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Gender Bias in AI
Risks and Opportunities for Latin America and the Caribbean

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Abstract

Although the general grasp of artificial intelligence (AI) is advancing, misconceptions and speculative portrayals of its capabilities still cloud its true nature. This section aims to demystify AI by distinguishing between its science fiction portrayals and its real-world applications.

Over the past decade, data and AI have shifted from niche concerns to dominating headlines and household discussions. The release of generative AI tools, such as ChatGPT and DALL-E, has accelerated this transformation, capturing the public imagination with the possibilities of AI-driven creativity, automation and human-like interactions. Promises and threats of human replacement and enhancement now fuel many debates about society's future and the trajectory of technology in the 21st century. This shift has been accompanied by a surge in AI research and innovation—global investment in AI has skyrocketed, reaching $94 billion in 2021 alone, a 115% increase from the previous year (Zhang et al., 2022). This rapid escalation underscores AI's growing impact across industries, raising both hopes and concerns about its societal implications.

From voice assistants and recommendation systems to autonomous vehicles and advanced data analytics, AI is increasingly integrated into various aspects of our daily lives and industries. Its rapid development promises to transform how we work, communicate and solve complex problems, making it one of the most exciting and impactful fields of technology today.

This report addresses what recent technological advances can mean for women in Latin America and the Caribbean (LAC). It looks at gender bias in AI in the region, but it takes a broad approach that explores issues related to socio-economic progress, the situation of women, the AI economy, and the emerging regulatory landscape, while also engaging in technical descriptions and definitions and categorizing the many systems that are increasingly using AI to make decisions on the lives of the women and men in LAC. In this complex and evolving picture, women emerge as a community in need of better protections from AI gender bias, but also as an unexpected protagonist of the Latin American digital future: as students, entrepreneurs and users, they are shaping AI in unexpected ways. Tackling their needs, developing robust and credible protections, and amplifying their voices may be what LAC needs to claim a seat at the global AI table.

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I. Introduction to Artificial Intelligence

Artificial intelligence (AI) refers to the simulation of human intelligence in machines designed to think and learn like humans. It encompasses a range of technologies and techniques, including machine learning, natural language processing and robotics, enabling computers to perform tasks that would typically require human intelligence.

The term AI is used to describe many different data processes used in different contexts. While some insist that only systems that incorporate *machine learning* (ML) should be described under the term, in reality, systems using actuarial methods and robotics are also labelled as AI. Under the strictest definition, only systems where the outputs of a model are used automatically to retrain the AI system are considered AI (for instance, in GPS routing, where our routing choices automatically become part of the data used by the system to calculate efficient routes, or in large language models (LLMs), where the text generated becomes part of the corpus used to generate new text). In practice, and in most legal frameworks, the term AI is applied also to the use of data in expert systems where the answers generated are not used to re-train a model, and to robotic products that are only trained to perform an action, without such action generating new training data.

In this rapidly moving world, it is often difficult to establish the limits of the AI discipline. To facilitate this, we suggest grouping AI systems into three main categories: predictive AI, generative AI and identification AI.

- ***Predictive* AI:** also known as automated decision-making systems, or recommender systems, this refers to systems trained to analyse large amounts of past data, identifying patterns and producing an estimated guess or prediction of what may happen in the future based on data from the past. Predictive systems are used to make decisions on who can access banking products (based on the likelihood that people who share similar attributes will pay/not commit fraud), who should receive a service or product (from online ads and social media content to access to benefits), who is a good candidate for prison privileges in the criminal justice system, and how quickly someone should be seen by a doctor in the emergency room or receive a life-saving organ transplant, or to make predictions about the weather.

- ***Generative* AI:** this refers to systems such as ChatGPT, designed to create new content (audio, video, text or images) based on existing data. When the input and output is text, it is common to refer to these as LLMs or natural language processing. In this case, the algorithms used also identify patterns–but based on the structure of a text or the formal composition of an image –and reproduce those to create new text and images.

- ***Identification* AI:** these systems rely on biometrics to verify the identity of someone or identify someone. Identification AI systems rely on large amounts of training data related to the body (including face, iris, fingerprint and vein pattern) to find similarities in physical characteristics and help validate that someone is who they claim they are, determine gender, or look for someone with specific traits across large numbers of people.

The basic functioning of an AI system is always the same: large amounts of data are used to train a system that uses algorithms to identify and seek to reproduce these patterns. The type of data used (structured or unstructured, image or text), the ways in which patterns are identified (through machine learning and neural networks or expert rules), the role of humans in the loop and the context of implementation (no-risk, medium-risk or high-risk contexts) will determine the uses and possibilities of each system, but also their vulnerabilities and the guardrails needed to ensure that the way they work is safe, responsible and trustworthy.

II. AI Impacts and Risks

Before delving deep into bias, this section takes a broader look at the impacts and risks of AI, addressing both its technical and social dimensions. Issues covered include algorithmic bias, misinformation, information asymmetries, language asymmetries, impacts on democracies and democratic processes, environmental considerations, and other ethical implications of different kinds of AI systems, highlighting the risks that have a significant relevance and impact in the LAC region. The second part of this section zeroes in on AI bias: what it is, why it happens and how it can be mitigated.

2.1. Towards an AI risk taxonomy

In the last few years, attempts to classify AI risks have proliferated around the world. The most recent and comprehensive attempt at capturing the AI risk landscape is the AI Risk Repository published by MIT, which includes over 700 risks found in 43 different risk frameworks, classified in 7 main domains and 23 subdomains, as shown in the table below:

Table 1. MIT's AI Risk Taxonomy. Source: Data from Slattery et al. (2024)

1.	**Discrimination & Toxicity**
1.1	Unfair discrimination and misrepresentation
1.2	Exposure to toxic content
1.3	Unequal performance across groups
2.	**Privacy & security**
2.1	Compromise of privacy by obtaining, leaking or correctly inferring sensitive information
2.2	AI system security vulnerabilities and attacks
3.	**Misinformation**
3.1	False or misleading information
3.2	Pollution or information ecosystem and loss of consensus reality
4.	**Malicious actors & misuse**
4.1	Disinformation, surveillance, and influence at scale
4.2	Cyberattacks, weapon development or use, and mass harm
4.3	Fraud, scams, and targeted manipulation

5.	**Human-computer interaction**
5.1	Overreliance and unsafe use
5.2	Loss of human agency and autonomy
6.	**Socioeconomic & environmental harms**
6.1	Power centralization and unfair distribution of benefits
6.2	Increased inequality and decline in employment quality
6.3	Economic and cultural devaluation of human effort
6.4	Competitive dynamics
6.5	Governance failure
6.6	Environmental harm
7.	**AI system safety, failures & limitations**
7.1	AI pursuing its own goals in conflict with human goals or values
7.2	AI possessing dangerous capabilities
7.3	Lack of capability or robustness
7.4	Lack of transparency or interpretability
7.5	AI welfare and rights

The work of the MIT researchers is useful because of its comprehensiveness and because the authors have analysed the risks in depth. They highlight how these risks may differ in their impact and characteristics depending on the development phase of the AI system (pre-deployment and post-deployment), how they may be intentional and unintentional, and how they may derive from actions performed by humans or by the technical characteristics of attributes of the AI, or a combination of both (Slattery et al., 2024).

While the list is comprehensive, most work on risks to date has focused on predictive AI. Therefore, it is worth mentioning the risks that are specific or more salient to Generative AI, such as:

- ***Hallucination:*** LLM tools such as ChatGPT are trained to predict which words should come next in the conversation the user is having with it. They are effective at assembling sentences that sound plausible and realistic. However, these AI models do not understand the meaning behind the words, and so will often confuse correlation with causation, leading to results that may range from the incredible to the dangerous.

- ***Manipulation:*** AI-generated images, such as those created by deepfakes, have significant potential for manipulation because they can convincingly alter or create visual content. These images may be used in disinformation, fake news and propaganda (false images or videos of public figures saying or doing things they never actually did may be used to influence public opinion and affect political and social outcomes), fraud and identity theft (fake images or videos can be used to impersonate individuals in financial or security contexts to access personal and financial information), blackmail and harassment (deepfakes can create compromising or defamatory images or videos of individuals).

The use of AI in biometric identification also has specific risks. Lee et al. (2024) mention that these can stem from privacy and surveillance concerns, and the rise of outdated theories like phrenology or physiognomy. Specifically, the following risks should be noted:

- ***Privacy and surveillance:*** watching, listening to or recording an individual's activities in the context of, for example, predictive policing; and,

- ***Phrenology/physiognomy:*** inferring personality, social and emotional attributes about an individual based on their physical attributes. For example, 'Gaydar', an AI sexual orientation prediction model, was found to "distinguish between gay or straight people" based on their photos.

These are all risks that are assumed to have global impact, so while their specific dynamics and protections will vary by region, their scope is not specific to a region or a particular group or community.

Writing from Latin America, however, it is important to also highlight the AI risks that will have a specific impact on the non-Western, non-Anglo world. Drawing on the MIT taxonomy, and specifically Domain 6, this paper will highlight AI risks that will disproportionately impact the LAC region.

