. Many of these systems pose threats to the rights of people seeking to move across borders, in ways that exacerbate underlying racial, economic, and

[21] Office of the UN High Commissioner for Refugees (UNHCR), *UNHCR Global Trends Report 2022*, 14 June 2023, https://www.unhcr.org/global-trends-report-2022. See also: UNHCR, "Five Takeaways from the 2022 UNHCR Global Trends Report," 11 July 2023, https://www.unrefugees.org/news/five-takeaways-from-the-2022-unhcr-global-trends-report/

[22] Amnesty International, *Lives At Risk: Barriers and Harms As Biden Asylum Ban Takes Effect* (AMR 51/6808/2023), 19 May 2023, https://www.amnesty.org/en/documents/amr51/6808/2023/en/

[23] The Guardian, "Hungary accused of fueling xenophobia with anti-migrant rhetoric," 21 May 2019, https://www.theguardian.com/world/2019/may/21/hungary-accused-of-fuelling-xenophobia-human-rights-violations; The Guardian, "Trump takes bizarre turn as he ratchets up racist rhetoric against migrants," 5 March 2024, https://www.theguardian.com/us-news/2024/mar/05/donald-trump-migrants-hannibal-lecter; The Guardian, "UK government's anti-migrant rhetoric is 'feeding' the far right, claims campaign group," 21 May 2023, https://www.theguardian.com/uk-news/2023/may/21/uk-governments-anti-migrant-rhetoric-is-feeding-the-far-right-claims-campaign-group; Al-Monitor, "Lebanon deports dozens of Syrian refugees amid spike in racist rhetoric," 21 April 2023, https://www.al-monitor.com/originals/2023/04/lebanon-deports-dozens-syrian-refugees-amid-spike-racist-rhetoric; Victoria M. Esses and Leah K. Hamilton, March 2021. Xenophobia and anti-immigrant attitudes in the time of COVID-19. Group Processes & Intergroup Relations, Volume 24, Issue 2, https://doi.org/10.1177/1368430220983470

[24] Kate Ogg, "Protection from 'Refuge': On What Legal Grounds Will a Refugee Be Saved from Camp Life?" International Journal of Refugee Law, Volume 28, Issue 3, October 2016, https://doi.org/10.1093/ijrl/eew034

[25] UNHCR, "Minorities and indigenous peoples," https://www.unhcr.org/us/what-we-do/how-we-work/safeguarding-individuals/minorities-and-indigenous-peoples (accessed on 12 December 2023).

[26] Amnesty International, "Between invisibility and discrimination: Venezuelan LGBTIQ+ refugees in Colombia and Peru," 14 June 2022, https://www.amnesty.org/en/latest/news/2022/06/venezuelan-lgbtiq-refugees-colombia-peru/

[27] Mirca Madianou, "Technocolonialism: digital innovation and data practices in the humanitarian response to refugee crises," (previously cited). https://www.amnesty.org/en/latest/news/2022/06/venezuelan-lgbtiq-refugees-colombia-peru/

[28] Gurminder K. Bhambra, "The current crisis of Europe: Refugees, colonialism, and the limits of cosmopolitanism," September 2017, European Law Journal, Volume 23, Issue 5, https://doi.org/10.1111/eulj.12234

[29] Amnesty International, *Digitally Divide*d (previously cited), pp. 9-10.

social inequalities.[30] Further, many of the digital tools being used in the processing of movement of persons are developed, sold, and deployed by private companies, whose very business model is often rooted in and structured by the extraction and accumulation of data for profit.[31] As the right to seek asylum is under increasing threat by states and governments who are using the human,[32] the adoption of undertested and experimental technologies at the border must be examined carefully alongside other technology-enabled human rights concerns.[33]

Alongside the digitally-enabled rights violations of asylum seekers, refugees and migrants, there are also increasing threats to the rights and concerns of migrants moving across borders for work opportunities.[34] The rights of migrant workers are protected under additional legal instruments,[35] and are increasingly an issue of concern, particularly alongside growing violations of workers' rights more broadly. Amnesty International has increasingly sounded the alarm about the exploitation and rights of migrant workers, who are often subject to serious rights violations, including vulnerability to trafficking in persons and wage theft.[36] Finally, migrant workers and other people with insecure citizenship status, including undocumented immigrants, are often subject to the same forms of digitally-enabled surveillance, monitoring, and exploitation, particularly in the context of the workplace, and are similarly vulnerable to these tools because of their inability to opt out or seek redress when such tools are used in harmful ways.[37]

Across all stages of movement, including in countries of origin, transit, and destination, all migrants have the right to equality and non-discrimination,[38] privacy,[39] and access to social protection.[40] Technologies that contribute to discouraging people on the move from exercising these rights can be considered part of a broader system of what some researchers have termed "technocolonialism," entrenching inequalities of already marginalized groups.[41] The use of such technologies often helps to facilitate both the externalization and internalization of borders, in which various forms of technology provide the pretext by which states and regions justify the undermining or weakening of human rights by extending systems of criminalization and surveillance into more areas of daily life for more types of people. Borders increasingly operate both internally and externally, and an approach which analyzes the growing influence of technology on migration helps shed light on how affected populations are subject to rights violations across different stages of their movement.[42]

THE RIGHT TO SEEK ASYLUM IS UNDER INCREASING THREAT

[30] Refugee Studies Centre, Automating Immigration and Asylum: The Uses of New Technologies in Migration and Asylum Governance in Europe, 23 January 2023, https://www.rsc.ox.ac.uk/publications/automating-immigration-and-asylum-the-uses-of-new-technologies-in-migration-and-asylum-governance-in-europe, p. 5.

[31] Amnesty International, *Digitally Divided* (previously cited) p. 6.

[32] Amnesty International, "Congress Urged to Not Gut Asylum System," 8 December 2023, https://www.amnestyusa.org/press-releases/congress-urged-to-not-gut-asylum-system/

[33] Refugee Studies Centre, *Automating Immigration and Asylum*, p. 5.

[34] UN Special Rapporteur on the Human Rights of Migrants, Report: *Protection of the Labour and Human Rights of Migrant Workers,* 13 July 2023, UN Doc. A/78/180, para. 12.

[35] International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families

[36] See, for example: Amnesty International, *They Think That We're Machines: Forced Labour and Other Abuse of Migrant Workers in Qatar's Private Security Sector* (Index: MDE 22/5388/2022), 7 April 2022, https://www.amnesty.org/en/documents/mde22/5388/2022/en/

[37] The Guardian, "A US surveillance program tracks nearly 200,000 immigrants. What happens to their data?" 14 March 2022, https://www.theguardian.com/us-news/2022/mar/14/us-immigration-surveillance-isap

[38] International Covenant on Civil and Political Rights (ICCPR), Article 24, Article 26.

[39] The right to privacy is protected under a number of international human rights instruments, including Article 17 of the ICCPR which provides that no one should be subject to "arbitrary or unlawful interference" with their privacy, family, home or correspondence, and this should be protected by law. Universal Declaration of Human Rights, Article 12; International Covenant on Civil and Political Rights, Article 17. The UN Human Rights Committee has long recognized that such protection includes regulating "the gathering and holding of personal information on computers, data banks and other devices, whether by public authorities or private individuals or bodies. See: UN Human Rights Committee (HRC), General Comment 16: The Right to Respect of Privacy, Family, Home and Correspondence, and Protection of Honour and Reputation (Article 17), UN Doc. HRI/GEN/1/Rev.9 (Vol. I), 8 April 1988, para. 10.; See also: Amnesty International, *Automated Apartheid: How Facial Recognition Fragments, Segregates, and Controls Palestinians in the OPT* (Index: MDE 15/6701/2023), 2 May 2023, https://www.amnesty.org/en/documents/mde15/6701/2023/en/, p. 21.

[40] The right to social security is recognized and protected by international human rights law. Article 9 of the International Covenant on Economic, Social and Cultural Rights (ICESCR) and Article 22 of the Universal Declaration of Human Rights (UDHR) recognize the right of everyone to social security. According to ICESCR, states are responsible for ensuring that social support is adequate in amount and duration so that everyone can realize their rights to family protection and assistance, an adequate standard of living and adequate access to healthcare. See: See UN CESCR, General Comment 19, 4 February 2008, para. 22; ICCPR, 1966, Article 9; UDHR, 1948, Article 22; European Social Charter (Revised) 1996, Articles 12, 23, and 30.

[41] Mirca Madianou, "Technocolonialism: digital innovation and data practices in the humanitarian response to refugee crises," (previously cited), pp. 2-3.

[42] Refugee Studies Centre, *Automating Immigration and Asylum* (previously cited), p. 5.

TECHNOLOGY, INEQUALITY, AND MIGRATION: HUMAN RIGHTS IMPLICATIONS

Various forms of technology implemented at borders threaten the right[43] to seek asylum,[44] as well as the rights to non-refoulement,[45] equality, and non-discrimination.[46] Digitized securitization and surveillance measures may have the effect of discouraging people from exercising their right to claim asylum.[47] Information management systems use datasets and algorithms that may exacerbate underlying inequalities in the lives of people on the move by threatening the rights to non-discrimination and equality. These technologies frequently replicate previously existing racial, economic, and social biases,[48] including by replicating historical biases based on an individual's real or perceived ethnicity, race, national origin, descent, religion, and other characteristics.[49] Such security technologies are often implemented on the premise that individuals of certain nationalities or possessing certain characteristics pose a threat with respect to national security concerns.[50] These assumptions are based on and justified by racist and xenophobic ideologies, discourses and structures.[51]

People on the move also have the right to liberty and freedom from arbitrary detention,[52] which may be under threat when technologies are used to make decisions about migrants' ability to move freely. Under international law, the enjoyment of personal liberty and freedom of movement should be any individual's default condition.[53] Migrants, refugees and asylum seekers, like anyone else, must benefit from a legal presumption of liberty and, as a consequence, any restrictions to their liberty must be clearly prescribed by law, strictly justified by a legitimate purpose, necessary, proportionate and non-discriminatory.

Finally, people crossing borders for reasons other than seeking asylum, also have the right to privacy, which is often threatened by forms of technology including increased biometric data collection, surveillance technology, and the collection and sharing of personal data at and around borders, as well as further surveillance by means of social media. While interference with an individual's right to privacy is only permissible under international human rights law if it is neither arbitrary nor unlawful, people on the move—with precarious immigration status; refugees, asylum seekers, and undocumented communities alike—are often obligated to compromise on their human rights, in exchange for possible passage.[54] International human rights law and standards set out a three-part test to determine whether an interference with the right to privacy is legitimate or amounts to a violation: firstly, any interference must be prescribed by and in accordance with the law (legality); secondly, it must be pursuant to a legitimate aim; thirdly, it must be strictly necessary to meet a legitimate aim, such as protecting national security or public order (necessity) and be conducted in a manner that is proportionate to that aim and non-discriminatory, which means balancing the nature and the extent of the interference against the reason for interfering (proportionality).[55]

[43] Convention Relating to the Status of Refugees.

[44] Universal Declaration of Human Rights (UDHR), Article 14.

[45] Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, Article 3. "No State Party shall expel, return ("refouler") or extradite a person to another State where there are substantial grounds for believing that he would be in danger of being subjected to torture."

[46] Non-discrimination and equality are fundamental components of international human rights law and essential to the exercise and enjoyment of economic, social and cultural rights.' – UN CESCR, General Comment No. 20: Non-discrimination in economic, social and cultural rights, UN Doc. E/C.12/GC/20 (2009), I Para. 2; 'Non-discrimination, together with equality before the law and equal protection of the law without any discrimination, constitute a basic and general principle relating to the protection of human rights.' – UN Human Rights Committee, General comment No. 18, UN Doc. HRI/GEN/1/Rev.9 Vol. I (1989), Para. 1

[47] Refugee Law Lab, *Technological Testing Grounds* (p. 19).

[48] Amnesty International, *Digitally Divided* (previously cited) p. 12.

[49] Amnesty International, *Primer: Defending the rights of refugees and migrants in the digital age* (previously cited), p. 18.

[50] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, *Racial and Xenophobic Discrimination and the Use of Digital Technologies in Border and Immigration Enforcement* (previously cited), para 7.

[51] Amnesty International, *Primer: Defending the rights of refugees and migrants in the digital age* (previously cited), p. 18.

[52] ICCPR, Article 9.

[53] ICCPR, Article 9.

[54] Amnesty International, *Primer: Defending the rights of refugees and migrants in the digital age* (previously cited), p. 11.

[55] See, for example: Universal Declaration of Human Rights (UDHR), Article 12; ICCPR, Article 17; UN Human Rights Committee (HRC), General Comment 16: The Right to Respect of Privacy, Family, Home and Correspondence, and Protection of Honour and Reputation (Article 17), 8 April 1988, para. 10; UN High Commissioner for Human Rights, Report: The Right to Privacy in the Digital Age, 3 August 2018, UN Doc. A/HRC/39/29, para. 5.

RIGHTS OF PEOPLE ON THE MOVE

The rights of people moving across borders are protected under various legal instruments of international law.[56] Refugees, asylum-seekers, and migrants are also entitled to other rights protections, which are applicable at every stage of their journey and regardless of national origin or background.

RIGHT TO SEEK AND ENJOY ASYLUM

Everyone has the right to seek and enjoy asylum from persecution in other countries.[57] Access to territory is a necessary requirement for realizing the right to seek asylum.[58] Once asylum-seekers have been able to access territory, they must also be able to present their claims by accessing refugee status determination procedures that contain certain basic safeguards.[59]

THE UNHCR HAS STATED THAT, "WHILE IT IS LEFT TO EACH STATE TO ESTABLISH THE PROCEDURE MOST APPROPRIATE TO THAT STATE'S CONSTITUTIONAL AND ADMINISTRATIVE STRUCTURE, ASYLUM PROCEDURES MUST BE CONDUCTED IN FULL RESPECT OF DUE PROCESS STANDARDS."[60]

This means that technologies deployed at or around borders must not directly or indirectly impede access to the asylum process, impede due process, or have the effect of criminalizing movement across borders by excessively monitoring, tracking and intercepting asylum seekers on their journey.[61]

[56] Convention Relating to the Status of Refugees; Protocol Relating to the Status of Refugees

[57] Convention Relating to the Status of Refugees; Protocol Relating to the Status of Refugees

[58] UNHCR, Submission by the Office of the United Nations High Commissioner for Refugees in the case of D.A. and others v. Poland (application no. 51246/17) before the European Court of Human Rights, 51246/17, 5 February 2018, para. 3.1.5, https://www.refworld.org/docid/5a9d6e414.html

[59] UNHCR, Handbook on Procedures and Criteria for Determining Refugee Status under the 1951 Convention and the 1967 Protocol Relating to the Status of Refugees, U.N. Doc. HCR/1P/4/ENG/REV.4, February 2019, p. 42.

[60] UNHCR, Handbook on Procedures and Criteria for Determining Refugee Status under the 1951 Convention and the 1967 Protocol Relating to the Status of Refugees, U.N. Doc. HCR/1P/4/ENG/REV.4, February 2019, p. 42.

[61] Samuel Norton Chambers and others, "Mortality, surveillance and the tertiary "funnel effect" on the US-Mexico border: a geospatial modeling of the geography of deterrence," January 19, Journal of Borderlands Studies, Volume 36, Issue 3, https://doi.org/10.1080/08865655.2019.1570861

PRINCIPLE OF NON-REFOULEMENT

All states are entitled to regulate access and residence of foreigners on their territory and return people who are irregularly present on their territory to their country of origin.[62] However, states around the world are bound by the principle of non-refoulement,[63] which is the cornerstone of refugee law and enshrined in customary international law,[64] meaning it is binding on all states irrespective of which treaties they have ratified. Under this principle, "no State Party shall expel, return ("refouler") or extradite a person to another State where there are substantial grounds for believing that he would be in danger of being subjected to torture" or other serious human rights violations.[65]

THE PRINCIPLE OF NON-REFOULEMENT MUST BE OBSERVED IN RESPECT OF ANYONE IN REMOVAL, EXPULSION OR EXTRADITION PROCEDURES, IRRESPECTIVE OF WHETHER A PERSON HAS FORMALLY REQUESTED OR OBTAINED INTERNATIONAL PROTECTION.[66]

Therefore, any technology that facilitates or creates the conditions for 'pushbacks,' or forced return of asylum seekers or refugees without consideration of individual circumstances or the potential for an appeal may be considered a violation of the principle of non-refoulement, particularly where there are substantial grounds to believe there is a risk of serious human rights violations or abuses.[67]

[62] Laura Thompson, "Protection of Migrants' Rights and State Sovereignty," September 2013, United Nations Chronicle No. 3, Volume L, https://www.un.org/en/chronicle/article/protection-migrants-rights-and-state-sovereignty.

[63] Convention and Protocol Relating to the Status of Refugees; Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, Article 3

[64] Convention Relating to the Status of Refugees; Protocol Relating to the Status of Refugees.

[65] Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, Article 3.

[66] UNHCR, "UNHCR Note on the Principle of Non-Refoulement," November 1997, https://www.refworld.org/policy/legalguidance/unhcr/1997/en/36258 (accessed on 19 December 2023).

[67] Convention Against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment, Article 3.

NON-DISCRIMINATION AND EQUALITY

The principles of equality and non-discrimination are among the key concepts of international human rights protection, protected in various human rights instruments, including theInternational Covenant on Civil and Political Rights (ICCPR),[68] the International Covenant on Economic, Social and Cultural Rights (ICESCR), and others.[69] Under these instruments, all persons are guaranteed equal protection of the law, and discrimination "on any ground such as race, color, sex, language, religion, political or other opinion, national or social origin, property, birth or other status" is prohibited, as well as discrimination against persons with disabilities.[70] Some people, including migrants, refugees, and asylum seekers, experience additional or unique forms of discrimination because of multiple characteristics that are part of their identity, or perceived in that context, such as race and social origin.[71] This is referred to as intersectional discrimination.[72]

SUCH DISCRIMINATION AND OTHER FORMS OF XENOPHOBIA DISPROPORTIONATELY IMPACT PEOPLE ON THE MOVE, INCLUDING REFUGEES, ASYLUM SEEKERS, AND MIGRANTS,[73] AND IS OF PARTICULAR CONCERN AMIDST RISING XENOPHOBIC RHETORIC BY GOVERNMENTS AROUND THE WORLD. INTERNATIONAL LAW OBLIGES STATES TO TAKE MEASURES TO ELIMINATE ALL FORMS OF DISCRIMINATION.[74]

[68] International Covenant on Civil and Political Rights (ICCPR), Article 4, Article 24, Article 26.

[69] International Covenant on Economic, Social and Cultural Rights, 1966, Article 2; International Convention on the Elimination of All Forms of Racial Discrimination, 1965, Articles 1-7; Convention on the Elimination of All Forms of Discrimination against Women, 1979, in particular: Articles 1, 2, 3, and 11.

[70] Convention on the Rights of Persons with Disabilities (CRPD)

[71] Council of Europe, "Intersectionality and Multiple Discrimination," https://www.coe.int/en/web/gender-matters/intersectionality-and-multiple-discrimination (accessed on 19 December 2023).

[72] E. Tendayi Achiume, "Putting racial equality onto the global human rights agenda," December 2018, International Journal on Human Rights, Volume 28, https://sur.conectas.org/wp-content/uploads/2018/12/sur-28-ingles-e-tendayi-achiume.pdf; Amnesty International, "Explainer: why intersectionality is important for women's rights," 1 December 2021, https://www.amnesty.org.au/explainer-why-intersectionality-is-important-for-womens-rights/; Amnesty International, *Digitally Divided,* (previously cited) p. 8.

[73] International Organization for Migration (IOM), *International Migration, Racism, Discrimination and Xenophobia,* August 2001, https://publications.iom.int/system/files/pdf/international_migration_racism.pdf, p. 9.

[74] International Convention on the Elimination of All Forms of Racial Discrimination, Article 2(1); International Covenant on Civil and Political Rights, Article 26.

MIGRANT WORKERS' RIGHTS

Migrants who cross international borders for the purpose of work opportunities, as with all persons, are guaranteed the rights to life,[75] and liberty, privacy, and freedom from compulsory labor,[76] as well as the right to freedom from arbitrary detention,[77] regardless of where or under what circumstances a person crosses a border. The right to safe and fairly compensated work is protected by a number of different instruments under international law. Under Articles 6 and 7 of the International Covenant on Economic, Social and Cultural Rights, states are obligated to protect individuals' right to "just and favorable conditions of work," including "equal wages and equal remuneration," as well as "safe and healthy working conditions" and "rest, leisure, and reasonable limitation of working hours."[78] Furthermore, the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families provides further specific protections for migrant workers, including, notably, protection from arbitrary or unlawful interference with one's privacy, family, home or correspondence.[79] Amnesty International has recommended that the UN Committee on the Protection of the Rights of All Migrant Workers and Members of their Families (CMW) requests States Parties to the International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families to provide detailed information on, *inter-alia,* several aspects of their labor migration policies, as well as measures taken to ensure that all migrant workers are able to gain a living by work which they freely choose or accept, as well as measures to ensure that workers are able to report instances of labor violations and obtain an effective remedy for human rights violations.[80]

[75] ICCPR Article 6

[76] ICCPR, Article 8.

[77] International human rights law restricts the use of both custodial and non-custodial measures i.e. detention and measures short of detention, also known as "alternatives to detention" for migration control. As with the use of detention, these "alternatives" must still comply with the principles of legality, necessity, proportionality, and non-discrimination.

[78] International Covenant on Economic, Social and Cultural Rights, Articles 6-7

[79] ICCPR, Article 19; International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families, Article 14

[80] Amnesty International, *Abusive Labour Migration Policies: Submission to the UN Committee on Migrant Workers' day of General Discussion on Workplace Exploitation and Workplace Protection,* (Index: IOR 42/002/2014), 7 April 2014, https://www.amnesty.org/en/documents/ior42/002/2014/en/ p. 4.

STATE OBLIGATIONS AND PRIVATE SECTOR RESPONSIBILITIES

MANY STATES AND REGIONS NOW RELY IN PART ON PRIVATE CORPORATIONS TO MANAGE THE MOVEMENT AND RECEPTION OF PEOPLE CROSSING INTERNATIONAL BORDERS.[81]

The term "border industrial complex" has been used to describe the nexus between border policing, militarization, and financial interest,[82] and often manifests as the multiplying[83] partnerships between state and international bodies and private companies.[84]

According to the UN Guiding Principles on Business and Human Rights (UN Guiding Principles), States' international human rights law obligations require that they respect, protect and fulfill the human rights of individuals within their territory and/or jurisdiction, including non-citizens.[85] This includes the duty to protect against human rights abuse by third parties, including business enterprises. Because the State duty to protect is a standard of conduct, States themselves are not per se responsible for human rights abuse by private actors.[86] However, States may breach their international human rights law obligations in the case that "such violations can be attributed to them, or where they fail to take appropriate steps to prevent, investigate, punish and redress private actors' abuse." Although it is the case that States "generally have discretion in deciding upon these steps, they should consider the full range of permissible preventative and remedial measures, including policies, legislation, regulations and adjudication." Furthermore, States also have the duty to protect and promote human rights, including by enacting concrete measures to ensure "equality before the law, fairness in its application, and by providing for adequate accountability, legal certainty, and procedural and legal transparency, as well as the duty to ensure remedy."[87] In addition, States should "clearly set the expectation that all businesses enterprises within their territory or jurisdiction respect human rights throughout their operations."[88] State guidance to businesses may include advice on human rights due diligence, including how to recognize the specific challenges that may be faced by Indigenous peoples, women, national or ethnic minorities, religious and linguistic minorities, children, persons with disabilities, and migrant workers and their families.[89]

[81] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, *Racial and Xenophobic Discrimination and the Use of Digital Technologies in Border and Immigration Enforcement* (previously cited), para. 18

[82] The Transnational Institute, *Financing Border Wars: The Border Industry, its Financiers, and Human Rights*, April 2021, https://tni.org/en/publication/financing-border-wars, p. 7

[83] Statewatch, "Divestment from the border industrial complex could spur "a politics that protects and upholds the rights of refugees and migrants," 21 April 2021, https://www.statewatch.org/news/2021/april/divestment-from-the-border-industrial-complex-could-spur-a-politics-that-protects-and-upholds-the-rights-of-refugees-and-migrants/

[84] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, *Racial and Xenophobic Discrimination and the Use of Digital Technologies in Border and Immigration Enforcement* (previously cited), para. 62; see also: UN Working Group on the Use of Mercenaries, Report: *Impact of the Use of Private Military and Security Services in Immigration and Border Management on the Protection of the Rights of All Migrants,* 9 July 2020, UN Doc. A/HRC/45/9.

[85] Guiding Principles on Business and Human Rights: Implementing the United Nations "Protect, Respect and Remedy" Framework, 2011, endorsed by the UN Human Rights Council (UNHRC), UNHRC Resolution 17/4: Human rights and Transnational Corporations and other Business Enterprises, adopted on 16 June 2011, UN Doc. A/HRC/RES/17/4, p. 3.

[86] UN Guiding Principles (previously cited), Principle 1 and Commentary

[87] UN Guiding Principles (previously cited), Principle 1 and Commentary, Principle 25

[88] UN Guiding Principles (previously cited), Principle 2.

[89] UN Guiding Principles (previously cited), Commentary to Principle 3

CORPORATE RESPONSIBILITIES

Companies have a responsibility to respect all human rights wherever they operate in the world and throughout their operations. This is a widely recognized standard of expected conduct as set out in international business and human rights standards including the UN Guiding Principles on Business and Human Rights (UN Guiding Principles) and the OECD Guidelines for Multinational Enterprises (OECD Guidelines).[90]

THIS CORPORATE RESPONSIBILITY TO RESPECT HUMAN RIGHTS IS INDEPENDENT OF A STATE'S OWN HUMAN RIGHTS OBLIGATIONS AND EXISTS OVER AND ABOVE COMPLIANCE WITH NATIONAL LAWS AND REGULATIONS PROTECTING HUMAN RIGHTS.[91]

This principle is particularly relevant for businesses operating in countries where laws not only fall short of international human rights law but actually contradict it in key respects. In these situations, the UN Guiding Principles indicate that business enterprises "are expected to respect the principles of internationally recognized human rights to the greatest extent possible in the circumstances, and to be able to demonstrate their efforts in this regard."[92]

The responsibility to respect human rights requires companies to avoid causing or contributing to human rights abuses through their own business activities, and address impacts in which they are involved, including by remediating any actual abuses. It also requires companies to seek to prevent or mitigate adverse human rights impacts directly linked to their operations, products or services by their business relationships, even if they have not contributed to those impacts.[93]

(Continued on Next Page)

[90] This responsibility was expressly recognized by the UN Human Rights Council on 16 June 2011, when it endorsed the UN Guiding Principles on Business and Human Rights, and on 25 May 2011, when the 42 governments that had then adhered to the Declaration on International Investment and Multinational Enterprises of the OECD unanimously endorsed a revised version of the OECD Guidelines for Multinational Enterprises. See *Human Rights and Transnational Corporations and other Business Enterprises,* Human Rights Council, Resolution 17/4, UN Doc A/HRC/RES/17/4, 6 July 2011; *OECD Guidelines for Multinational Enterprises,* OECD, 2011, www.oecd.org/corporate/mne.