- ***Cultural hegemony:*** The overemphasis on culturally hegemonic groups (including white, Western, male, heterosexual, cisgender and those who benefit from legacies of colonialism), may lead to misrepresentation or underrepresentation of other groups (OHCHR, 2023).

- ***Stereotyping:*** UNESCO and the International Research Centre on Artificial Intelligence (2024), highlight how in AI, Global South narratives often highlight community, family and village, with a pronounced focus on hardships, labour and education, although they also mention dreams and aspirations. This pattern is observed particularly in narratives about women, which also stereotypically feminine activities (assumed or assigned), such as textiles and weaving. These majority narratives of the Global South are training the AI systems that then reproduce these stereotypes.

- ***Language bias:*** Training based on majority languages, such as English and Chinese, excludes "low-resource languages" from the most advanced systems, even when they may be spoken by millions of people. The lack of diversity in language training leads to underperformance of generative AI systems for speakers of these languages (OHCHR, 2023). Even when the AI speaks Spanish, it thinks in English or Chinese because most of its training data is in those languages (Otero, 2024). This creates a need for impacted communities themselves to find the resources to build language-specific models, which only some of them will be able to afford.

- ***Lack of power and visibility:*** Another significant issue is the region's historical underrepresentation on the global stage, which often reduces its influence on AI development. This dynamic is aptly characterized by Malamud and Schenoni (2021), who have said, "If you are not at the table, you are on the menu—or so the diplomatic saying goes. And when the great powers sit down to dinner, Latin American countries are more likely to be food than guests." This can be extended to women, who are further invisibilized due to structural barriers.

- ***Digital dependence vs. digital sovereignty:*** Digital sovereignty refers to a country's or region's ability to control its digital infrastructure, data, and the technologies that operate within its borders, independent of external influences from foreign corporations or governments,

as well as nations' capability to govern their digital ecosystems, protect citizens' data, and maintain technological independence. Some authors have pointed to the neo-colonialism of global technology companies, urging countries to develop local alternatives and regulatory frameworks that limit external domination over their data and digital resources (Mejías and Couldry, 2024).

- ***Environmental extractivism:*** AI-related risks extend beyond the digital realm, with profound implications for the physical world, particularly regarding environmental dynamics and progress. The expansion of AI is closely linked to environmental extractivism, which builds on historical patterns of exploitation and appropriation (Carr, 2024). As demand for AI technologies grows, data centres are proliferating worldwide, with Latin America becoming a focal point for big tech companies. For instance, Querétaro, a state in Mexico, has emerged as one of the largest data centre hubs, despite its vulnerability to climate change-induced droughts. Farmers in the region are already protesting the risk of losing access to water as a result of this expansion (McGovern and Branford, 2024). From a gender perspective, climate change disproportionately affects women, and these effects are seen in changes in agricultural productivity, increased school dropouts, and worse maternal health outcomes (Radwin, 2023; UN Women, 2022). These interconnected issues underscore the urgent need to consider the environmental and social implications of AI development in the region.

2.2. AI and bias

As seen above, the possibilities of AI are coupled with its many risks when it is developed and implemented without responsibility and accountability. One of those risks takes centre stage: bias. The very logic of AI is to identify patterns in large datasets and use them as the specifications of the most optimal decisions to be made in the future. All AI systems, from automated decision-making to social-media recommender engines and LLMs, follow the same logic. This logic struggles with minority patterns, or "outliers" in ways that often amplify the discriminatory dynamics that exist in real life, or an inability to identify and tackle data representation and quality issues that result in biased and inefficient decisions.

In some instances, majority attributes or behaviours may be the best basis for decision-making, especially in low-risk AI contexts: for an AI-powered GPS, the most-used route is probably the most efficient and the best to recommend. For a marketing campaign, it may make sense to offer new shoes to people who bought shoes in the past. In high-risk environments, however, the identification and reproduction of majority patterns will lead to systematic discrimination against those assigned a minority pattern or labelled as outliers, resulting in higher error rates and fewer opportunities for vulnerable populations.

Examples of AI bias include: facial recognition systems that perform poorly for women and people of colour (Buolamwini, 2018); diagnostic and medical triaging systems that underperform for Black patients, particularly women (Seyyed-Kalantari et al., 2021; Obermeyer et al., 2019); biased hiring systems that favour male names (Chen, 2023); black inmates who receive higher risk scores than similar white inmates (Dressel and Farid, 2018); young girls who are given sexualized avatars, while their male friends receive empowering images (Heikkilä, 2022); and AI image generators that always show migrants as a multitude of threatening males and expats as white, blonde professionals (Urman, Makhortykh, and Ulloa, 2022). The list is endless, and technical bias is often coupled with social bias and automation bias (cognitive bias in humans working with AI tools).

AI systems have been reported to discriminate based on socio-economic status, ethnicity, disability, age and location. However, gender is probably the most salient bias layer, as it impacts the largest number of people (women) and is pervasive both in society and in AI (United Nations, 2023).

III. AI and Gender Bias in LAC

Gender bias is of particular relevance in Latin America, a region where women have made significant advances in longevity, labour market participation (including leading startups and in managerial roles), political representation and education, but continue to experience persistent and worsening challenges in economic inequality and informal employment/unemployment, pay gap, health disparities, gender-based violence, vulnerability to climate change, barriers to business and leadership, and underrepresentation in STEM programs. **These structural inequalities create a fundamental challenge for AI. The data feeding these systems inevitably reflect the biases ingrained in society, increasing the risk that AI will replicate and reinforce discriminatory gender patterns rather than alleviate them**.

The **demographics** of LAC reveal a total population of 664.2 million, with women representing 50.7 per cent, or approximately 337.2 million people (United Nations, RCP LAC, 2024). Fertility rates have dropped significantly in recent decades, averaging 1.8 children per woman due to stronger population control measures and increased access to birth control since the 1970s. Life expectancy for women has also risen, for an average of 79.4 years, compared to 72.7 years for men, reflecting the region's health improvements (Ibid.).

In the **labour market**, women's participation has increased from 41.3 per cent to 53.9 per cent over the past 30 years (ECLAC, 2023b). Yet, women's labour market participation remains at around 50 per cent, partly because women spend nearly three times more time on unpaid care and housework compared to men (19.6 per cent vs. 7.3 per cent) (ECLAC, 2023b). Furthermore, the **gender pay gap** persists at 20 per cent, and women face higher unemployment rates–9.5 per cent, or 2.7 per cent more than for men (ILOSTAT, 2024). Moreover, the World Economic Forum and the Inter-American Development Bank (IDB) highlight the fact that administrative, secretarial and human resources positions, which are roles predominantly filled by women, are particularly susceptible to automation due to the repetitive and structured nature of tasks (Vaca Trigo and Valenzuela, 2022). Regarding **unpaid work** and the **informal economy**, unpaid care work in LAC accounts for 21 per cent of gross domestic product (GDP), with women carrying the majority of this burden (UNDP, 2024b). Women spend much more time on housework and caregiving compared to men (19.6 per cent vs. 7.3 per cent), and domestic work remains the leading occupation for women, employing 15.3 per cent of the female workforce (ECLAC, 2023a; UNDP et al., 2013). Older women are particularly vulnerable, with 26 per cent of women between 50 and 80 who lack income from jobs or pensions, compared to just 10 per cent of men in the same age group (Stampini et al. 2023). Women also predominate in informal employment–at 54.3 per cent–compared to 52.3 per cent for men, with women's rates in Central America soaring to 61.8 per cent (Espejos, 2022; OIT, 2018). Rural areas, where informal employment stands at 68.5 per cent, contrast sharply with urban areas (47 per cent) (OIT, 2018).

Education presents a more positive picture, as women in LAC are now surpassing men in educational attainment. Primary school enrolment for girls stands at 97.5 per cent, and 67.4 per cent of women aged 20-24 have completed secondary education (ECLAC, 2023b). Literacy rates and

tertiary education rates are higher for women than men, with women constituting 41 per cent of STEM graduates, surpassing global and Organisation for Economic and CD averages (Ibid.). However, the **urban-rural divide** continues to present challenges, with rural women facing significantly lower educational attainment levels and higher barriers to accessing digital technologies (ECLAC et al., 2023).

In **STEM and scientific production**, women remain underrepresented. Only 26 per cent of women work in STEM fields (World Economic Forum, 2023b), and less than 30 per cent of patents include a woman among the inventors (World Intellectual Property Organization, 2020). Women's authorship in scientific publications is also low, at only 38 per cent in the physical sciences and 30 per cent in engineering (ECLAC, 2023a).