[91] UN Guiding Principles (previously cited), Principle 11 including Commentary.

[92] UN Guiding Principles (previously cited), Commentary to Principle 23.

[93] UN Guiding Principles (previously cited), Principles 11 and 13 including Commentary.

STATE OBLIGATIONS AND PRIVATE SECTOR RESPONSIBILITIES

(Corporate Responsibilities Continued)

The UN Guiding Principles establish that to meet their corporate responsibility to respect, companies should have in place an ongoing and proactive human rights due diligence process to identify, prevent, mitigate and account for how they address their impacts on human rights. When conducting human rights due diligence, a company may identify that it may cause or contribute to – or already be causing or contributing to – a serious human rights abuse. In these cases, companies must cease or prevent the adverse human rights impacts.[94]

WHEN BUSINESSES HAVE DETERMINED THAT THEIR PRACTICES HAVE CAUSED OR CONTRIBUTED OR ARE CAUSING OR CONTRIBUTING TO ADVERSE HUMAN RIGHTS IMPACTS, THEY HAVE A RESPONSIBILITY TO PROVIDE FOR OR COOPERATE IN THEIR REMEDIATION PROCESSES.[95]

Where impacts are outside of the business enterprise's control but are directly linked to their operations, products or services through their business relationships, the UN Guiding Principles require the company to seek to mitigate the human rights impact by exercising leverage, or seek to improve leverage where leverage is limited, including through collaboration if appropriate.

Under the UN Guiding Principles, "business relationships" include "relationships with business partners, entities in its value chain, and any other non-State or State entity directly linked to its business operations, products or services."[96]

An important element of due diligence is transparency and publicly accounting for how a company has identified, prevented, or mitigated potential or actual adverse impacts on human rights. As the UN Guiding Principles make clear, companies "need to know and show that they respect human rights."[97] In this case, "showing involves communication, providing a measure of transparency and accountability to individuals or groups who may be impacted and to other relevant stakeholders."[98]

[94] Guiding Principles on Business and Human Rights. Principle 19 states that "In order to prevent and mitigate adverse human rights impacts, business enterprises should integrate the findings from their impact assessments across relevant internal functions and processes, and take appropriate action." According to the Commentary on Principle 19, "Where a business enterprise contributes or may contribute to an adverse human rights impact, it should take the necessary steps to cease or prevent its contribution and use its leverage to mitigate any remaining impact to the greatest extent possible. Leverage is considered to exist where the enterprise has the ability to effect change in the wrongful practices of an entity that causes a harm. Where a business enterprise has not contributed to an adverse human rights impact, but that impact is nevertheless directly linked to its operations, products or services by its business relationship with another entity, the situation is more complex. Among the factors that will enter into the determination of the appropriate action in such situations are the enterprise's leverage over the entity concerned, how crucial the relationship is to the enterprise, the severity of the abuse, and whether terminating the relationship with the entity itself would have adverse human rights consequences…If the business enterprise has leverage to prevent or mitigate the adverse impact, it should exercise it. And if it lacks leverage there may be ways for the enterprise to increase it. Leverage may be increased by, for example, offering capacity-building or other incentives to the related entity, or collaborating with other actors. There are situations in which the enterprise lacks the leverage to prevent or mitigate adverse impacts and is unable to increase its leverage. Here, the enterprise should consider ending the relationship, taking into account credible assessments of potential adverse human rights impacts of doing so."

[95] UN Guiding Principles (previously cited), Principle 22

[96] UN Guiding Principles (previously cited), Commentary to Principle 13.

[97] UN Guiding Principles (previously cited), Commentary to Principle 15.

[98] UN Guiding Principles (previously cited), Commentary to Principle 21.

THE STATE-BUSINESS NEXUS

According to the UN Guiding Principles on Business and Human Rights:

"States should take additional steps to protect against human rights abuses by business enterprises that are owned or controlled by the State, or that receive substantial support and services from State agencies, including, where appropriate, by requiring human rights due diligence.[99] States individually are the primary duty-bearers under international human rights law, and collectively they are the trustees of the international human rights regime. Where a business enterprise is controlled by a State or where its acts can be attributed to the State, a failure to respect human rights by the business enterprise may constitute a violation of the State's own obligations under international law.[100] Furthermore, the closer a business enterprise is to the State, or the more it relies on statutory authority or taxpayer support, the stronger the State's rationale becomes for ensuring that the enterprise protects human rights.[101] In addition, States have a heightened responsibility to ensure the human rights best practices of enterprises in the context of conflict-affected areas,[102] a definition which may include border zones of various regions around the world,[103] particularly where such zones and regions have a heightened risk of human rights violations and abuses, including both gender-based and sexual violence.[104]

As stated above, an important element of due diligence and fulfilling the responsibility to respect human rights is transparency and publicly accounting for how a company has identified, prevented, or mitigated potential or actual adverse impacts on human rights, however there is often a lack of transparency in relation to the partnerships between States and private companies with regard to technology products or services used in border management."[105]

[99] UN Guiding Principles (previously cited), Principle 4

[100] UN Guiding Principles (previously cited), Commentary to Principle 4

[101] UN Guiding Principles (previously cited), Commentary to Principle 4

[102] UN Guiding Principles (previously cited), Principle 7 and Commentary

[103] Sabine Hess, "Border as conflict zone: critical approaches on the border and migration nexus," in Doris Bachmann-Medick and Jens Kugele (editors), *Migration: Changing Concepts, Critical Approaches,* 2018.

[104] UN Guiding Principles (previously cited), Principle 7b.

[105] United Nations Office of the High Commissioner (OHCHR), *Digital Border Governance: A Human Rights Based Approach,* 18 September 2023, https://www.ohchr.org/en/documents/tools-and-resources/digital-border-governance-human-rights-based-approach, p. 21.

2. HOW TECHNOLOGY ENABLES THE CRIMINALIZATION OF MOVEMENT

EXTERNALIZATION AND INTERNALIZATION OF BORDERS

Border externalization is an increasingly common method by which States evade their obligations under international law to protect people on the move, including with the assistance of various security and migration management technologies.[106] Amnesty International defines externalization as a broad spectrum of actions implemented outside of the territory of the State that people are trying to enter, usually through enhanced cooperation with other countries. These policies may consist of formal, stand-alone legal agreements, or they may comprise a variety of informal arrangements or actions contained within broader cooperation agreements, diplomatic dialogues, projects, compacts or programs established between States which include – but go beyond – migration issues.[107]

In practice, border externalization often takes the form of practices that shift the responsibility of providing international protection for refugees and asylum-seekers to other countries or which enlist host and transit countries in tightening control over their borders. These policies are often punitive, or preventative and in most instances, the primary goal of externalization is to reduce the number of people arriving to a destination country.[108] Externalization policies can include, but are not limited to: the relocation of border enforcement zones,[109] the outsourcing of asylum processing to other countries,[110] as well as increased use of military grade security mechanisms at borders, increasingly enabled by digital technology.[111] All of these policies are made possible by the deployment of various forms of new technology, including surveillance technology, biometric data capture, and unregulated data sharing agreements[112] between federal and international agencies and state and local law enforcement bodies,[113] as well as between countries. Many of these practices are also made possible by products and services of the booming border security market, which has been predicted to reach a $65-68 billion dollar valuation by 2025, with particular expansion expected in biometrics and artificial intelligence sectors.[114] While "measures to keep people from reaching sanctuary are as old as the asylum tradition itself,"[115] the involvement of corporations in this area of state function is relatively new. As a result of the experimental nature of many migration management tools,[116] as well as the absence of regulation of their use,[117] the use of technology as a form of border externalization often exacerbates inequality and injustice for people on the move.

[106] Refugee Law Lab, *Technological Testing Grounds: Migration Management Experiments and Reflections from the Ground Up,* 9 November 2020, https://edri.org/our-work/technological-testing-grounds-border-tech-is-experimenting-with-peoples-lives/, pp. 34-35.

[107] Amnesty International, *The human rights risks of external migration policies,* (previously cited), p. 4.

[108] Jenna M. Loyd, "Abolish migration deterrence," in Mizue Aizeki and others (editors), *Resisting Borders and Technologies of Violence.*

[109] Jenna M. Loyd, "Abolish migration deterrence," (previously cited).

[110] Amnesty International, T*he Human Rights Risks of External Migration Policies,* (previously cited), p. 4.

[111] Refugee Law Lab, *Technological Testing Grounds* (previously cited), p. 34.

[112] Statewatch, "Eurosur: saving lives or reinforcing deadly borders?" 1 February 2014, https://www.statewatch.org/statewatch-database/eurosur-saving-lives-or-reinforcing-deadly-borders-by-charles-heller-and-chris-jones/

[113] Mijente, Immigrant Defense Project, and the National Immigration Project, *Who's Behind ICE? The Tech Companies Fueling Deportations,* 23 October 2018, https://www.immigrationresearch.org/system/files/WHO%E2%80%99S-BEHIND-ICE_-The-Tech-and-Data-Companies-Fueling-Deportations.pdf, pp. 1-2; pp. 38-39.

[114] Statewatch, "Divestment from the border industrial complex could spur 'a politics that protects and upholds the rights of refugees and migrants,'" 21 April 2021, https://www.statewatch.org/news/2021/april/divestment-from-the-border-industrial-complex-could-spur-a-politics-that-protects-and-upholds-the-rights-of-refugees-and-migrants/.

[115] David Scott FitzGerald, *Refuge Beyond Reach: How Rich Democracies Repel Asylum Seekers,* 2019, p. 1.

[116] Refugee Law Lab, *Technological Testing Grounds* (previously cited), pp. 16-17; New America, "The 'smart wall' relies on invasive and ineffective experimental technology. There's nothing smart about that," 5 August 2021, https://www.newamerica.org/oti/blog/the-smart-wall-relies-on-invasive-and-ineffective-experimental-technology-theres-nothing-smart-about-that/.

[117] E. Tendayi Achiume et al, "Technology is the new border enforcer, and it discriminates," 23 November 2020, Al-Jazeera, https://www.aljazeera.com/opinions/2020/11/23/technology-is-the-new-border-enforcer-and-it-discriminates

Although externalization policies are not unlawful per se,[118] Amnesty International has noted that the externalization of border control and asylum processing, in particular, pose significant human rights risks, including the right to seek asylum,[119] the principle of non-refoulement,[120] and the right to liberty,[121] among others. These policies generally have a disproportionate impact on persons from Africa, Central and South America, the Caribbean, the Middle East, and South Asia, and are often fueled by racialized, xenophobic, and ethnonationalist politics that seek to exclude certain groups from regions on discriminatory bases.[122]

Meanwhile, other technology-enabled policies impacting people on the move can be framed as the "internalization" of borders, a process in which the infrastructure of immigration control follows a person once they have crossed a border, layering discrimination or presumption of criminality into a person's life on the basis of their association or history with migration or asylum.[123] Examples of internalization measures include unregulated information sharing of migrants' personal data between State and local policing agencies,[124] unchecked surveillance of immigrant and undocumented communities,[125] and the use of digitized surveillance and decision-making in welfare and social protection systems, which often disproportionately impacts people with insecure citizenship status and other marginalized groups.[126] In each of these instances, technology-enabled policies and procedures extend the reach of the border to within the lives of more groups of people, blurring the line between border enforcement and interior policing.[127]

Internalization of borders also impacts people besides migrants and refugees, including racialized people and economically insecure people. This is of particular concern when enormous and technologically-enabled security regimes developed by States ostensibly for the management of borders can be appropriated to curtail human rights for citizens as well, as in the case of the U.S. Customs and Border Patrol (CPB),[128] the Department of Homeland Security (DHS)[129], and Immigration and Customs Enforcement (ICE)[130] being deployed by the U.S. government to crack down on Black Lives Matter protesters in 2020. Other security practices that may 'internalize' borders include the U.S. government's suspension of constitutional protections within the so-called 100-mile zone, whereby border patrol authorities are granted exception to conduct warrantless searches and seizures anywhere within 100 miles of a U.S. border, normalizing a lesser expectation of privacy for roughly two thirds of the U.S. population.[131] The spread of border internalization often coincides with the spread of new data intensive technologies used at and around borders.[132]

[118] "Amnesty International considers that external migration policies include: 1) Externalization of border control: Enlisting other countries to engage in punitive or preventive policies aiming at stopping irregular border crossings by refugees, asylum-seekers and migrants; 2) Externalization of asylum-processing: Shifting to other countries the responsibility for providing protection to those seeking asylum; 3) READMISSION AGREEMENTS: Arrangements that facilitate the forcible return (to their countries of origin) of people with no right to remain – for example irregular migrants or people whose asylum claims were unsuccessful; 4) International assistance: Positive incentives that attempt to address the perceived causes of migration and displacement by improving living conditions and access to rights and protection in countries of origin and transit, including through the deployment of development aid, trade measures and foreign direct investment; 5) SAFE AND REGULAR PATHWAYS OF ENTRY – Policies enabling regular access to destination countries for people in need of protection (for example: resettlement, family reunification, protected entry, community sponsorships, etc.) – as well as for migrants (for example: labor migration schemes, student visas, etc.). From the perspective of international law, external migration policies – which often simply entail cooperation between States on migration issues – are not unlawful per se. However, Amnesty International considers that several types of external migration policies, and particularly the externalization of border control and asylum-processing, pose significant human rights risks." For further reading, see: Amnesty International, T*he human rights risks of external migration policies,* (previously cited), pp. 4-6.