In **business**, self-employed women account for 18.5 per cent of the population, but only 2.8 per cent of women are employers, compared to men, at nearly double this figure (Alecchi, 2020). Women hold just 15 per cent of board seats and lead only 11 per cent of enterprises (United Nations, RCP LAC, 2024). Despite these barriers, women hold 36.9 per cent of managerial positions, surpassing the global average of 28.2 per cent (United Nations, RCP LAC, 2024). Women entrepreneurs typically manage micro-, small or medium-sized businesses, particularly in rural areas, but face significant challenges, including lack of training, risk aversion and greater family responsibilities (Alecchi, 2020). In the **fintech sector**, women are gaining visibility: one-third of fintech enterprises are led by women, surpassing the global average of 7 per cent (Cárdenas, 2022). While Colombia, Mexico and Brazil have the highest numbers of women-led fintech companies, Uruguay leads proportionally with 47.4 per cent of its fintech enterprises founded by women (Ibid.). However, the broader **ICT sector** remains male-dominated; less than 35 per cent of employees are women and only 32 per cent of companies report that women hold leadership roles (BID, 2021).

The region has made important strides in **political representation and leadership**, but challenges remain. In Mexico, Nicaragua and Cuba, women hold over 50 per cent of parliamentary seats, (Observatorio de Igualdad de Género, n.d.) and the regional average remains at 36 per cent (UN Women, 2024). Representation in local governments is lower, with only 27 per cent of women holding positions of political responsibility at the local level. In ministerial roles, women account for 23.6 per cent of ministers and 30.9 per cent of vice ministers (Naranjo Bautista et al., 2022).

In **health**, disparities continue to harm women. Maternal mortality rates are troubling, with 8,400 deaths annually, most of which would be preventable with adequate care, and disproportionately impacting indigenous, Afro-descendant, and low-income women. Cardiovascular diseases, which resulted in 29 per cent of female deaths in 2019, and obesity, affecting 59 per cent of women, further exacerbate these health inequities (United Nations, RCP LAC, 2024). Mental health disorders also disproportionately affect women, with higher rates of depression and anxiety compared to men (PAHO, 2020). Gender-based violence remains a serious issue in LAC, with more than 4,000 women falling victim to femicide in 2022 alone. Brazil accounted for 1,350 of these deaths, exemplifying the severe risks women face in the region (ECLAC, 2022b). On average, two out of three women aged 15-49 have experienced violence, with 12 per cent having suffered sexual violence—double the global average (United Nations, RCP LAC, 2024). The region is also the most dangerous globally for transgender people, with 70 per cent of murders of trans and gender-diverse people worldwide occurring in the Americas (Carbajal, 2022).

Women in LAC are also more vulnerable to **poverty** than men, with 118 women living in poverty for every 100 men in 2022. This gendered economic divide restricts women's opportunities and resilience, especially in the context of climate change. By 2050, it is estimated that 13 million women will be pushed into poverty and 19.8 million into food insecurity due to climate change (United Nations, RCP

LAC, 2024). Additionally, women represent 51.3 per cent of international migrants in the Americas, further highlighting their exposure to socioeconomic vulnerabilities (Ibid.).

Finally, financial inclusion remains a significant barrier. Only 67.6 per cent of women have bank accounts compared to 77 per cent of men, and prior to the pandemic, half of all women lacked a bank account. Women also struggle with financial resilience, relying heavily on personal loans or the informal market, further limiting their economic security and mobility (Lazarte, 2022). Land ownership rates are also low, with only 30 per cent of rural women owning land, a figure that is even lower for brown and dark-skinned women, who face compounded racial and economic discrimination (Ramos, 2021).

3.1. AI and gender bias in LAC

There are remarkable instances of efforts made to improve the situation of women in LAC using AI, especially in the field of justice and with a specific focus on gender violence. While these do not yet amount to a trend, it is worth highlighting how different organizations in different LAC countries have managed to leverage AI to protect women in legal contexts, in a tendency that seems to be unique to the region.

In Argentina, some courts use a software that leverages AI to anonymise and extract data from judicial rulings related to gender violence. It works by processing legal documents through named entity recognition to identify relevant fields, which are then validated by a human. The anonymised data is then added to an open dataset to promote transparency and contribute to a better understanding of gender violence and promote research in this area (AymurAI, 2024).

In Jalisco, there are plans to improve the assistance provided to women victims of violence by automating and digitising their police reports. Currently, victims are required to recount their experiences multiple times as they are referred to different institutions, leading to re-victimization and delays. The proposal uses AI to convert spoken testimony into text, allowing for secure and efficient storage and sharing of these reports among various agencies. This solution seeks to reduce time, workload and bureaucracy and improve accuracy and case follow-ups (IDB, N.d.).

From a different perspective, the *La Independiente* project in Mexico aims to integrate a gender perspective into AI crowd work, focusing on collective platform workers. Currently in the pilot stage, the project seeks to foster a supportive community among crowd workers while helping them strengthen their technical and social skills. Additionally, the project aims to create a forum for policymakers, academics and stakeholders to discuss and share feminist policy perspectives on crowd work (Pit Policy Lab, 2024). In Chile, the digital rights non-governmental organization, *Derechos Digitales*, is leading an initiative to develop a feminist framework for AI development, aiming to illuminate the power dynamics within the field of AI and to highlight the experiences of women working in this area (A+ Alliance, 2023).

Despite these efforts, or as these efforts highlight, women continue to be the primary victims of AI discrimination. Due to historical dynamics of exclusion, reduced rates of participation in the formal economy and reduced visibility as heads of household, AI systems tend to classify women as outliers. As a result, 50 per cent of the population receives fewer services and AI systems have a higher failure rate when managing their data. Examples abound in all sectors, including an Amazon

AI recruitment tool that was discontinued after it was found to favour male candidates (Dastin, 2018). Healthcare algorithms have shown a bias in pain management, where women have received less appropriate pain relief compared to men, due to ingrained biases in the medical data used to train these systems (Seyyed-Kalantari et al., 2021; Obermeyer et al., 2019). Furthermore, facial recognition technology has shown higher error rates for women, particularly women of colour (Buolamwini, 2018). In finance, AI credit scoring systems have demonstrated biases against women, resulting in fewer loan approvals (Andrews, 2021). Additionally, smart assistants such as Siri and Alexa often embody gender stereotypes by employing female voices, reinforcing traditional gender roles (Heikkilä, 2022). Women are also overwhelmingly targeted by digital violence, surveillance, deepfakes and revenge porn, impacting their willingness and ability to engage in democratic participation and their well-being in general (Monitor+, 2024).

Latin America has already experienced the disparate impact of AI systems on women. In 2024, Guatemala's Public Ministry confirmed that male high school students were under investigation for the alleged sale of pornographic images of their female classmates, which were created with artificial intelligence (Pineda 2024). After Brazil introduced biometric systems during Carnaval, a woman was falsely accused of a crime she did not commit due to an identification error that occurred when the system mistakenly identified her as someone with a criminal record (Galarraga Gortázar, 2024).

On the issue of chatbots and gender stereotypes, Manasi, Panchanadeswaran, and Sours (2023) highlight how the tendency to feminize AI tools mimics and reinforces the structural hierarchies and stereotypes in society, which is premised on preassigned gender roles. The gendering of AI can occur in multiple ways—through voice, appearance, or the use of female names or pronouns. It is telling to note how many of the chatbots currently operating in Latin America have female names: Ines and Violetta in México, Tía de Whatsapp in Venezuela, Sofia in Chile, UNDP's Sara or IDB's Laura (see Section III.II). While some initiatives may be justified in using female avatars to interact with their users, such as in cases where users are specifically women and victims of gender violence, the feminization of virtual assistance systems raises critical questions about gender stereotyping, the anthropomorphization of AI, and the construction of the digital realm as an extension and perpetuation of the affective labour of women.

AI that targets women's needs has also been politicized. In 2018, the Argentinian Ministry of Early Childhood, in collaboration with Microsoft, introduced an algorithmic system to predict teenage pregnancy by analysing data from girls in impoverished regions. However, after the methodology was posted on GitHub by a Microsoft engineer, it was audited by researchers at the University of Buenos Aires, who found it prone to errors, inaccurate, technically weak and methodologically flawed (*Laboratorio de Inteligencia Artificial Aplicada*, 2018). Also, the initiative was launched amid a national debate on the legalisation of abortion, with conservative factions suggesting that predictive algorithms could prevent teenage pregnancies, thereby negating the need for legalised abortion. Since that time, this initiative has expanded to regions in Brazil and Colombia (Jemio, Hagerty, and Aranda, 2022; Varon and Peña, 2021).

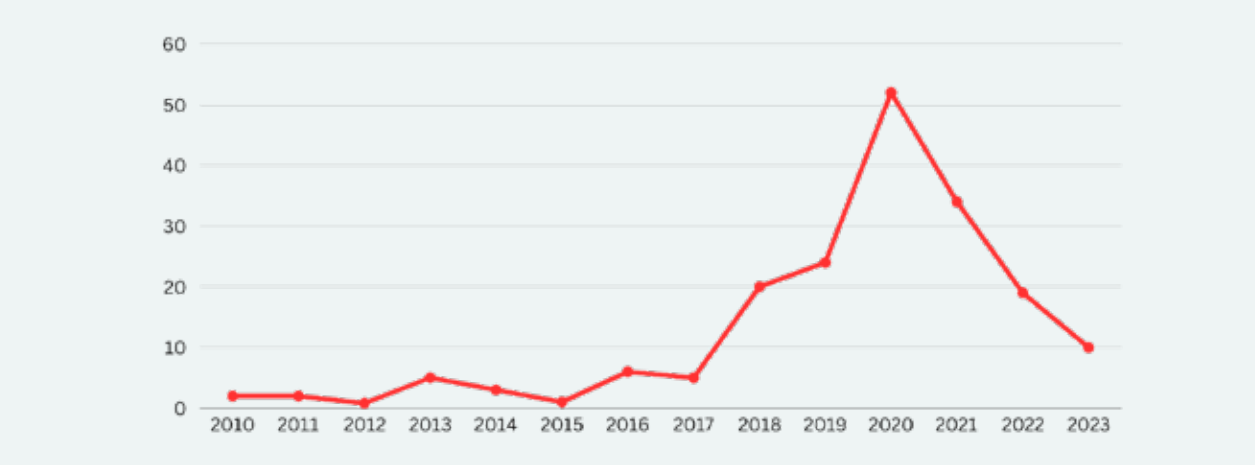
And in a context of complex identities, experts have warned that some of the systems deployed fail to address the specific needs of critical demographics: transgender individuals, along with excluded migrants who lack national identification, are often overlooked, and the system does not recognize same-sex couples as beneficiaries. This oversight perpetuates discrimination and hinders equitable access to social services (Smart, 2024).

3.2. AI in LAC

Without robust regulatory frameworks, specific policies and enforcement mechanisms, instances of gender bias in AI will continue to proliferate at least at the same rate as AI. In a recent report on AI in Latin America, Sebastian Smart (2024) identified a total of 234 algorithms used by the public sector in Latin America, predominantly deployed in the contexts of: social protection/inclusion, health, education, justice, the environment, and public order and security.

Sixty per cent of the systems identified in the report were designed in the last four years, with a design peak in 2021. This is probably due to a failure to update these reference databases or to access information on the design and deployment of these systems in the public sector in the region, not an actual decrease in the proliferation of AI initiatives.

Graph 1. Number of public algorithms designed in Latin America



Source: Smart 2024

While Smart identifies hundreds of systems, it describes only two. Even when systems are identified, it is quite difficult to access information on who is promoting them, whether they are operational, how they work, and whether they have been audited. Several cases that exemplify the kinds of problems that AI is tackling or seeking to tackle in Latin America and the Caribbean are described briefly below. One may safely assume that all these systems are capturing and reproducing bias– specifically gender bias–in their outputs. However, information on whether systems are deployed, who is responsible for them, what they do or achieve, or whether they have been audited for bias is either often unavailable or unclear. This next section should therefore be read as an example of AI uses, not a list of systems operating in the region.

In the context of **social protection and inclusion**, countries such as Paraguay, Costa Rica, Colombia and Chile have implemented or are planning to implement automated decision-making systems to address various social issues. For example, Chile has introduced predictive risk modelling within its Childhood Alert System to assist managers in identifying children and teenagers at risk. The data used to train this system is derived from the circumstances of previous abuse cases, specifically aimed at identifying patterns that could lead to similar outcomes. However, controversy emerged due to the potential for higher risk scores for low-income families, which could result in increased

scrutiny of working-class communities. This situation disproportionately affects indigenous, migrant and culturally diverse populations, leading to stigmatisation and undermining the system's intended purpose to protect (Peña, 2022). In response to public scrutiny, the Chilean government commissioned an external audit of the system. This audit, conducted by the author of this paper and the team at Eticas.ai, identified specific risks and data issues that required attention.

In Colombia, the System for the Identification of Potential Beneficiaries of Social Programs (Sisbén) is a national identification system that categorises households based on income. The system employs an algorithm that processes data from both public and private sources to score individuals based on their eligibility for various social programs, including cash transfers, health services and education subsidies. It has faced criticism due to its lack of transparency regarding the algorithm's operations and the categorisation criteria. Additionally, since the system primarily allocates cash transfers based on poverty status, there is a significant risk of automating the exclusion of individuals who are already stigmatised due to their social class (Smart, 2024).

Costa Rica's National Information and Single Registry System of Beneficiaries (SINIRUBE) aims to streamline social assistance and ensure that public funds reach those in genuine need, while preventing data duplication. This is achieved by integrating information from 34 public institutions and 42 social aid programs. The system is designed to combat poverty and inequality through accurate data collection for social policy implementation, emphasizing the importance of high-quality data. To address these challenges, the QualIA programme uses AI to identify and analyse anomalies in social data through probabilistic and predictive modelling. However, issues have arisen due to inconsistent data collection methodologies and a lack of automated error detection, resulting in an estimated error rate of 30-50 per cent in captured data (IDB, n.d.).

In Paraguay, employment services previously processed the resumes of job seekers manually, and request those seeking employment to visit a single office in Asunción and submit their CV on paper. This manual process was inefficient, resulting in only 562 individuals receiving personalized career guidance in 2010. To improve job matching efficiency, since 2011, the *ParaEmpleo* system has replaced manual processes with an AI-powered employment intermediation system. This system employs ontologies and semantics to match job seekers and employers based on multiple criteria, including skills, geography and experience, rather than relying on simple keyword matching. It claims compliance with General Data Protection Regulations by excluding sensitive user data (e.g., gender and nationality) from matches to avoid bias, while using anonymised employability data. The system requires human intervention to assist both job seekers and employers in navigating the platform, particularly for those with limited digital skills (Ibid.). Because the system does not appear to have ever been audit, these compliance claims cannot be validated.

A **health**-related AI project in Jalisco, Mexico was designed to address the issue of diabetic retinopathy, a disease that causes vision loss and blindness in adults. Since early detection is critical, this initiative seeks to create a screening programme at the primary healthcare level. It involved performing eye exams on patients, with AI-powered software analysing retinal images to detect diabetic retinopathy. The system, alongside certified graders, would determine the severity of the condition critical for the timely referral to specialised hospitals. The initiative faced key challenges, including data governance, staff training and protocol implementation (Ibid.). It is unclear whether the system was maintained after the pilot phase.

AI is also gaining momentum in **education**. Ecuador's Ministry of Education is working on an AI tool to improve student-school assignments by addressing issues such overcrowding or underused infrastructure and enhancing the family-school matching process. Currently, student placement

is centralised and based solely on proximity, leading to a high number of transfer requests (for example, 25 per cent in Costa and 18 per cent in Sierra-Amazonia). The proposed tool would create a centralised online platform where families could add their school preferences and be assigned a school using an algorithm that would combine student criteria with data on school congestion and family preferences (Ibid.). In Uruguay, AGESIC and the IDB's fAIr LAC initiative are promoting an AI system to reduce school dropout rates among students in secondary education, as 37 per cent of teenagers in Latin America leave school early. The plan is to use AI to develop a predictive model for educational disengagement. The model would analyse student data and educational conditions to identify who is at risk of dropping out, allowing for personalised interventions that support students and safeguard their educational paths. The information provided by the model would guide decisions at both the territorial and school levels, involving educators and families. Key challenges include designing the AI system, developing decision-making processes, and ensuring accountability for the outcomes (Ibid.).

In Costa Rica, *Fundación* CIRSA, IADB and CINDE are developing Future Up, a project to address the skills gap by providing access to information and training programs aligned with industry needs. It targets the economically active population aged 15 to 50. The plan is to use AI to recommend skill development paths based on participants' interests, skills and experiences, offering guidance on what to study and potential financing options. The platform would foster lifelong learning and adaptability in a rapidly changing global economy. Key AI challenges include sectoral knowledge, data governance, the use of AI-generated advice, and effective communication (Ibid.).

The **environment** is an interesting space for AI development. Around the world - but especially in the Global South – countries are increasingly leveraging AI technologies for environmental protection, water management and predicting natural disasters. Brazil, for instance, employs AI systems to forecast flood risks by analysing meteorological data, thereby enhancing community preparedness and response strategies (*Instituto Nacional de Pesquisas Espaciais*, 2022). In Mexico, the Community Perspectives of AI in Natural Resource Governance project focuses on water governance and uses AI as a decision-making tool to manage natural resources. This initiative aims to prevent resource exploitation while enhancing community involvement to combat ecosystem degradation, blending local knowledge with AI to promote self-determination (Suawakat: Gobernanza Del Agua Yaqui, 2024). AI systems are also increasingly being used in LAC to support natural disaster prevention and response, especially given the region's vulnerability to hurricanes, earthquakes, floods and wildfires (Fiondella, 2020; Hickman, 2023).

As with many regions around the globe, Latin America has increasingly adopted biometric solutions powered by facial recognition technology as a measure to enhance **public security**. In Brazil, the Smart Sampa project exemplifies this trend, with over 40,000 cameras deployed throughout São Paulo. The initiative aims to centralize various surveillance mechanisms—including traffic monitoring, public transport oversight, police activities and emergency services—onto a single platform, enabling more effective management and response to security incidents (*Red en Defensa de los Derechos Digitales*, 2023). Mexico City has implemented a comprehensive video surveillance system featuring thousands of cameras that use facial recognition technology to monitor public spaces and assist law enforcement in crime prevention (González, 2021). Similarly, in Colombia, the National Police has been using facial recognition to enhance public safety and identify suspects, claiming a significant impact on reducing crime rates in targeted areas (Policía Nacional de Colombia, 2022). While these technologies promise improved security outcomes, they also raise critical questions about their impact on human rights and the potential for discrimination against marginalised communities (Téllez & García, 2022).