[119] Amnesty International, *The human rights risks of external migration policies,* (previously cited), p. 6.

[120] Amnesty International, *The human rights risks of external migration policies,* (previously cited), p. 7

[121] Amnesty International, *The human rights risks of external migration policies,* (previously cited), p. 9

[122] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, *Racial and Xenophobic Discrimination and the Use of Digital Technologies in Border and Immigration Enforcement* (previously cited), para. 49.

[123] Cecilia Menjívar, "Immigration Law Beyond Borders: Externalizing and Internalizing Border Controls in an Era of Securitization," November 2014, Annual Review of Law and Social Science Volume 10, https://doi.org/10.1146/annurev-lawsocsci-110413-030842, p. 360.

[124] Mijente, "Blueprint for Terror: How ICE Planned its Largest Immigration Raid in History," 3 July 2019, https://mijente.net/icepapers/

[125] Asad L. Asad, "The everyday surveillance of undocumented immigrants," 26 July 2023, Princeton University Press Ideas, https://press.princeton.edu/ideas/the-everyday-surveillance-of-undocumented-immigrants

[126] Amnesty International, Xenophobic Machines: *Discrimination Through Unregulated Use of Algorithms in the Dutch Childcare Benefits Scandal* (Index: EUR 35/4686/2021), 25 October 2021, https://www.amnesty.org/en/documents/eur35/4686/2021/en/, p. 24.

[127] Immigrant Defense Project, *Smart Borders or a Humane World?* 6 October 2021, https://www.tni.org/en/publication/smart-borders-or-a-humane-world, p. 24.

[128] Intercept, "Uninvited and unaccountable: how CBP policed George Floyd protests," 21 September 2023, https://theintercept.com/2023/09/21/cbp-george-floyd-protests/

[129] Intercept, "Federal agents at protests renew calls to dismantle Homeland Security," 30 July 2020, https://theintercept.com/2020/07/30/dismantle-homeland-security/

[130] NBC News, "ICE special agents detain Floyd protester in NYC," 5 June 5 2020, https://www.nbcnews.com/news/latino/federal-immigration-agents-detain-floyd-protester-nyc-n1226086.

[131] American Civil Liberties Union (ACLU),"The Constitution in the 100-Mile Border Zone," 21 August 2014, https://www.aclu.org/documents/constitution-100-mile-border-zone

[132] Andréanne Bissonnette and Élisabeth Vallet, "Internalized borders and checkpoints: how immigration controls became normalized tools for COVID-19 responses in North America," August 2021, Journal of Borderlands Studies, Volume 37, Issue 4, https://doi.org/10.1080/08865655.2021.1968928

3. BEFORE THE BORDER

PREDICTIVE FORECASTING TOOLS

Some technology-enabled forms of border externalization occur before affected groups have begun their journey. States are increasingly utilizing big data analytics and other forecasting tools to inform policymaking around asylum and movements of persons and, in some cases, to justify the utilization of more heavily militarized border surveillance and policing tools.[133] These tools use data analysis to predict movement of persons across borders and are being adopted and utilized across a variety of contexts. The European Asylum Support (EASO), for example, has developed the Early Warning and Preparedness System (EWPS), which uses data, including weekly online search patterns through Google Trends, to develop a machine learning-based algorithm that claims to analyze events that might cause future large-scale displacement in selected regions.[134] Other such projects include the Global Conflict Risk Index (GCRI), developed by the European Commission's Joint Research Centre (JRC), which calculates the statistical risk of an armed conflict in any selected country, reportedly for up to four years,[135] as well as initiatives like the Foresight Project, a partnership between the Danish Refugee Council and IBM using 25 years of historical data to predict forced displacement.[136]

Data-driven predictive analytics in migration and humanitarian management, which mimics similar technologies that have long been a feature of military and security agencies,[137] may have some promise for helping to stretch the capacity of overtaxed humanitarian agencies. However, the accuracy of these models has been shown to be highly variable.[138] And while migration forecasting tools are likely not discriminatory per se, the vast majority of these predictive models are built on open source data, including information available on social media, TV news, and such sources as internet search trends.[139] These data sources are inherently limited in scope, geography, and time, and reflect the biases and gaps of open source data more broadly, especially with the consideration of racial, class, and gender gaps in internet access[140] where online sources are concerned. Overall, the threat of bias and error[141] and the lack of safeguards to protect against potential discrimination in use[142] requires consistent human intervention and rigorous human rights assessments of such tools to identify and mitigate their potential to result in adverse outcomes for people on the move,[143] including by justifying the increase of border securitization and surveillance.

ADVERSE OUTCOMES FOR PEOPLE ON THE MOVE

[133] Refugee Studies Centre, *Automating Immigration and Asylum* (previously cited), p. 15.

[134] Refugee Studies Centre, *Automating Immigration and Asylum* (previously cited), p. 15.

[135] European Commission's Disaster Risk Management Knowledge Centre, Global Conflict Risk Index, https://drmkc.jrc.ec.europa.eu/initiatives-services/global-conflict-risk-index#documents/1435/list.

[136] Danish Refugee Council, Foresight Model: Forecasting Future Displacement, https://pro.drc.ngo/what-we-do/innovation-and-climate-action/predictive-analysis/foresight-displacement-forecasts/

[137] Tamara Bellone and others, "Mapping as tacit representations of the colonial gaze," in Doug Specht (editor), *Mapping Crisis: Participation, Datafication and Humanitarianism in the Age of Digital Mapping,* 2020, pp 30-32.

[138] Refugee Studies Centre, *Automating Immigration and Asylum* (previously cited), p. 16-17

[139] Refugee Studies Centre, *Automating Immigration and Asylum* (previously cited), p. 16-17

[140] Charlie Muller, "What is the digital divide?" 3 March 2022, Internet Society, https://www.internetsociety.org/blog/2022/03/what-is-the-digital-divide/

[141] "European Commission, Directorate-General for Migration and Home Affairs, *Feasibility study on a forecasting and early warning tool for migration based on artificial intelligence technology,* 2021, https://data.europa.eu/doi/10.2837/222662, pp. 13-14.

[142] "Access Now, "Open letter to the ITFlows Consortium: stop tech tools for predicting migration that can be repurposed to violate fundamental rights," 27 September 2022, https://www.accessnow.org/press-release/open-letter-itflows-consortium/

[143] Bercu Baykurt and Alphoncina Lyamuya, "Making up the predictable border: How bureaucracies legitimate data science techniques," 1 April 2023, New Media + Society Volume 1, Issue 1, https://doi.org/10.1177/14614448231161276

BORDER DETERRENCE TECHNOLOGY

States around the world are increasingly enacting highly militarized security infrastructure at their borders,[144] in ways which are often designed to deter or discourage potential entry by migrants and asylum seekers even before travel begins.[146] These infrastructures also impact communities living in territories near borders in destination countries, increasing police and surveillance infrastructure in regions where populations may already be subject to high levels of poverty as well as racialized or unequal policing.[147] Many of these border security and surveillance measures are enabled by technology, and may threaten the right to seek asylum by threatening people on the move with violence, detention, or other inhumane treatment.[148] States often justify the legitimacy of border securitization[149] measures as essential to national security, in ways which may frame migration and seeking asylum itself as a criminal activity.[150]

Technology-enabled early detection tools are increasingly used in monitoring and securitizing border zones, including in the form of military-grade drones and "unmanned mobile robots" in the European Union (EU) context.[151] Other such detection technologies include radar, high-tech cameras, satellite data, and electro-optical sensors,[152] all of which may constitute forms of migration deterrence. The U.S. border, for example, has been similarly reinforced with military grade technologies of surveillance and deterrence, including a network of 55 security towers equipped with cameras, heat sensors, motion sensors, and other so-called "smart" border technologies.[153] Other border security technologies appear to serve very little practical purpose other than as methods of deterrence and intimidation, such as the case of the "robotic patrol dogs," equipped with attached sniper rifles, tested at the border by the US in 2022.[154]

By pushing back potential migrants or forcing them to take alternative routes to the border, these militarized border technologies may contribute to an increase in migrant deaths by pushing people on the move to take more dangerous routes to avoid detection or interception.[155] Many of these technologies are untested and experimental by nature,[156] operating outside regulation and having been put into operation without human rights impact assessments having been conducted,[157] thus forcing migrants and asylum seekers to serve as test subjects. Other forms of technology that impact the lives and rights of people on the move before their journey starts include information and intelligence sharing programs between countries.[158] These information sharing tools, which often take the form of interoperable databases,[159] are a form of technological infrastructure that allows predominantly global minority countries to collect and share enormous quantities of private data about people on the move.[160] This information may reflect underlying biases and inaccuracies that are common to biometric data[161] such as the misrecognition of Black people by facial recognition technologies or the de facto exclusions

[144] OHCHR, Digital Border Governance (previously cited), p. 4.

[145] Intercept, "Mapping Project Reveals Locations of U.S. Border Surveillance Towers," 20 March 2023, https://theintercept.com/2023/03/20/border-surveillance-map/

[146] Oxfam and Belgrade Centre for Human Rights, *A Dangerous 'Game': the Pushback of Migrants, Including Refugees, at Europe's borders,*" 5 April 2017, https://www.oxfam.org/en/research/dangerous-game-pushback-migrants-including-refugees-europes-borders

[147] Electronic Frontier Foundation (EFF), "CBP Is Expanding Its Surveillance Tower Program at the U.S.-Mexico Border--And We're Mapping It," 20 March 2023 (updated 19 March 2024), https://www.eff.org/deeplinks/2023/03/cbp-expanding-its-surveillance-tower-program-us-mexico-border-and-were-mapping-it (accessed on 19 December 2023). See also: Southern Borders Community Coalition, The Southern Border Region at a Glance (updated 28 June 2023), https://www.southernborder.org/border_lens_southern_border_region_at_a_glance (accessed on 3 March 2024).

[148] United Nations Office of the High Commissioner (OHCHR), *Digital Border Governance* (previously cited), p. 12.

[149] "Securitization" refers to the process by which migration and border control have been increasingly integrated into security frameworks that emphasize policing, defense, and criminality over a rights-based approach. For a detailed discussion of securitization at the border, see: UN Special Rapporteur on the Human Rights of Migrants, Regional Study: *Management of the External Borders of the European Union and Its Impact on the Human Rights of Migrants*, 24 April 2013, UN Doc. A/HRC/23/46, para. 43-44.

[150] Refugee Law Lab, *Technological Testing Grounds* (previously cited), p. 34

[151] Refugee Law Lab, *Technological Testing Grounds* (previously cited), p. 19

[152] Amnesty International, *Primer: Defending the Rights of Refugees and Migrants in the Digital Age* (previously cited), pp. 12-13.

[153] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, *Racial and Xenophobic Discrimination and the Use of Digital Technologies in Border and Immigration Enforcement* (previously cited), para. 54.

[154] The Guardian, "US tests of robotic patrol dogs on Mexican border prompt outcry,"4 February 2022, https://www.theguardian.com/us-news/2022/feb/04/us-tests-of-robotic-patrol-dogs-on-mexican-border-prompt-outcry

[155] Refugee Law Lab, *Technological Testing Grounds* (previously cited), p. 25.

[156] Refugee Law Lab, *Technological Testing Grounds* (previously cited), p. 36.

[157] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, *Racial and Xenophobic Discrimination and the Use of Digital Technologies in Border and Immigration Enforcement* (previously cited), para. 46.

[58] Cristina Blasi Casagran, "Fundamental rights implications of interconnecting migration and policing databases in the EU," June 2021, Human Rights Law Review, Volume 21, Issue 2, https://doi.org/10.1093/hrlr/ngaa057

[159] European Union Agency for Fundamental Rights, *Interoperability and Fundamental Rights Implications,* 19 April 2018, https://fra.europa.eu/en/publication/2018/interoperability-and-fundamental-rights-implications

[160] The Transnational Institute, T*he Everywhere Border: Digital Migration Control Infrastructure in the Americas,* 14 February 2023, https://www.tni.org/en/article/the-everywhere-border, p. 6.