Latin America is also increasingly incorporating AI in managing **infrastructure** to improve road safety and streamline maintenance processes. One such initiative is Via Segura, an AI-driven solution implemented in Brazil, Ecuador, Guatemala and Peru. Developed by the IDB and the International Road Assessment Programme, this system leverages computer vision and machine learning to enhance road safety. Via Segura enables early detection of infrastructure failures that contribute to traffic accidents. By automating and accelerating traditional, labour-intensive safety assessments, which often take place only every seven years, the system enhances efficiency and accuracy. To date, it has analysed over 61,000 kilometres of roadways, identifying 16 critical safety elements with an accuracy rate ranging from 67 per cent to 96 per cent. Several LAC countries, including Brazil, Costa Rica, El Salvador, Guatemala and Panama, use Pavimenta2, which uses AI to detect pavement defects and categorise traffic signs using video footage from vehicle-mounted cameras. It automates the analysis of road conditions, significantly reducing assessment time. Pavimenta2 is now being integrated into public sector operations to help authorities efficiently inventory roads, correlate accident data, and estimate maintenance costs.

AI in the private sector

The LAC population is increasingly engaging with AI systems in public administration and services. However, most daily interactions occur through private AI systems. These influence decisions such as the social media content they or their children view, loan or mortgage approvals by banks, or even whether their CV is considered for a job. Risks such as those addressed above, including manipulation, bias and discrimination, privacy infringements, malicious uses or security vulnerabilities are experienced by users everywhere, including in LAC.

For instance, in 2024, Human Rights Watch revealed that personal photos of children in Brazil were scraped from the web and included in AI training datasets such as LAION 5B. These images, often accompanied by identifiable information including real names and URLs, were used without consent, creating significant privacy risks for minors. Despite promises from the responsible company to remove the images, the damage had already been done, putting children at higher risk of exploitation.

The United Nations reported that in Mexico, AI-generated deepfakes were used to discredit political candidates during the 2024 election in San Luis de Potosí (United Nations, RCP LAC). This attempt to manipulate voters highlights the growing potential for AI to undermine democratic processes, especially in regions where trust in political institutions is already fragile. The combination of AI's capabilities and a sceptical electorate could erode faith in legitimate sources of information, further intensifying public mistrust.

Concerns over **electoral manipulation** have led to the emergence of public-private partnerships seeking to leverage technology and AI to promote voter engagement and increase the accessibility of electoral information from legitimate sources. An example of this is the Inés project in Mexico, launched in 2024, as a collaboration between Meta and the National Electoral Institute (INE). It integrates a WhatsApp chatbot designed to provide voters with direct access to essential information about voting requirements and procedures (INE, 2024). In Venezuela, *La Tía del Whatsapp* is a bot that verifies viral content, helping citizens distinguish between true and false information in an environment saturated with propaganda.

Hiring is another area where AI systems are quickly proliferating. It is increasingly common for large corporations to pre-screen resumes using AI to ensure that only a selection of the best ones is sent to humans for assessment and interview. However, several companies have ceased using AI in

hiring processes due to concerns over bias and errors. As mentioned above, Amazon, for instance, discontinued an AI recruitment tool in 2018 after discovering it favoured male candidates. The system, trained on resumes submitted over a decade, penalised resumes containing terms such as "women's," reflecting the tech industry's male-dominated history. Similarly, HireVue faced backlash for its AI-driven video interview tool that assessed facial expressions and voice tone. Following concerns raised about potential bias, it halted its use of facial analysis in 2021. Unilever, while initially embracing AI to screen candidates, revised its processes to increase human oversight after criticism about fairness and inclusivity.

The **banking** sector is increasingly using AI for applications including fraud detection, credit scoring, risk assessment, customer service automation and personalised financial recommendations. Today, all banks and credit cards use AI to automate decisions that have profound consequences for the financial inclusion and opportunities of their clients and the population in general. As a region with a strong fintech sector, LAC is both using foreign systems and developing its own. For example, the Divibank project, created by a Brazilian startup, is a software-as-a-service platform that leverages AI and predictive analytics to support small and medium-sized businesses in gathering, organising and visualising data effectively (Fintech Americas, 2023).

The **health** sector is also leveraging AI for improved diagnostics, efficient triaging, resource allocation and predictive analytics, with the goal to enhance patient care, operational efficiency and health outcomes. Robot Laura is one of the rare systems to be audited.[1] It is an AI-driven system designed to predict clinical deterioration in hospitals across various regions of Brazil. By analysing patient data, Laura provides real-time alerts to healthcare teams, helping to prevent avoidable deaths (IDB, 2024). Since 2016, the system has processed data from over 8.6 million patients and is widely used in Brazil. The audit highlighted paths to better protect patient data and integrate AI data into the healthcare system (Eticas, 2021). But the auditing of systems in the region remains rare, and some of the AI tools deployed in Latin America have already proven controversial: in Brazil, a study published in *Nature Medicine* found that AI algorithms used for predicting cardiovascular diseases were less accurate for patients from lower socioeconomic backgrounds, demonstrating significant health disparities tied to data representation (Ribeiro, 2021). In Argentina, researchers have raised concerns regarding AI-driven diagnostic tools, noting that algorithms often rely on data from predominantly white patients, which can lead to misdiagnoses in diverse populations (Almada and Vassallo, 2022). The Pan American Health Organization (PAHO, 2021) has already emphasised the critical need for inclusive datasets in AI healthcare applications to mitigate biases and improve outcomes across diverse populations in Latin America.

Agriculture is an area of increased automation that is often overlooked, even though this is one of the sectors where AI may have a greater impact in the Global South, specifically on jobs and employment. Agrotools is a Brazilian company dedicated to advancing agriculture through geotechnology and data intelligence. It has developed an AI-powered algorithm that generates geographical coordinates for farms and allows for real-time monitoring of crop development. Farmers can then use the data when applying for loans, saving time and improving accuracy (News Center Microsoft Latinoamérica, 2023). Similarly, Agrobit is an Argentinian technology company that has been developing agricultural software for 40 years. In 2019, it developed an AI with Microsoft to enable farmers to receive data-driven insights that optimise resource use, reduce costs, and improve productivity and sustainability in their agricultural practices. (News Center Microsoft Latinoamérica, 2023). Other examples include Fertimon in Brazil, Ceres in Chile Agrosmart in Colombia, and RuralAI in Mexico, all developed by local startups.

1 The system was audited by the author of this report and the team at Eticas.ai.

Tourism is an important sector in LAC and AI is also having an important impact. The sector is increasingly leveraging AI for personalised travel experiences, predictive analytics for demand forecasting, customer service automation through chatbots, and enhanced safety measures. Some hotels are already using data, AI and chatbots to improve their operations and client relations (HotelTechReport, 2022).

AI is also bringing about significant changes in the **transportation** sector. Many Latin American cities have seen the proliferation of ride-hailing apps and the use of AI in fleet management and dynamic pricing. Highly assisted or autonomous vehicles (AVs), which rely on machine learning algorithms, computer vision and sensors to perceive the environment, make real-time decisions, and navigate roads, are forcing cities to adapt their infrastructure. In 2021, Chile conducted a pilot project with an autonomous electric shuttle in the Bicentenario Park in Santiago, and Brazil is leading the region in terms of AV regulation, creating a pathway for the development and introduction of AVs in urban settings. The regulation addresses safety standards, insurance requirements, and the need for human operators during the initial phases of testing.

Finally, local initiatives have emerged to develop local **GenAI** solutions. As of 2024, only 4 per cent of ChatGPT users were located in Latin America, with Brazil accounting for around 1.65 per cent of the total user base, followed by Argentina with about 0.93 per cent. Other countries in the region, such as Mexico, Colombia and Chile, also contribute to the growing user base (Backlinko, 2024). However, no data exist on how or whether businesses are incorporating GenAI tools. The Argentinian company Globant has launched GeneXus, a platform designed to accelerate the development of GenAI solutions that integrate into enterprise systems (Globant, 2023).

A remarkable AI trend tendency identified in the region is the development of **chatbots** to interact with women in distress. In Mexico, Violetta is a chatbot created by civil society organisations to foster healthier personal relationships. The idea emerged during the pandemic, when many women in LAC were confined with their aggressors. The system helps users identify emotions and recognise situations of violence (whether physical, psychological, sexual or economic) empowering them to seek help and support and prevent further harm (Lagos, 2024). Sara is UNDP's web-based chatbot to prevent violence against women and girls in Central America and the Dominican Republic by providing information and guidance to women and girls at risk of becoming victims of violence (UNDP, 2023b). In Chile, Sof+IA is another chatbot designed by civil society organisations to help women identify and report cases of violence and harassment in informal and formal spaces, even when the type of violence experienced is not codified in Chilean law. Powered by AI, it can offer recommendations for digital self-care and resources to avoid feelings of isolation and prevent self-exclusion from social media (Sof+IA, 2024).