[161] Article 19, *When Bodies Become Data: Biometric Technologies and Free Expression,* April 2021, https://www.article19.org/biometric-technologies-privacy-data-free-expression/, pp. 8-9.

based on national origin.[162] This information can also be used to form the basis of algorithmic risk assessments[163] for migrants in the processing of their migration or asylum status determination.[164] Limited or inaccurate data can lead to profiling of high risk groups, including refugees and asylum seekers from racialized groups or countries in the Global Majority,[165] as in the case of unreliable "gang-member affiliation databases" whose information is shared between the U.S. and other countries, as well as between U.S. domestic police departments and federal agencies.[166] Increased data sharing and interoperability of data between countries can serve as an accelerator of inequality in access to the global migration and asylum system, exacerbating pre-existing marginalization of groups who already have a heightened risk of discriminatory outcomes.[167] This is exemplified by, for example, the biometric identity databases developed jointly between destination and origin countries to aid in the facilitation of tracking and deporting refugees.[168] In a variety of instances around the world, data sharing without firewalls or regulation opens the door to unequal and discriminatory policing of people moving across borders.[169]

DATA SHARING WITHOUT FIREWALLS OR REGULATION OPENS THE DOOR TO UNEQUAL AND DISCRIMINATORY POLICING

Other forms of surveillance prior to interaction with a physical border may include social media monitoring of people on the move, as in the case of a Texas National Guard operation that infiltrated a private communication channel for migrants on WhatsApp.[170] The International Organization for Migration (IOM) has also developed the Displacement Tracking Matrix,[171] which monitors people on the move, including their social media activity and mobile phone records.[172] In some cases, such social media monitoring may extend outward to others, including human rights defenders and journalists who may be working with or adjacent to migrant or refugee communities.[173] Monitoring of private communications and social media threatens the right to privacy for people on the move, particularly when this monitoring is used in the process of issuing asylum or immigration status decisions.[174]

[162] Amnesty International, *Primer: Defending the Rights of Refugees and Migrants in the Digital Age* (previously cited), p. 15.

[163] Statewatch, *Frontex and Interoperable Databases: Knowledge As Power?*, February 2023, https://www.statewatch.org/media/3725/frontex-and-interoperable-databases-report.pdf

[164] Refugee Studies Centre, *Automating Immigration and Asylum* (previously cited), pp. 20-21.

[165] Access Now, "Civil society joint statement: Europe's (digital) borders must fall," 4 December 2023, https://www.accessnow.org/press-release/joint-statement-eurodac-europes-digital-borders-must-fall/

[166] The Transnational Institute, *The Everywhere Border* (previously cited), p. 9.

[167] International Organization for Migration (IOM), *International Migration, Racism, Discrimination and Xenophobia*, (previously cited), p. 6.

[168] Privacy International, "Here's how a well-connected security company is quietly building mass biometric databases in West Africa with EU aid funds," 10 November 2020, https://privacyinternational.org/news-analysis/4290/heres-how-well-connected-security-company-quietly-building-mass-biometric

[169] "In another example, DHS is developing the Homeland Advanced Recognition Technology System (HART) to replace its current centralized biometric database, IDENT. HART will enable DHS to aggregate and compare biographical and biometric data on hundreds of millions of people across the globe. This includes so-called encounter data from police stops, facial recognition, DNA, iris scans, and voice prints—usually gathered without the individual's knowledge or consent. The massive HART database draws from widespread biometrics collection in all realms—for example, the US DOS INL's development of integrated DNA databases in Mexico and Central America in the name of combating trafficking or the proposed national biometric digital ID in Mexico. In this way, multiple state initiatives merge, and the power of the state to police, track and control migrants and all people under their watch grows exponentially." For more, see: The Transnational Institute, The Everywhere Border (previously cited), pp. 6-7.

[170] Texas Tribune, "Texas National Guard disbanded intelligence wing after members used WhatsApp to spy on migrants," 29 August 2023, https://www.texastribune.org/2023/08/29/texas-national-guard-migrants-whatsapp-intelligence/

[171] International Organization for Migration (IOM), "About the Displacement Tracking Matrix (DTM)," 31 January 2023, https://dtm.iom.int/about-dtm

[172] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, *Racial and Xenophobic Discrimination and the Use of Digital Technologies in Border and Immigration Enforcement* (previously cited), para. 17.

[173] Politico, "Watchdog: CBP improperly targeted Americans as caravans approached border," 29 August 2023, https://www.politico.com/news/2021/09/23/cbp-americans-caravans-border-513829

[174] New York Times, "How ICE picks its targets in the surveillance age," 2 October 2019, https://www.nytimes.com/2019/10/02/magazine/ice-surveillance-deportation.html

SYSTEMIC RACISM AND THE PROHIBITION ON RACIAL DISCRIMINATION

Systemic racism is embedded in migration and border control policies and practices, resulting in direct and indirect forms of racial discrimination. The principles of equality and non-discrimination run throughout international human rights law and standards and aim to achieve formal equality in law and in practice. However, as the former Special Rapporteur on contemporary forms of racism has noted, immigration laws and policies are not race-neutral and reinforce racial inequalities and discrimination. Thus, digital technologies have and exacerbate racially discriminatory impacts on migrants and refugees on the basis of race, ethnicity, national origin, descent, citizenship status, religion, and other characteristics.

As highlighted by the former Special Rapporteur on contemporary forms of racism, racial discrimination, xenophobia and related intolerance in her 2020 report on emerging digital technologies and racial discrimination:

"THERE CAN NO LONGER BE ANY DOUBT THAT EMERGING DIGITAL TECHNOLOGIES HAVE A STRIKING CAPACITY TO REPRODUCE, REINFORCE AND EVEN TO EXACERBATE RACIAL INEQUALITY WITHIN AND ACROSS SOCIETIES. A NUMBER OF IMPORTANT ACADEMIC STUDIES HAVE SHOWN CONCRETELY THAT THE DESIGN AND USE OF TECHNOLOGY ARE ALREADY HAVING THIS PRECISE EFFECT ACROSS A VARIETY OF CONTEXTS."

4. AT THE BORDER

IMMIGRATION SURVEILLANCE

Several forms of technology-enabled interventions at and around physical borders are being used in the reception of people on the move.[175] Many states have deployed digitally-enabled surveillance and policing tools at their borders. This infrastructure often relies on technologies originally built for military or national security purposes, often subjecting migrants and asylum seekers to the presumption of criminality,[176] and further applying a national security lens to an arena that should be fundamentally rights-based. As previously discussed, these digitally-enabled surveillance and policing tools also often include interoperable databases that share fingerprints and biometrics between police agencies and international humanitarian organizations.[177]
In many cases, these digitized interventions at the border form what some have termed "immigration surveillance,"[178] wherein expanded capabilities for identifying individuals, controlling mobility, and sharing information, has the effect of weakening human rights protections for migrants and asylum seekers, both while interacting with border authorities and for long after.[179]

WEAKENING HUMAN RIGHTS PROTECTIONS FOR MIGRANTS AND ASYLUM SEEKERS

[175] Refugee Law Lab, *Technological Testing Grounds* (previously cited), p. 20

[176] UN Special Rapporteur on Contemporary Forms of Racism, *Racial Discrimination, Xenophobia, and Related Intolerance*, Report, 10 November 2020, UN Doc. A/75/590, para. 15.

[177] Refugee Studies Centre, *Automating Immigration and Asylum* (previously cited), p. 19.

[178] Ana Muñiz, *Borderland Circuitry: Immigration Surveillance in the United States and Beyond,* 1st edition, 2022.

[179] Ruha Benjamin, "Foreword: borders & bits," in Mizue Aizeki and others (editors), *Resisting Borders and Technologies of Violence,* 2024.

INEQUALITY AND INTERSECTIONALITY

Over the past several decades, there has been an unprecedented increase in global inequality and extreme wealth disparity, with the world's poorest now owning just 2% of the world's wealth and the world's richest owning 76%.[180] This has also resulted in a rapid rise in poverty as a root cause and facilitator of human rights violations around the world,[181] as well as increasing adoption of policing and governing tools that effectively criminalize poverty itself.[182] Amnesty International and other organizations have argued that meaningful efforts at mitigating structural inequality must be rooted in an acknowledgement of its material and historical roots, most of which are directly linked to colonial systems of oppressive and violent economic extraction.[183] In so doing there is a need to engage an intersectional approach that acknowledges how various forms of marginalization (racial, gender, socio-economic, disability, etc.) do not function separately, but are exacerbated by one another. These Intertwined forms of inequality are often exacerbated by seemingly neutral systems of power that are increasingly digitally-enabled, or which are extensions of existing inequalities[184] outside of the digital realm.

(Continued on Next Page)

[176] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, Report, 10 November 2020, UN Doc. A/75/590, para. 15

[177] Refugee Studies Centre, *Automating Immigration and Asylum* (previously cited), p. 19.

[178] Ana Muñiz, *Borderland Circuitry: Immigration Surveillance in the United States and Beyond,* 1st edition, 2022.

[179] Ruha Benjamin, "Foreword: borders & bits," in Mizue Aizeki and others (editors), *Resisting Borders and Technologies of Violence,* 2024.

[180] Amnesty International, *Promotion of Inclusive and Effective Tax Cooperation at the United Nations Submission to the UN Secretary General,* 78th General Assembly Session, (Index: IOR 40/6565/2023), 17 March 2023, https://www.amnesty.org/en/documents/ior40/6565/2023/en/

[179] Ruha Benjamin, "Foreword: borders & bits," in Mizue Aizeki and others (editors), *Resisting Borders and Technologies of Violence,* 2024.

[180] Amnesty International, *Promotion of Inclusive and Effective Tax Cooperation at the United Nations Submission to the UN Secretary General,* 78th General Assembly Session, (Index: IOR 40/6565/2023), 17 March 2023, https://www.amnesty.org/en/documents/ior40/6565/2023/en/

[181] Adam Ploszka, "All beginnings are difficult: the guiding principles on extreme poverty and human rights a decade after their adoption," June 2023, Human Rights Law Review, Volume 23, Issue 2, https://doi.org/10.1093/hrlr/ngad001

[182] Virginia Eubanks, *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor,* 2018.

[183] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia and Related Intolerance, Report: *Ecological Crisis, Climate Justice and Racial Justice,* 25 October 2022, UN Doc. A/77/549, para. 1-2; Amnesty International, Digitally Divided, (previously cited) p. 8.

[184] Amnesty International, *Taxation, Illicit Financial Flows and Human Rights: Submission to the Independent Expert on the effects of foreign debt* (Index: IOR 40/5771/2022), 28 June 2022, https://www.amnesty.org/en/documents/ior40/5771/2022/en/

INEQUALITY AND INTERSECTIONALITY

Today's global crisis of inequality is reflective of decades of policymaking that has deliberately prioritized the interests of the powerful against the needs of the Global Majority – the digital sphere merely mirrors and extends this power imbalance. Such imbalances are also directly linked to recent history; global inequalities of race, gender, disability, and income are explicitly rooted in historical systems of oppression and extractive political economies, including "racist economic extraction and exploitation that occurred during the colonial era."[185] Broadly speaking, inequality occurs along multiple vectors, including gender, socio-economic, disability and race.[186] As such, it must be understood as pertaining to violations of both civil and political rights (right to freedom of expression, right to privacy, etc.) but also economic and social rights (right to social security, right to housing, right to an adequate standard of living, right to decent working conditions, etc.). When considering the impact of new technologies on migrants and refugees, these intersecting inequalities are crucial to understanding how technology-enabled rights violations are tested upon certain populations, before often becoming widespread.

[185] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia and Related Intolerance, Report: *Global Extractivism and Racial Equality,* UN Doc. A/HRC/41/5414, p. 7. For further and more detailed reading on the intersection of technology, race, and inequality, see: Ruha Benjamin, *Race After Technology: Abolitionist Tools for the New Jim Code*, Polity (2019); Virginia Eubanks, *Automating Inequality: How High-Tech Tools Profile, Police, and Punish the Poor,* St. Martin's Press (2018); Safiya Umoja Noble, *Algorithms of Oppression: How Search Engines Reinforce Racism,* NYU Press (2018).

[186] World Inequality Lab, World Inequality Report 2022, 1 January 2022, https://wir2022.wid.world

BIOMETRICS

Biometrics[187] are some of the most common forms of technology used for identification, verification, and authentication purposes for people on the move.[188] A range of national and international agencies are building biometric databases to process and store the information of people at and around borders, including to identify origin and transit countries and verify refugees' and migrants' identities.[189] Biometric data can make use of fingerprints, retinal scans, facial and voice recognition, as well as blood vessel and vein patterns, ear shapes, gait, and more, for the purpose of verifying a person's identity.[190] The utility and accuracy of such identification tools, many of which in multiple studies display significantly higher rates of false positives for racialized groups including Black and Indigenous populations,[191] remains an open question.

THE UTILITY AND ACCURACY OF SUCH IDENTIFICATION TOOLS, MANY OF WHICH IN MULTIPLE STUDIES DISPLAY SIGNIFICANTLY HIGHER RATES OF FALSE POSITIVES FOR RACIALIZED GROUPS INCLUDING BLACK AND INDIGENOUS POPULATIONS, REMAINS AN OPEN QUESTION.

Despite calls from human rights organizations to ban their use,[192] States are increasingly using biometric data as the basis for identity verification, both for citizens[193] and non-citizens. Mounting evidence suggests that this technology poses direct threats to the rights to privacy, non-discrimination and equality, and the right to remedy, among others.[194]

States and international organizations frequently partner with private sector actors to build tools for capturing, storing, and sharing biometric data,[195] raising questions about the transparency and safety of sensitive information sharing, particularly when this function is outsourced to for-profit actors.[196] Some of these partnerships are now the basis of some of the world's largest databases of biometric data. EURODAC, a massive biometric data collection system, is the basis of enforcement for the EU's Dublin Regulation and requires refugees to immediately surrender fingerprints and often other biometric information. As of 2023, EURODAC was fast approaching its maximum capacity of 7 million datasets,[197] and poised for expansion.[198] A range of human rights organizations have called for a halt to the expansion of EURODAC, citing its frequent inaccuracy and use in justifying deportations and detention of people seeking asylum.[199]

[187] Biometrics Institute, "What Is Biometrics?", https://www.biometricsinstitute.org/what-is-biometrics/ (accessed on 12 December 2023).