Finally, a few initiatives are underway in the region that advance solutions to promote inclusion and mitigate bias in AI. Fundación Via Libre, an Argentinian non-profit, recently launched E.D.I.A (*Estereotipos y Discriminación en Inteligencia Artificial*), a tool that allows users to identify bias in language models. It has been used by educators, students and researchers to understand AI bias even when these individuals do not have technical expertise. It analyses sentence structures and allows users to insert phrases to test how the AI responds and identify bias. Since its launch, it has been used to train 500 high school teachers in Argentina (*Fundación Via Libre*, 2024). In Mexico, A+ Alliance (2024) and *Derechos Digitales América Latina* (2022) have engaged in women-led efforts to co-design an AI conversational agent alongside interpreters of Indigenous languages, based on principles of digital autonomy and data sovereignty.

IV. Combatting Gender Bias in AI

As seen above, AI is used increasingly in the LAC region by public and private actors, often in collaboration with private companies. Community and civil society organisations are also using it, often to protect those impacted by AI. The number of initiatives that leverage digital tools to assist women victims of gender-based violence seems to be a focus of AI development as there are many initiatives in this space. Against the backdrop of AI proliferation, it is key to explore how to protect societies and rights from AI harms, how to foster responsible AI, how regulation can help, and what technical mechanisms can translate commitments to transparency and accountability into actual AI processes and practices. This section explores how LAC is leveraging policy to achieve this and the technical tools that exist to combat bias in general, and gender bias in particular, in AI systems.

4.1. Through AI principles and policy

Several Latin American countries have developed some kind of AI regulation and commitments in recent years and have even cooperated to support regional efforts. The Montevideo Declaration on artificial intelligence and human rights was adopted during the 2023 World Summit on the Information Society (WSIS) Forum held in Montevideo, Uruguay. It laid down essential principles to guide the development of AI, with an emphasis on human rights protection, ethical considerations, transparency and accountability, non-discrimination, inclusivity and public participation. This document emerged from a call to action by organisations and developers to prioritise human rights and ethical considerations in the advancement of AI technologies. It was signed by key organizations and individuals committed to upholding human rights in AI. While no governments were signatories to this agreement, it marked a crucial moment in building regional awareness and civil society engagement. Several years later, at the 2023 Ministerial and High-Level Authorities Summit of Latin America and the Caribbean, 20 countries came together to adopt the Santiago Declaration. This document emphasises the need for a fair, equitable and inclusive framework for AI development, while stressing the need for AI technologies to respect regional diversity. It also calls for AI legislation that aligns with human rights, personal data protection, accountability and good governance, among others principles. Additionally, the declaration acknowledges the absence of developing countries from international AI discussions, highlighting the need to increase dialogue and research and promote national, regional and global efforts to ensure better representation.

Regional institutions such as the IDB have developed region-specific resources to contribute to the development and uptake of responsible AI. For example, the fAIr LAC initiative (2024) released guidelines to apply ethical standards to AI projects, targeting public and private sectors, entrepreneurs and businesses. These guidelines include an ethical self-assessment tool for governments, a questionnaire designed to identify potential ethical risks, a series of good practices for responsible AI development and data practices, and a comprehensive manual for algorithmic auditing, offering practical advice for assessing AI systems in areas such as precision, fairness, bias, discrimination and privacy (IDB, n.d.).

It is important to note that all these efforts, along with those developed at the national level, share a significant characteristic: they all draw from and reference principles established in global standards or advanced regulations from other regions. For example, Argentina's and Mexico's national policies and legislative proposals concerning the ethical deployment of AI systems cite UNESCO's Recommendation on the Ethics of Artificial Intelligence. Similarly, the European Union's

digital package, which emphasizes human rights, transparency and accountability, has served as a model for countries such as Chile and Brazil, reflecting the its broader influence on global AI policy development. Furthermore, Argentina and Brazil acknowledge the Organisation for Economic Co-operation and Development Principles on AI and the Montreal Declaration for a Responsible Development of Artificial Intelligence in their national strategies, respectively, highlighting the importance of international cooperation and shared ethical standards in AI development. Additionally, Mexico's legislative proposal for ethical AI regulation references the United Nations Guiding Principles on Business and Human Rights (Smart, 2024).

At the national level, several countries have included specific references to human rights, equality and bias in their AI policies and strategies. Gender-based approaches are included in the strategies of Chile, Argentina, and Mexico. Specifically, the Argentinian strategy mentions that the AI plan must be developed in accordance with the Sustainable Development Goals (SDGs), including gender equality. The Chilean strategy includes a section on gender that mentions the need to avoid arbitrary discrimination and negative gender repercussions in automated processes and advocates for the creation of a monitoring system to identify gender gaps (*Ministerio de Ciencia, Tecnología, Conocimiento e Innovación* (Ministry of Science, Technology, Knowledge and Innovation, 2021). The Mexican strategy identifies vulnerable groups like women and indigenous population and highlights the need for a gender perspective.

Brazil is probably the country where bias issues are addressed in a more straightforward manner. Its Legislative Proposal on AI, for instance, mandates that AI systems be transparent and explainable, explicitly seeking to avoid discrimination and algorithmic bias, and anticipating human intervention to ensure fairness and equal treatment. Additionally, its Article 12 guarantees that individuals affected by AI system decisions, forecasts or recommendations have the right to fair and equal treatment and prohibits the deployment and use of AI systems that may lead to direct or indirect, illegal or abusive discrimination. Brazil's National Artificial Intelligence Strategy (*Ministério da Ciência, Tecnologia e Inovação* (Ministry of Science, Technology and Innovation (MCTI), 2021), mandates that AI should not create or reinforce biases that could unfairly or disproportionately affect individuals, especially based on sensitive characteristics, such as race, ethnicity, gender, nationality, income, sexual orientation, disability, religious beliefs or political inclinations. Additionally, Article 14 of the Brazilian Legislative Proposal consolidating proposals No. 5.051 of 2019, 21 of 2020, and 872 of 2021 stipulates that AI systems must be overseen by humans, especially in high-risk scenarios, to avert discrimination and other negative effects.

Uruguay's national strategy incorporates ethics and mentions human rights, responsibility, privacy and security. It promotes algorithmic transparency to facilitate the integration of AI into the public sector, as well as the use of readiness assessments before AI systems are implemented and responsible use. (Agencia de Gobierno Electrónico y Sociedad de la Información y del Conocimiento, 2020).

Colombia's Legislative Proposal 091/2023 Senate (Florez, 2023) establishes the duty of information for the responsible use of AI in Colombia. While it does not explicitly reference equality, it includes the term within the law's purpose. Article 1 states that the law aims to ensure the responsible use of AI within ethical and legal parameters that guarantee security, transparency, equality and fairness. Colombia's policy proposal for digital transformation and AI includes a cross-sectional ethical framework to guide the design, development, implementation and evaluation of AI systems, with non-discrimination as a key principle. It also acknowledges the ethical challenges posed by AI, such as justice, freedom, non-discrimination, transparency, responsible design, security, privacy and the role of human rights. Colombia's Ethical Framework for AI (A. Guío Español et al., 2021)

emphasises non-discrimination, stating that AI systems should not produce outcomes that harm specific groups or infringe on the rights of historically marginalized populations. It asserts that AI functionality must not be limited by factors such as sex, race, religion, disability, age or sexual orientation, advocating for gender-neutral approaches and ensuring that gender is not used as a basis for discrimination. Indeed, Colombia's Constitutional Court has already ruled on AI, following a judge's use of ChatGPT to formulate legal questions, and incorporated its responses in a ruling related to the guardianship of a minor. The Constitutional Court of Colombia ruled that AI should not substitute human rationality in decision-making and noted that the judge failed to disclose the use of AI and justify its proportionality (*Red en Defensa de los Derechos Digitales*, 2024).

Argentina's Artificial Intelligence Policy (*Presidencia de la Nación*, 2019), explicitly addresses non-discrimination, stating, "AI actors should promote diversity and inclusion, ensure social justice, safeguard equity, and combat all forms of discrimination, in accordance with international law." Argentina's National Plan on Artificial Intelligence also underscores the non-discrimination principle, asserting that the development and use of AI in Argentina must prevent discrimination and protect human rights, and align with the UN SDGs, which are a guiding principle throughout the National Plan, aiming to incorporate perspectives of underrepresented groups through a multidisciplinary and multisectoral strategy, and specifically SDG 5, focused on gender equality (Presidencia de la Nación, 2019). Provision 2/2023 (*Boletín Oficial de la República de Argentina*, 2023), endorsing the "Recommendations for Trustworthy Artificial Intelligence," calls for AI stakeholders to minimize and prevent reinforcing or perpetuating discriminatory or biased outcomes throughout the AI systems' lifecycle, ensuring system fairness. Similarly, Argentina's National Artificial Intelligence Plan underscores the non-discrimination principle, stressing the importance of preventing automated systems from replicating or reinforcing discriminatory stereotypes or exclusion, thus promoting equity and inclusion in AI's development and use. It also points to the necessity of evaluating AI's impact on the productive system and the workforce to prevent discrimination and protect workers' rights.

In **Costa Rica**, the Bill for the Regulation of Artificial Intelligence, File 23771 (A*samblea Legislativa de la República de Costa Rica*, 2023) explicitly acknowledges the principle of non-discrimination in AI use. It prohibits decisions made by AI that discriminate based on race, gender, sexual orientation, religion, disability or other characteristics protected by current legislation (A*samblea Legislativa de la República de Costa Rica*, 2023). Additionally, Costa Rica's partnership with the IDB and its fAIr LAC initiative, referenced above, has led to the creation of a digital transformation programme aimed at enhancing digital capacities within public institutions in line with principles of AI ethics and responsibility. Moreover, Costa Rica has been proactive in strengthening its data protection laws and incorporating AI ethics into professional education, ensuring a comprehensive approach to AI governance and ethics in its workforce (Ulate Brenes et al., 2021).

In **Chile**, the legislative proposal Bulletin 15869-19 (*Cámara de Diputadas y Diputados*, 2023) explicitly references the principle of non-discrimination. Article 3 mandates that AI systems must not produce unjustified or disproportionate discrimination against specific individuals or groups. Chile's National Policy on Artificial Intelligence stipulates that AI should be developed and used in a manner that respects human rights and the safety of individuals, highlighting the protection of rights for underrepresented groups, such as children and adolescents, in matters related to AI. Further, Chile's National Artificial Intelligence Policy focuses on establishing ethical and responsible principles and guidelines for AI's development and use, aiming to protect human rights, ensure personal safety and prevent discrimination.

In **Peru**, Law 31.814 (*Ministerio de Justicia y Derechos Humanos*, 2023) promotes the use of AI for the country's economic and social development. The single article of the Preliminary Title of the law establishes the principles for the development and use of AI, including respect for human rights, including non-discrimination. Moreover, in its pursuit of ethical development for responsible AI, the law considers that ethics is a necessary and fundamental baseline to build a framework of responsibilities in the use of the systems that make up "Industry 4.0."

In **Panama**, Article 4 of Draft Law No. 014, Regulating Artificial Intelligence in the Republic (A*samblea Nacional*, 2023), which was introduced through a popular initiative, cites the principle of non-discrimination. Specifically, Article 4 declares that AI systems should not produce outcomes that discriminate against individuals or groups based on race, gender, sexual orientation, age, national origin or any other personal or social condition.

The **Dominican Republic** was the first Caribbean nation to regulate AI at the national level. In its national AI strategy, it cites the ethical and responsible adoption of AI as part of its core objectives. One of the strategy's key pillars is to ensure transparent governance, which emphasises the need to respect citizens' fundamental rights, update the data protection law, and address biases that might lead to discrimination. Additionally, the strategy highlights the crucial role of women in the development of AI, recognising their importance for the development, research and application of AI (*Estrategia Nacional de Inteligencia Artificial de La República Dominicana*, 2023).

The **Mexican** Parliamentary Gazette (*Gaceta Parlamentaria*, 2023) published a legislative proposal in its 30 March 2023 issue to regulate the ethical use of AI, aimed at minimising the risks associated with its everyday use, including preventing discrimination and ensuring equal opportunities. The bill reflects a broader understanding that, while AI can replicate and scale existing biases, it also holds the potential to identify and address discriminatory practices, urging a commitment to adapt existing legal protections against discrimination to address AI bias. The text also addresses non-discrimination within the context of AI, citing concerns related to bias and the informational self-determination of individuals.[2] Previously, in 2020, the Mexican government and external experts worked together to develop a proposal for an AI strategy that included a section on ethics and highlighted the need to protect human rights established in international law, such as freedom of expression, equality and non-discrimination, and privacy. The document also emphasized the vulnerability of specific groups to these technologies, specifically women and indigenous peoples (Oxford Insights, C Minds, and Mexican Government, 2020).

The analysis of AI regulatory approaches across the region reveals a concerted effort to embed principles of non-discrimination and bias prevention within the legal frameworks governing artificial intelligence. However, as Smart (2024) emphasised, "The mere prohibition of discriminatory practices, although necessary, might not be sufficient to address the complexities of AI-induced biases, which often emerge from deep-seated societal prejudices mirrored in the data and algorithms." The main challenge in the region, and globally, is to make bias provisions and precautions practical, enforceable and auditable, so that those using or being impacted by Ai systems and decisions can be sure that their rights and opportunities are not harmed by unaccountable, opaque systems that treat their data in ways that may lead to discrimination.

2 The term 'Information self-determination of individuals' is broadly defined to mean giving individuals control over information that pertains to them, and in which there exists a privacy interest.

4.2. Through technical means and AI audits

To make these regulations and principles enforceable and actionable requires developing technical standards and control and audit mechanisms to ensure that AI governance efforts translate into better protections for women who use or are impacted by AI systems.

Developing such standards and control mechanisms requires a robust understanding of how and why bias happens in AI systems and creating specific accountability mechanisms that address all instances where bias may emerge or be recorded. To date, most of the debate on de-biasing AI has focused on LLMs and foundation models and on how AI models incorporate bias from training data. The section below provides a broader discussion of the many "moments" of bias that can be found in an AI system and suggests that any AI regulation or guidelines must incorporate accountability tools for each of these bias moments.

All AI systems would benefit from improving representation and mitigating bias in training data, but bias in training data is only one of the moments when bias may be introduced in an AI logic. Even with unbiased training data, an AI system would identify outliers and eliminate them from the system when seeking to promote majority patterns. An AI system trained on unbiased or representative data would still tend to single out and eliminate minority patterns to increase the relevance of majority patterns.

Therefore, any effort to understand and tackle the bias problem must account for bias at three levels:

Bias in AI training

Bias in AI training occurs when the data used to train an AI model reflect existing prejudices, stereotypes or systemic inequalities present in society. The sources of this bias may be numerous, including:

- ***Biased training data:*** AI systems learn from large datasets. If the data used to train the model contain bias (e.g., racial, gender or socioeconomic), the AI will inherit and amplify these biases. This often occurs because historical data reflect societal inequalities. For instance, if past hiring decisions favoured one gender or race, an AI model trained on such data may replicate these unfair patterns in future predictions.

- ***Sampling bias:*** If the training data do not adequately represent the population or scenarios the AI will encounter, the model may develop biases. For example, a facial recognition system trained primarily on images of light-skinned males may struggle to correctly identify women with darker skin tones. This can lead to performance disparities, especially in more diverse populations.

- ***Labelling bias:*** Data labelled by humans can introduce subjective biases. If the individuals annotating data bring their own unconscious biases or societal stereotypes into the labelling process, the AI model may learn and reinforce these biases in its predictions.

Technical bias

Technical bias occurs when AI models reproduce and amplify bias. This can happen at different levels and be the consequence of different dynamics, including:

Overfitting to skewed data: If an AI system is trained on imbalanced datasets, where certain categories (such as gender or race) are over- or under-represented, it can lead to skewed results. For example, if most of the data on medical conditions are from men, the system might underperform in diagnosing or treating women.

- ***Aggregation bias:*** Aggregation bias in an AI system occurs when data from diverse groups or populations are combined into a single dataset without accounting for the differences within those groups. This can lead to a model that performs well on average, but fails to accurately represent or predict outcomes for specific subgroups. For example, if an AI model is trained on aggregated data from multiple demographic groups without considering their unique characteristics, it might produce biased results that Favor the majority group (often men). This can mask important variations and lead to unfair or inaccurate predictions for minority groups.

- ***Measurement bias:*** This is the result of a mismatch between training and target data types and tools. It can happen, for instance, when an image recognition system is trained on images with a given resolution, when real-life inputs have lower resolution.

Implementation bias

Once an AI model issues a recommendation, a human or an additional data system takes the next step. In high-risk systems, such as those used in health or hiring, HR professionals or doctors typically make the final decision based on an AI input. Sometimes even if there is no "human in the loop" budgetary or other constraints can mean that the final impact of an AI system is not the same as the output. Implementation bias is specifically salient in predictive and identification AI systems. It is also often neglected in AI regulation, which tends to focus on design and data choices before a system is deployed in real-life settings. Examples of implementation bias include:

- ***Automation bias:*** The propensity for humans to favour suggestions from automated decision-making systems and to ignore contradictory information made without automation, even if it is correct. This moment of bias is particularly relevant when systems do have "humans in the loop" and may explain differences between projected and actual impacts.