[188] Amnesty International, *Primer: Defending the Rights of Refugees and Migrants in the Digital Age* (previously cited), p. 15.

[189] Nora Bardelli and others, "Biometric refugee registration: between benefits, risks and ethics," 18 July 2019, LSE Blog, https://blogs.lse.ac.uk/internationaldevelopment/2019/07/18/biometric-refugee-registration-between-benefits-risks-and-ethics/

[190] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, *Racial and Xenophobic Discrimination and the Use of Digital Technologies in Border and Immigration Enforcement* (previously cited), para. 11.

[191] United States National Institute of Standards and Technology (NIST), "NIST Study Evaluates Effects of Race, Age, Sex on Face Recognition Software," 19 December 2019, https://www.nist.gov/news-events/news/2019/12/nist-study-evaluates-effects-race-age-sex-face-recognition-software; Forbes, "Racial Minorities 'More At Risk' Of Being Spied On By New York City's Massive Facial Recognition Surveillance Machine," 14 February 2022, https://www.forbes.com/sites/thomasbrewster/2022/02/14/new-york-facial-recognition-surveillance-puts-minorities-at-risk-says-amnesty/?sh=645c2bdf71a5; The Guardian, "TechScape: 'Are you kidding, carjacking?' – The problem with facial recognition in policing," 15 August 2023, https://www.theguardian.com/newsletters/2023/aug/15/techscape-facial-recognition-software-detroit-porcha-woodruff-black-people-ai

[192] "Amnesty International, "Amnesty International and more than 170 organisations call for a ban on biometric surveillance," 7 June 2021, https://www.amnesty.org/en/latest/press-release/2021/06/amnesty-international-and-more-than-170-organisations-call-for-a-ban-on-biometric-surveillance/

[193] EFF, "Mandatory National IDs and Biometric Databases" https://www.eff.org/issues/national-ids

[194] Article 19, *When Bodies Become Data: Biometric Technologies and Freedom of Expression,* April 2021, https://www.article19.org/biometric-technologies-privacy-data-free-expression/

[195] UN Working Group on the Use of Mercenaries, Report: *Impact of the Use of Private Military and Security Services in Immigration and Border Management on the Protection of the Rights of All Migrants*, 9 July 2020, UN Doc. A/HRC/45/9, para. 39-42.

[196] Refugee Law Lab, T*echnological Testing Grounds* (previously cited), p. 27.

[197] European Union, *Eurodac Annual Report 2022*, August 2023, https://op.europa.eu/en/publication-detail/-/publication/a3dc7116-82ad-11ee-99ba-01aa75ed71a1/language-en, p. 7.

[198] Council of the European Union, "The Council and the European Parliament reach breakthrough in reform of EU asylum and migration system," 20 December 2023, https://www.consilium.europa.eu/en/press/press-releases/2023/12/20/the-council-and-the-european-parliament-reach-breakthrough-in-reform-of-eu-asylum-and-migration-system/

[199] Access Now, "Civil society joint statement: Europe's (digital) borders must fall," 4 December 2023, https://www.accessnow.org/press-release/joint-statement-eurodac-europes-digital-borders-must-fall/

The U.S., for its part, is currently developing the Homeland Advanced Recognition Technology System (HART), which will enable the Department of Homeland Security (DHS) and other users to access the biographic information of more than 260 million people, including DNA.[200] This tool, which will reportedly also include data such as officer comments, relationship patterns, and more, will reportedly enable widespread dissemination of private information about citizens and noncitizens alike, both domestically and internationally.[201] International agencies such as the UNHCR[202] and the UN World Food Programme[203] have also partnered with state agencies and private actors to build and use biometric identity management tools. This use case may pose a direct threat to the rights of people in need of humanitarian protection.[204] The collection of biometric data at and around borders, including DNA analysis,[205] seems poised to expand alongside accompanying human rights violations.

Surveillance made possible by biometric data is a form of technology that can multiply the impacts of structural inequality. Marginalized, oppressed, or groups otherwise facing structural barriers are often among the first on whom new forms of biometric-enabled surveillance technology are tested, and for whom there are the fewest safeguards when these tools cause undeniable and serious harm.[206] Other highly marginalized groups, including people who rely upon humanitarian aid,[207] people experiencing homelessness,[208] as well as populations with highly restricted movement, such as Palestinians living in the Occupied Territories,[209] are much more likely to be subject to biometric data collection, and are much less likely to have the right to opt out.[210] Refugees and migrants, who often experience multiple forms of marginalization and inequality, including racial, social, and economic inequalities, are often among the groups for whom new uses of biometric data capture are tested.[211] Widespread use of biometric data capture for people on the move also opens the door to its use in racially-biased interior policing[212] and in other settings.[213] Biometric technology therefore acts as a multiplier of inequality for multiple groups, threatening the rights to privacy, non-discrimination, and equality.

DISSEMINATION OF PRIVATE INFORMATION ABOUT CITIZENS AND NONCITIZENS ALIKE

[200] Mizue Aizeki, "Multiplying state violence in the name of homeland security," in Mizue Aizeki and others (editors), *Resisting Borders and Technologies of Violence,* 2023, p. 26.

[201] National Immigration Law Center, *Homeland Advanced Recognition Technology (HART): DHS is Building a Massive Database of Personal Information,* 16 November 2021, https://www.nilc.org/wp-content/uploads/2021/12/HART-factsheet-2021-11-10.pdf

[202] UNHCR USA, "Biometric Identity Management System," https://www.unhcr.org/us/media/biometric-identity-management-system

[203] Peace Research Institute Oslo (PRIO) Middle East Centre, P*iloting Humanitarian Biometrics in Yemen: Aid Transparency versus Violation of Privacy?*, 26 April 2021, https://reliefweb.int/report/yemen/piloting-humanitarian-biometrics-yemen.

[204] Human Rights Watch, *UN Shared Rohingya Data Without Informed Consent,* 15 June 2021, https://www.hrw.org/news/2021/06/15/un-shared-rohingya-data-without-informed-consent

[205] U.S. Government Accountability Office, "DNA Collections: CBP is collecting samples from individuals in custody, but needs better data for program oversight," 24 May 2023, https://www.gao.gov/products/gao-23-106252

[206] Amnesty International, *Digitally Divided,* (previously cited) p. 10; Refugee Law Lab, Technological Testing Grounds (previously cited), p. 37-38.

[207] The Engine Room, *Biometrics in the Humanitarian Sector,* 27 July 2023, https://www.theengineroom.org/biometrics-humanitarian-sector-2023/

[208] CBC News, "Homeless shelter plans to ID clients with facial recognition, but it's a fix that comes with privacy risks," 4 August 2018, https://www.cbc.ca/news/canada/calgary/calgary-drop-in-centre-facial-recognition-1.4772624

[209] Amnesty International, *Automated Apartheid: How Facial Recognition Fragments, Segregates, and Controls Palestinians in the OPT* (Index: MDE 15/6701/2023), 2 May 2023, https://www.amnesty.org/en/documents/mde15/6701/2023/en/

[210] Access Now, *Bodily Harms: Mapping the Risks of Emerging Biometric Tech,* 16 October 2023, https://www.accessnow.org/press-release/new-report-ai-biometrics/

[211] Amnesty International, *Automated Apartheid,* (previously cited), p. 33.

[212] Mizue Aizeki, "Multiplying state violence in the name of homeland security," (previously cited), p. 26-27.

[213] Michelle Y. Ewert, "The dangers of facial recognition technology in subsidized housing," September 2022, NYU Journal of Legislation and Public Policy, Issue 665, https://nyujlpp.org/wp-content/uploads/2023/10/JLPP-25.3-Ewert.pdf

ALGORITHMIC BIAS

An algorithmic system is a set of instructions that is used in support of various steps of decision-making processes.[214] Algorithms have repeatedly been shown to perpetuate, amplify and entrench historic discrimination or other biases.[215] Biases generally stem from data imbued with historical biases or through the (deliberately or unconsciously) biased choices of the individuals who design, develop, and deploy algorithmic decision-making systems. One of the most frequently reported impacts of algorithms on human rights is the impact on the right to equality and non-discrimination. Although algorithmic decision-making (ADM) systems are often cited as a method by which States can streamline social services and prevent fraud, a more consistent outcome is the penalization of society's most marginalized groups for attempting to access their rights and/or essential services.[216] These systems have been shown to disproportionately associate people who already experience one or multiple forms of marginalization with higher criminal, financial, or social risk.[217] Algorithmic decision-making in asylum and migration management systems can result in arbitrary decisions which may be impossible to challenge in the absence of procedural safeguards.

VULNERABLE TO BIAS, SYSTEM FAILURE AND OTHER ERRORS, THE USE OF THESE TOOLS COULD HAVE A DEVASTATING IMPACT ON REFUGEES AND MIGRANTS INCLUDING FAMILY SEPARATION, DEPORTATION AND DENIAL OF ASYLUM.

It can also lead to racial and ethnic profiling and discriminatory denial of visas to people, based on their real or perceived ethnicity, race, national origin, descent, religion, and other characteristics.[218]

[214] Amnesty International, *Xenophobic Machines* (previously cited), p. 4.

[215] Amnesty International, *Xenophobic Machines* (previously cited), p. 18.

[216] Amnesty International, "Serbia: Social Card law could harm marginalized members of society – legal opinion," 28 November 2022, https://www.amnesty.org/en/latest/news/2022/11/serbia-social-card-law-could-harm-marginalized-members-of-society-legal-opinion/

[217] Amnesty International, *Digitally Divided* (previously cited) p. 14.

[218] Amnesty International, *Primer: Defending the rights of refugees and migrants in the digital age* (previously cited): p. 19.

ALGORITHMIC DECISION-MAKING

The use of algorithmic decision-making (ADM) by government entities that manage movement of persons across borders is increasingly common, as part of a larger expansion of ADM into governance more broadly.[219] Although ADM in the public sector is often presented as objective and unbiased, it is virtually impossible to create a value-neutral technology or database that is free from bias.[220] Algorithmic systems have been repeatedly shown to replicate or exacerbate underlying racial, economic, and social inequalities,[221] including for migrants and asylum seekers, who are often subject to experimental uses of new forms of ADM[222] without sufficient safeguards or protections.[223]

ALGORITHMIC SYSTEMS HAVE BEEN REPEATEDLY SHOWN TO REPLICATE OR EXACERBATE UNDERLYING RACIAL, ECONOMIC, AND SOCIAL INEQUALITIES, INCLUDING FOR MIGRANTS AND ASYLUM SEEKERS, WHO ARE OFTEN SUBJECT TO EXPERIMENTAL USES OF NEW FORMS OF ADM WITHOUT SUFFICIENT SAFEGUARDS OR PROTECTIONS.

Some States, including Canada, and various countries in the European Union, have begun rolling out or experimenting with the use of algorithmic risk assessment tools for the approval or rejection of asylum applications,[224] or for the screening of visas for employment sponsorship,[225] and even systems that purport to screen a person's risk in an application for marriage.[226] Other States, including the UK, Sweden, and Norway,[227] have experimented with the use of ADM in the process of undertaking and issuing decisions on a person's asylum petition.[228] Uses of algorithmic risk assessment have also been reported in the processing of citizenship and visa applications, as in the example of a now defunct "triaging" system used by the UK Home Office between 2015 and 2020,[229] which was revealed to use a color coding system that flagged certain applicants from "suspect nationalities" with higher risk.[230] Some uses of risk assessment algorithmics in the migration process provide the pretext on which countries make decisions about detention and release. The Risk Classification Assessment (RCA) employed by U.S. Immigration and Customs Enforcement (ICE) in coordination with the Department of Homeland Security (DHS),[231] is one such automated risk tool. Researchers have shown that this system, in particular, leads to a drastic increase in the number of migrants detained without bond by ICE,[232] particularly among those designated as low risk.[233] Such risk assessment tools, which are also used in the criminal justice sector,[234] are often open to manipulation[235] and highly prone to perpetuate racial discrimination and other forms bias.[236]

[219] Migration Strategy Group, *Automating Decision-Making in Migration Policy: A Navigation Guide,* November 2021, https://www.bosch-stiftung.de/en/publication/automating-decision-making-migration-policy-navigation-guide, pp. 7-8.

[220] Amnesty International, *Trapped by Automation: Poverty and Discrimination in Serbia's Welfare State,* (Index Number: EUR 70/7443/2023), 4 December 2023, https://www.amnesty.org/en/latest/research/2023/12/trapped-by-automation-poverty-and-discrimination-in-serbias-welfare-state/, pp. 16-17.

[221] Amnesty International, *Digitally Divided* (previously cited) p. 13-14.

[222] Refugee Law Lab, *Technological Testing Grounds* (previously cited), 16-17.

[223] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, Report, 10 November 2020, UN Doc. A/75/590, para. 57.

[224] Citizen Lab, Bots at the Gate: *A Human Rights Analysis of Automated Decision-Making in Canada's Immigration and Refugee System,* 26 September 2018, https://citizenlab.ca/wp-content/uploads/2018/09/IHRP-Automated-Systems-Report-Web-V2.pdf, p. 69

[225] *Automating Immigration and Asylum* (previously cited), p. 23.

[226] *Automating Immigration and Asylum* (previously cited), p. 30.

[227] *Automating Immigration and Asylum* (previously cited), p. 21-22.

[228] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, *Racial and Xenophobic Discrimination and the Use of Digital Technologies in Border and Immigration Enforcement* (previously cited), para. 44.

[229] Foxglove Legal, "Home Office says it will abandon its racist visa algorithm – after we sued them," 4 August 2020, https://www.foxglove.org.uk/2020/08/04/home-office-says-it-will-abandon-its-racist-visa-algorithm-after-we-sued-them/

[230] *Automating Immigration and Asylum* (previously cited), p. 21.

[231] Kate Evans and Robert Koulish, "Manipulating risk: immigration detention through automation," 25 August 2020, Lewis & Clark Law Review Volume 24, Issue 3, https://scholarship.law.duke.edu/faculty_scholarship/3994/

[232] "Punishing with impunity: the legacy of risk classification assessment in immigration detention," September 2021, Georgetown Immigration Law Journal, Volume 36, Issue 1, https://www.law.georgetown.edu/immigration-law-journal/wp-content/uploads/sites/19/2022/01/GT-GILJ210001.pdf, p. 6-7.

[233] "Punishing with Impunity: the legacy of risk classification assessment in immigration detention," (previously cited), p. 832.

[234] John Logan Koepke and David G. Robinson, "Danger ahead: risk assessment and the future of bail reform," 25 December 2018, Washington Law Review, Volume 93, http://dx.doi.org/10.2139/ssrn.3041622

[235] Reuters, "Trump's catch-and-detain policy snares many who have long called U.S. home", 20 June 2018, https://www.reuters.com/investigates/special-report/usa-immigration-court/

[236] Amnesty International, *Primer: Defending the rights of refugees and migrants in the digital age* (previously cited), p. 20.

THE ACCURACY AND NEUTRALITY OF THESE TOOLS REMAINS UNCERTAIN

Other new and experimental forms of ADM at the border include systems that merge algorithmic risk assessment with identity verification, including speech, voice, and dialect recognition software, automated transliteration tools, data extraction tools, and so-called emotion recognition software.[237] Although these tools are often cited as a way of providing another layer of security in the process of issuing asylum and immigration claims, many scholars and activists have pointed out that the accuracy and neutrality of these tools remains uncertain, particularly in the absence of any standards for transparency,[238] and particularly when populations detained or processed at borders have very little ability to opt out of engaging with such systems. Dialect recognition and transliteration software piloted by Germany, for example, has never been subject to expert outside review, and has been shown to display huge gaps in accuracy for certain dialects of Arabic and Persian dialects, potentially discriminating against migrants and refugees who speak these dialects.[239] Other forms of extractive and potentially privacy violating technologies at the border include mobile phone data analysis and extraction for the purpose of establishing identity and screening migrants,[240] particularly when migrants or refugees are unable to present identification documents.[241] Such practices also include the automated analysis of mobile phone data, often in the context of illegal seizure of mobile phones from migrants.[242]

[237] Vidushi Marda and Ella Jakubowska, "Emotion (Mis)Recognition: is the EU missing the point?" 2 February 2023, Article 19, https://www.article19.org/resources/eu-emotion-misrecognition/

[238] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, *Racial and Xenophobic Discrimination and the Use of Digital Technologies in Border and Immigration Enforcement* (previously cited), para. 25.

[239] *Automating Immigration and Asylum* (previously cited), p. 46.

[240] Amnesty International, Primer: *Defending the rights of refugees and migrants in the digital age* (previously cited), p. 13.

[241] *Automating Immigration and Asylum* (previously cited) p. 50.

[242] The Guardian, "Home Office illegally seized phones of 2,000 asylum seekers, court rules," 25 March 2022, https://www.theguardian.com/uk-news/2022/mar/25/home-office-illegally-seized-asylum-seekers-phones

5. AFTER THE BORDER

As States enact more measures to push back on the right to seek asylum and the right to freedom of movement, technology-enabled security interventions increasingly extend into the lives of people who have already crossed borders.[243] Such technology-enabled tools, such as the widespread use of facial recognition systems, amplify racist policing, normalize the use of surveillance technology in more areas of public life, threaten the right to protest,[244] and multiply the forms of inequality that are experienced by people who, regardless of citizenship status, experience forms of racial, economic, or social marginalization.[245] As new technological tools are increasingly the method by which states justify or enact racist and xenophobic ideologies under the banner of national security,[246] these tools, in the absence of human rights oversight, inevitably impact more and more groups of people. In other words, technology-enabled rights violations that take place external to or at physical borders are often the testing ground on which they are refined before their use is expanded and normalized,[247] subjecting more and more groups of people to the rights violations experienced by refugees and migrants.

STATES JUSTIFY OR ENACT RACIST AND XENOPHOBIC IDEOLOGIES UNDER THE BANNER OF NATIONAL SECURITY

[243] Cecilia Menjívar, "Immigration Law Beyond Borders: Externalizing and Internalizing Border Controls in an Era of Securitization," (previously cited).

[244] Amnesty International, "Ban dangerous facial recognition technology that amplifies racist policing," 26 January 2021, https://www.amnesty.org/en/latest/press-release/2021/01/ban-dangerous-facial-recognition-technology-that-amplifies-racist-policing/

[245] Amnesty International, *Digitally Divided* (previously cited), p. 10.

[246] UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia, and Related Intolerance, Report, 10 November 2020, UN Doc. A/75/590, para. 3.

[247] *Technological Testing Grounds* (previously cited), p. 16.

TECHNOLOGY-ENABLED DETENTION AND ALTERNATIVES TO DETENTION

An increasingly common outcome[248] for migrants and asylum seekers who have crossed international borders is some form of forcible confinement, or detention, often as a strategy of deterrence.[249] The adverse and inhumane conditions in immigration detention facilities around the world have been well documented,[250] including in for-profit facilities that are increasingly common in the United States.[251] Migration-related detention often amplifies inequalities and patterns of discrimination, both because it targets racialized people and economically marginalized people and because human rights violations often occur in detention facilities.[252] Immigration detention facilities have also been linked to increasingly unsafe and unsanitary conditions for people residing in them.[253] Any form of detention must respect all peoples' right to the presumption of liberty, and any imposed restrictions on this right must be clearly prescribed by law, strictly justified by a limited purpose, necessary, proportionate, and non-discriminatory.[254]

Technology-enabled alternatives to detention (ATD) are one of the most common and pervasive ways that digital tools undermine human rights for migrants and refugees. Several forms of ATD have been

IT TARGETS RACIALIZED PEOPLE AND ECONOMICALLY MARGINALIZED PEOPLE AND BECAUSE HUMAN RIGHTS VIOLATIONS OFTEN OCCUR IN DETENTION FACILITIES

linked to human rights violations,[255] particularly where such systems are built with technology that is experimental, faulty,[256] or implemented with little oversight or transparency. GPS ankle tagging of asylum seekers and immigrants for the purpose of electronic monitoring, for example, has been referred to as a form of "digital shackles,"[257] with reports of physical and mental harm[258] and privacy violations[259] which may be unnecessary and/or disproportionate. Other such ATD technologies include smartwatches which require wearers to take photos of themselves up to five times a day, as in the case of the technology contracted by a private British company for the security purposes of the UK Home Office,[260] and a smartphone application used by ICE in the United States, which requires immigrants to check in daily by submitting a selfie for facial recognition matching, and share their phone's GPS

[248] OHCHR, "Revised Deliberation No. 5 on deprivation of liberty of migrants," 7 February 2018, https://www.ohchr.org/sites/default/files/Documents/Issues/Detention/RevisedDeliberation_AdvanceEditedVersion.pdf.

[249] Immigrant Defense Project, *Smart Borders or a Humane World?* (previously cited), p. 13.

[250] See, for example: Amnesty International, *Australia's Regime of Cruelty Has Turned Nauru into an Open-Air Prison*, (Index: ASA 12/4934/2016), 17 October 2016, https://www.amnesty.org/en/latest/news/2016/10/australia-has-turned-nauru-into-an-open-air-prison-2/.

[251] ACLU, "Unchecked growth: private prison corporations and immigration detention, three years into the Biden administration," 7 August 2023, https://www.aclu.org/news/immigrants-rights/unchecked-growth-private-prison-corporations-and-immigration-detention-three-years-into-the-biden-administration

[252] See, for example: Amnesty International, *Forced Out or Locked Up: Refugees and Migrants Abused and Abandoned*, (Index: EUR 53/5735/2022), 27 June 2022, https://www.amnesty.org/en/documents/eur53/5735/2022/en/; Amnesty International *"I Didn't Feel Like a Human in There": Immigration Detention in Canada and Its Impact on Mental Health*, (Index: AMR 20/4195/2021), 17 June 2021, https://www.amnesty.org/en/documents/amr20/4195/2021/en/

[253] Lauren Schwab, "Conditions of for-profit immigrant detention centers: are human rights abandoned at the border?" 14 January 2024, Immigration and Human Rights Law Review Blog, https://lawblogs.uc.edu/ihrlr/2024/01/14/conditions-of-for-profit-immigrant-detention-centers-are-human-rights-abandoned-at-the-border/

[254] Amnesty International, Primer: *Defending the rights of refugees and migrants in the digital age* (previously cited), p. 9.

[255] The Guardian, "Poor tech, opaque rules, exhausted staff: inside the private company surveilling US immigrants," 7 March 2022, https://www.theguardian.com/us-news/2022/mar/07/us-immigration-surveillance-ice-bi-isap; Coda Story, "For migrants under 24/7 surveillance, the UK feels like 'an outside prison'13 September 2023, https://www.codastory.com/authoritarian-tech/gps-ankle-tags-uk-migrants-home-office/

[256] Vice, "Migrants say they're being electrocuted by ICE-mandated ankle monitors," 16 July 2021, https://www.vice.com/en/article/akg4qj/migrants-say-theyre-being-electrocuted-by-ice-mandated-ankle-monitors

[257] Cardozo Law Immigration Law Clinic, *Immigration Cyber Prisons: Ending the Use of Electronic Ankle Shackles,* 14 July 2021, https://larc.cardozo.yu.edu/faculty-online-pubs/3/

[258] The Guardian, "Traumatizing and abusive': Immigrants reveal personal toll of ankle monitors," 12 July 2021, https://www.theguardian.com/us-news/2021/jul/12/immigrants-report-physical-emotional-harms-electronic-ankle-monitors

[259] "New ICE privacy impact assessment shows all the ways the agency fails to protect immigrants' privacy," 20 April 2023, https://epic.org/new-ice-privacy-impact-assessment-shows-all-the-way-the-agency-fails-to-protect-immigrants-privacy/

[260] *Automating Immigration and Asylum* (previously cited), p. 37.

THE PRIVACY OF MIGRANTS AND ASYLUM SEEKERS — AND IN SOME CASES THEIR FAMILY MEMBERS — IS AT RISK OF BEING VIOLATED

location.[261] The privacy of migrants and asylum seekers – and in some cases their family members – is at risk of being violated through the constant surveillance of their movements,[262] in ways which may be neither proportionate nor necessary.

While the interference with an individual's right to privacy is only permissible under international human rights law if it is neither arbitrary nor unlawful, people on the move – with precarious immigration status; migrants, refugees, and asylum seekers alike – are increasingly required to sacrifice more of their personal data and privacy in order to reunite with family, avoid the degrading conditions of brick-and-mortar detention, or gain access to asylum. Technology-driven alternatives to detention bring to the fore the question of whether these are proportionate or necessary, particularly when they disproportionately impact Black and racialized people,[263] impact peoples' health[264] and ability to obtain work,[265] and have wide-ranging privacy implications.[266]

[261] "New ICE privacy impact assessment shows all the ways the agency fails to protect immigrants' privacy," 20 April 2023, https://epic.org/new-ice-privacy-impact-assessment-shows-all-the-way-the-agency-fails-to-protect-immigrants-privacy/

[262] Amnesty International, *Primer: Defending the rights of refugees and migrants in the digital age* (previously cited), p. 10.

[263] *Immigration Cyber Prisons: Ending the Use of Electronic Ankle Shackles* (previously cited), p. 23.

[264] *Immigration Cyber Prisons: Ending the Use of Electronic Ankle Shackles* (previously cited), pp. 12-17.

[265] National Immigration Forum, "Fact sheet: electronic monitoring eevices as alternatives to detention," 22 February 2019, https://immigrationforum.org/article/fact-sheet-electronic-monitoring-devices-as-alternatives-to-detention/

[266] Amnesty International, *Primer: Defending the rights of refugees and migrants in the digital age* (previously cited): p. 10-11.

ECONOMIC, SOCIAL AND CULTURAL RIGHTS

Other technology-enabled harms impact refugees and migrants after they have crossed borders, and while they are attempting to access their rights to social protection, decent working conditions, and other basic elements of survival. A complex reality of migration around the world is that many States rely on the movement of migrants and refugees as a way of accessing cheap and highly exploitable labor,[267] often allowing borders to function as a filter for migrants who are considered "safe" or "legitimate" while criminalizing those who are deemed unworthy. Many countries host refugees and migrants, including undocumented people, who remain in a state of constant surveillance and fear, and are often criminalized or punished for seeking to access their economic, social, and cultural needs,[268] even as their labor and taxable income is freely accessible to the communities in which they reside. Such surveillance often takes the form of ATDs such as GPS ankle tagging, which collects vast amounts of personal and sensitive data and can create additional obstacles to migrants attempting to access work, basic goods, and public services[269] as well as significantly limiting mobility[270] such devices are faulty or require constant maintenance.[271] Other uses of technology include technology-enabled case management and data aggregation tools, some of which have been shown to be used in workplace raids against undocumented people. This surveillance and deprivation, which is often made possible by means of technology-enabled tools, exacerbates the inequalities experienced by racialized groups and other marginalized people, and reflects underlying historical patterns of colonial extraction.

SOCIAL SECURITY AND WELFARE

Many municipalities and governments have adopted some form of automated or machine enabled decision-making in tools for managing or making decisions around whether an individual qualifies for government assistance.[272] These systems have been shown to disproportionately connect people who already experience one or multiple forms of marginalization with higher criminal, financial, or social risk.[273] These biases disproportionately impact racialized people and groups from ethnic minority backgrounds, groups including refugees and asylum seekers.[274] One such system implemented in the Netherlands, for example, used an algorithmic decision-making system designed to predict the likelihood of a person to commit tax or benefits fraud, and was exclusively deployed in "problem neighborhoods," a proxy designation that disproportionately impacted people living in poverty and people with immigrant backgrounds.[275] An automated system used to distribute welfare benefits to asylum seekers in Norway reportedly requires consistent human input to guarantee its accuracy and guard against errors, raising questions about the untested nature of many automated systems in welfare allocation.[276] This is of particular concern where States implement such systems without sufficient oversight and as a cost-cutting measure, and with substantial evidence to show that high-tech tools are often used to justify the surveillance and punishment of marginalized people.[277] The double bind of undocumented people means that people living in extreme poverty, including women and children, may also be less likely to seek life-saving food, healthcare, or housing assistance because of their understanding that accessing these necessities may put them at risk of surveillance and criminalization.[278]

[267] Joseph Nevins and Todd Miller, "Empires walls, global apartheid's infrastructure," in Mizue Aizeki and others (editors), *Resisting Borders and Technologies of Violence*, 2023, p. 33.

[268] Joseph Nevins and Todd Miller, "Empires walls, global apartheid's infrastructure," in Mizue Aizeki and others (editors), *Resisting Borders and Technologies of Violence,* 2023, p. 33.

[269] Privacy International, "GPS tagging of migrants unlawful, UK authority finds after PI complaint,"1 March 2024, https://privacyinternational.org/news-analysis/5261/news-gps-tagging-migrants-unlawful-uk-authority-finds-after-pi-complaint

[270] Coda Story, "For migrants under 24/7 surveillance, the UK feels like 'an outside prison'" (previously cited)

[271] Vice, "Activists explain how Palantir's tech is used in ICE raids," 15 October 2019, https://www.vice.com/en/article/9kegq8/activists-explain-how-palantirs-tech-is-used-in-ice-raids

[272] Amnesty International, *Trapped by automation: Poverty and discrimination in Serbia's welfare state,* (previously cited), pp. 16-17

[273] Amnesty International, *Digitally Divided* (previously cited), p. 14.

[274] Amnesty International, *Trapped by Automation* (previously cited), pp. 16-17

[275] Amnesty International, *Xenophobic Machines* (previously cited), p. 24.

[276] *Automating Immigration and Asylum* (previously cited), p. 57

[277] Human Rights Watch, *Automated Neglect: How The World Bank's Push to Allocate Cash Assistance Using Algorithms Threatens Rights,* 13 June 2023, https://www.hrw.org/report/2023/06/13/automated-neglect/how-world-banks-push-allocate-cash-assistance-using-algorithms, pp. 17-18.

[278] Asad L. Asad, "The everyday surveillance of undocumented immigrants," (previously cited)

WORK, MIGRATION, AND TECHNOLOGY

Migrant workers with particular types of visas and migrants with irregular migration status, who seek work after crossing international borders, may experience rights violations at work that are increasingly exacerbated by new forms of technology.[279] Migrant populations, including refugees and undocumented people, may struggle to find work outside of sectors with little formal protection for workers' rights.[280] These sectors include work in the gig economy, such as delivery driving and ride sharing,[281] as well as care work,[282] agricultural work,[283] and warehouse work.[284] Migrants, in particular those in an irregular situation, are therefore disproportionately more likely to experience rights violations in the workplace, and lack the ability to seek redress or other work because of precarious visas or lack of status.[285]

SHOWN TO CAUSE UNDUE MENTAL STRESS TO WORKERS

A growing number of workplace rights violations are made possible by new forms of technology. Migrant workers in these sectors are disproportionately likely to be subject to workplace surveillance[286] and algorithmic management.[287] All of these systems are technology-enabled systems that allow employers to make use of unregulated data capture to push workers to produce more in shorter windows of time, and for lower wages. Workplace surveillance[288] and management technologies also enable the widespread and unregulated capture of workers' biometric data.[289] Technologies such as wearable employee trackers and surveillance cameras have also been shown to discourage workers from taking breaks and to push the speed of work in ways that may contribute to more workplace injuries.[290] Migrant workers are also overrepresented in the growing 'click work' sector,[291] including in image labeling and content moderation supply chains that make social media platforms and AI tools[292] suitable for public consumption.[293] These industries, which often operate among third-party contractors in companies with little oversight or protection for workers' rights, have been shown to cause undue mental stress to workers,[294] and generally offer extremely low wages.[295]

[279] Amnesty International, *Digitally Divided:* (previously cited), p. 19.

[280] ILO, "Access to labour markets for refugees and forcibly displaced persons," https://www.ilo.org/africa/areas-of-work/labour-migration/thematic-areas/WCMS_680002/lang--en/index.htm (accessed on 12 March 2024); Dhaka Principles for Migration With Dignity, https://dhakaprinciples.org/ (accessed on 12 March 2024).

[281] Peyman Abkhezr and, Mary McMahon, "The intersections of migration, app-based gig work, and career development: implications for career practice and research," December 2021, International Journal for Educational and Vocational Guidance, https://doi.org/10.1007/s10775-022-09556-w, pp. 7-8

[282] World Health Organization, *Women On the Move: Migration, Care Work and Health,* 5 April 2017, https://www.who.int/publications/i/item/women-on-the-move-migration-care-work-and-health, pp. 31-32.

[283] Center for Migration Studies, *A Profile of Undocumented Agricultural Workers in the United States,* 30 August 2022, https://cmsny.org/agricultural-workers-rosenbloom-083022/

[284] Amnesty International, *'Don't worry, it's a branch of Amazon': Exploitation of migrant workers contracted to Amazon in Saudi Arabia* (Index Number: MDE 23/7229/2023), 10 October 2023, https://www.amnesty.org/en/documents/mde23/7229/2023/en/

[285] Amnesty International, *'Don't Worry, it's a Branch of Amazon,'* (previously cited), p. 16.

[286] Kathryn Zickuhr, "Workplace surveillance is becoming the new normal for U.S. workers, , August 18, 2021, Washington Center for Equitable Growth, https://equitablegrowth.org/research-paper/workplace-surveillance-is-becoming-the-new-normal-for-u-s-workers/.

[287] International Labour Organization, *The Algorithmic Management of Work* (previously cited), pp. 5-6.

[288] Data & Society, *Explainer: Workplace Surveillance and Monitoring*, 6 February 2019, https://datasociety.net/library/explainer-workplace-monitoring-surveillance/

[289] AI Now Institute, "Biometric surveillance is quietly expanding: bright-line rules are key," 11 April 2023, https://ainowinstitute.org/publication/biometric-surveillance-is-quietly-expanding

[290] Amnesty International, *Digitally Divided* (previously cited), p. 19; see also: In These Times, ""It Kind of Feels Like Prison": Injured, Burned Out and Under Surveillance at Amazon," 26 October 2023, https://inthesetimes.com/article/injury-burnout-surveillance-amazon-warehouse-workers-uic-report

[291] Rest of World, "Refugees help power machine learning advances at Microsoft, Facebook, and Amazon," 22 September 2021, https://restofworld.org/2021/refugees-machine-learning-big-tech/

[292] Noema Magazine, "The exploited labor behind artificial intelligence," 13 October 2022, https://www.noemamag.com/the-exploited-labor-behind-artificial-intelligence/

[293] "Refugees help power machine learning advances at Microsoft, Facebook, and Amazon," (previously cited).

[294] The Bureau of Investigative Journalism, "Behind TikTok's boom: A legion of traumatised, $10-a-day content moderators," 20 October 2022, https://www.thebureauinvestigates.com/stories/2022-10-20/behind-tiktoks-boom-a-legion-of-traumatised-10-a-day-content-moderators

[295] Wired, "Millions of workers are training AI models for pennies," 16 October 2023, https://www.wired.com/story/millions-of-workers-are-training-ai-models-for-pennies/

CONCLUSION & RECOMMENDATIONS

Borders and the movement of persons across them have historically functioned as ordering mechanisms,[296] facilitating the extraction of resources from colonized and subjugated people, and exacerbating unequal hierarchies of power that are at the root of today's crisis of inequality.[297] The digital technologies that facilitate rights violations at and around borders today are extensions of pre-existing systems of racial, economic, and social inequality, and are increasingly deployed to criminalize the lives and curtail the rights of some of the world's most marginalized people. As E. Tendayi Achiume, UN Special Rapporteur on Contemporary Forms of Racism, Racial Discrimination, Xenophobia and Related Intolerance, has written: "Technology is the new border enforcer, and it discriminates."[298]

Governments around the world should work to rein in the unregulated development and deployment of technologies that impact the lives of people on the move around the world. States must fulfil their obligations under international human rights law to protect the rights of refugees and migrants and not use new and untested technologies to circumvent their obligations. Companies that develop and own these technologies must fulfil their responsibilities to respect human rights including by being transparent. They must publicly disclose what due diligence they have done on their technologies that are used in border and migration management, including what risks and abuses they have identified and what measures they have taken to prevent actual harm and mitigate risk, so that governments and civil society can hold them accountable for rights abuses linked to these technologies.

[296] Harsha Walia, "The border is surveillance: abolish the border," in Mizue Aizeki and others (editors), *Resisting Borders and Technologies of Violence*, p. 11.

[297] Amnesty International, *Digitally Divided* (previously cited), p. 8.

[298] E. Tendayi Achiume and others, "Technology is the new border enforcer, and it discriminates," 23 November 2020, Al Jazeera, https://www.aljazeera.com/opinions/2020/11/23/technology-is-the-new-border-enforcer-and-it-discriminates

AMNESTY INTERNATIONAL IS MAKING THE FOLLOWING RECOMMENDATIONS WHEN IT COMES TO THE USE OF DATA-INTENSIVE DIGITAL TECHNOLOGIES THAT ACCELERATE INEQUALITY FOR REFUGEES AND MIGRANTS:

STATES SHOULD:

Address systemic racism and inequality that historically and increasingly shape migration management, asylum systems, border, labor management, and immigration enforcement.

Conduct human rights impact assessments and data protection impact assessments in advance of the deployment of digital technologies and throughout their lifecycle.

Before any system is deployed, assess and establish the necessity and proportionality of the measure, as any technologies or surveillance measures adopted must be lawful, necessary and proportionate, and serve a legitimate aim under international human rights law

Incorporate human rights safeguards against abuse into any use of technologies, including those that are used in managing laborers in sectors that disproportionately impact refugees and migrants.

Give individuals the opportunity to know about, provide or withdraw consent for, and challenge any measures to collect, aggregate, retain, and use their personal data.

Require businesses involved in developing and providing technologies in the context of refugee registration and border enforcement, including big data, artificial intelligence and biometric systems, to undertake human rights due diligence, in line with international standards such as the UN Guiding Principles on Business and Human Rights and the OECD's Guidance on due diligence.

Hold technology companies liable for human rights harms they have caused or contributed to, or for their failure to carry out human rights due diligence.

Protect people's data, including ensuring principles of data minimization, security of any personal data collected and of any devices, applications, networks, or services involved in collection, transmission, processing, and storage.

Ensure that individuals who have experienced human rights violations resulting from being subject to the misuse of technologies have access to effective remedies.

Enact legislation to ban the use, development, production, sale and export of remote biometric recognition technology for mass surveillance as well as remote biometric or facial recognition technology used for identification purposes used within their own jurisdictions.

Prohibit automated risk assessment and profiling systems in the context of migration management, asylum, and border control.

Prohibit any use of predictive technologies that wrongfully threaten the right to seek asylum.

Prohibit AI-based emotion recognition tools, especially in the context of migration, asylum, and border control management.

Carefully monitor and assess the working conditions in sectors that disproportionately impact migrants, including new industries such as content moderation and image labeling, to ensure standards of non-discrimination and rights for workers.

ORGANIZATIONS AND SERVICE PROVIDERS DEPLOYING DIGITAL TECHNOLOGIES

Conduct human rights due diligence and data protection impact assessments in advance of the deployment of digital technologies and throughout their lifecycle.

Before any system is deployed, assess and establish the necessity and proportionality of the measure, as any technologies or surveillance measures adopted must be lawful, necessary and proportionate, and serve a legitimate aim under international human rights law.

Address the risk that these tools will facilitate discrimination and other rights abuses against racialized people and communities, people living in poverty, and other marginalized populations.

Explore alternative, non-invasive avenues that could meet the needs identified by service-providers, without unduly compromising the right to privacy, equality and non-discrimination.

Incorporate safeguards against abuse into any use of technologies.

Give individuals the opportunity to know about, give or withdraw consent for and challenge any measures to collect, aggregate, retain, and use their personal data.