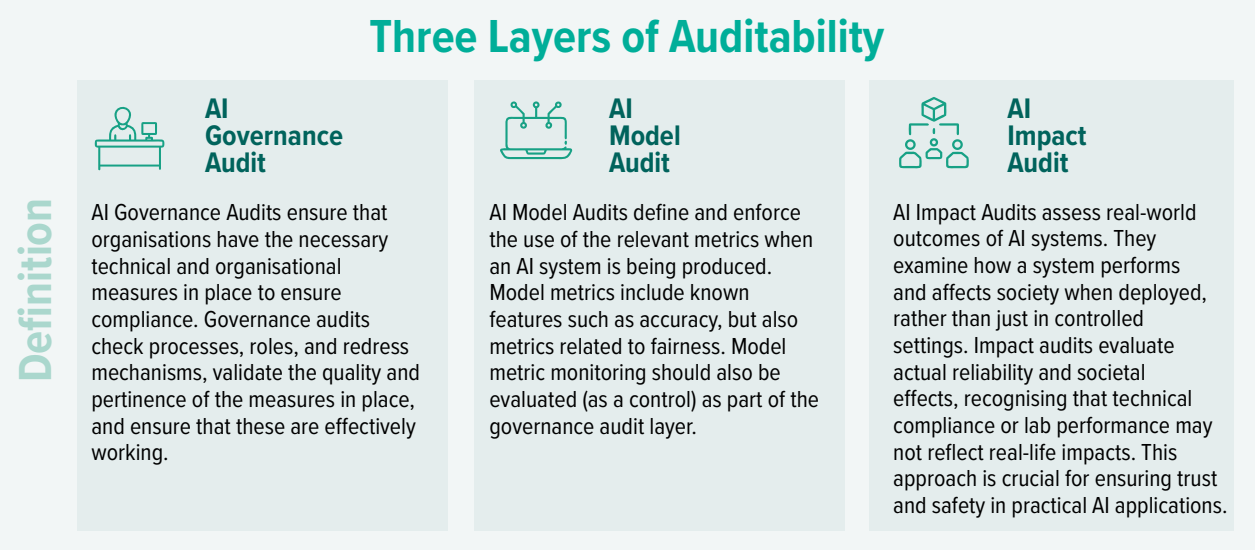
- ***Deployment bias:*** This form of bias captures all instances where organizational, budget, technical or training issues may have an impact on how decisions are ultimately made and the consequences they may have for those affected. A specific case of deployment bias may occur when systems identify risks that cannot be acted upon (earthquakes when there are no resources to alert the population or the specific needs of a person when they cannot be fulfilled).

- ***Accessibility bias:*** This is used to describe cases where structural discrimination and information/power asymmetries impact who can use a system effectively. Accessibility bias may be due to disability or low AI literacy, or the lack of efforts to ensure that all those who could benefit from an AI system are aware of its existence and ways to use it. Accessibility bias would preclude specific individuals or groups from accessing a system or being represented in the data.

Understanding the many ways in which bias can penetrate AI systems and processes is crucial to developing mitigation strategies that can ensure that automation does not lead to an erosion of established rights. Depending on the source of bias, the mitigation measures to be implemented may be technical or organizational. One-size-fits-all solutions do not exist because AI bias will always be contextual, nuanced and complex.

Furthermore, and as the International Association of Algorithmic Auditors (IAAA) suggests, AI inspections should distinguish between three "layers" of control and auditability (International Association of Algorithmic Auditors, 2024):

Figure X. Three Layers of Auditability.



Source: IAAA.

Any effort to properly regulate AI systems, and to do so in ways that focus on protecting people from negative outcomes and generate incentives for the industry to invest in the trust and safety of AI systems, will require specific mechanisms to monitor and oversee AI bias throughout the AI life cycle, including training, technical processing and implementation, and foresee mechanisms for auditing AI impacts both before and after a system is operational.

In addition, while AI has risks, it also offers the potential to increase transparency and accountability. Unlike many traditional decision-making processes, which can be opaque, AI systems can be analysed, audited and refined over time. This visibility can help expose hidden biases and systemic inequalities within datasets. Moreover, because AI outputs are measurable, the impact of these systems on different demographic groups can be tracked, offering opportunities to correct discriminatory patterns and develop more equitable algorithms. With careful design and deployment, AI can shift from a source of bias to a tool for detecting and mitigating it, fostering a more accountable and just environment.

The ability to combine societal concerns, legal principles and technical oversight mechanisms is key to ensuring and promoting responsible AI in the LAC region and globally and ensuring that AI has a positive impact on people's lives and society.

V. The AI Economy: Opportunities and Challenges for LAC

Previous sections covered issues related to AI risks, projects and policies. That discussion focused on how structural dynamics related to women in the region will have an impact on any system developed with data from and for the LAC population. Ensuring that women's reality improves is key not just to training AI systems, but to ensuring equal access to rights and opportunities, and to developing thriving democracies and diverse economies. However, the opportunities for LAC in the AI debate will also depend on the ability of countries to develop a voice and strategies that position the regional AI and startup ecosystem globally and address the structural issues that prevent the emergence of a strong regional voice.

While most conversations on AI innovation are focused on the US, China and, to a lesser extent, Europe, AI systems are quickly being integrated into processes and services all over the world. The AI economy is growing strongly in many regions outside China and the US. According to UNDP, AI is forecast to contribute up to 5.4 per cent of Latin America's GDP by 2030, equivalent to approximately US$ 0.5 trillion. As a reference, the percentage of North America's GDP is estimated at over 14.5 per cent in the same period (Muschett and Opp, 2024). This lag is attributed to the region's "limited public investment in science and technology, insufficient skill levels necessary to embrace AI, and a highly informal economy dominated by small enterprises" (Ibid.). The Government AI Readiness Index of 2023, which analyses 39 indicators across three pillars–government, technology sector, and data and infrastructure - positions LAC in 6th place out of the nine regions scored (Ibid.). Five countries - Brazil, Chile, Uruguay, Colombia and Argentina–stand out with scores between 57.72 and 63.70 points (Ibid.). These countries perform particularly well in the government pillar, with four out of the five regional leaders placing within the global top 40 in this category.

However, the region lags in the Innovation Capacity dimension of the Technology Sector pillar, ranking nearly 10 points below the global average. In the Technology Sector pillar, Brazil leads the region with a score of 45.08, maintaining a roughly 5-point lead over Chile (40.90) and Mexico (39.55), which rank second and third, respectively (Oxford Insights 2023). According to a report by the Association for Private Capital Investment in Latin America (Baker et al., 2023), 2021 external investment in Latin American **fintech** totalled $6.1 billion, with 258 transactions.

This section presents data on digitalisation and access to digital infrastructure, the startup ecosystem, and the labour and education context in LAC to highlight the opportunities and challenges that the region faces in developing a meaningful AI economy that allows for active participation at the global level. Issues related to bias or the disparate impact of AI in the Global South will not be visible or addressed unless new regions take an active part in the global innovation ecosystem.

The data show is a strong regional positioning in AI banking solutions and, specifically, a strong positioning of women as CEOs of some of the leading fintech startups. At the same time, uptake of online banking solutions seems to be greater among women than men in many countries, constituting a strong indicator of the ability to progress financially. Making the most of the region's current strengths, and investing in the real needs and specificities of the AI ecosystem in LAC, is crucial to positioning AI gender bias as a concern and innovation priority.

Digitalisation and access to digital infrastructure

Access to robust infrastructure is crucial for a country's competitiveness in AI globally because it enables the processing and analysis of large datasets, which are essential for training advanced AI models. However, only five of the region's largest economies–Brazil, Chile, Colombia, Peru and Mexico–have **5G** commercial capabilities (Muschett and Opp, 2024).

While Latin America has experienced significant advances in digitalisation over the past decade, challenges remain in achieving equitable access and usage across the region. Currently, about 74.3 per cent of the LAC population has broadband access, but only 37 per cent have the necessary internet connections at home required to study, work or complete online transactions (Muschett and Opp, 2024). In addition, countries such as Uruguay and Chile have higher access rates, while others, including Guatemala and Honduras, lag behind.

The overall figures also hide a significant urban/rural, income and ethnic digital divide: while nearly three out of four people in cities have access to broadband coverage, this is the case for only one in four rural inhabitants (Muschett and Opp 2024, ECLAC et al., 2023a). Internet access in urban LAC households is double that of rural ones (74.8 per cent vs. 35.8 per cent). In some countries, less than 20 per cent of rural homes are connected (UNDP Latin America and the Caribbean, 2024)3 and more than 200 million indigenous people of working age lack an internet connection (UNESCO, González Zepeda, and Martínez Pinto, 2024). Interestingly, usage rates between men and women are very similar, at approximately 77 per cent (World Bank, 2022).

Some positive developments have occurred: the transaction volume of fully online digital banks in LAC grew from $17 billion in 2017 to $123 billion in 2021. By 2021, digital banks had more than 30 million users, predominantly in Brazil and Mexico (Baker et al., 2023). This number remains small compared to the U.S., which was projected to have 148 million digital banking customers in the same year (N26 and Accenture 2021), but it is growing significantly. Regarding digital wallet ownership, Argentina leads with 49 per cent, followed by Colombia (23 per cent), Chile (17 per cent), and Mexico (12 per cent) (Díez et al., 2023). These numbers are still lower than in the U.S and Europe (Claypool, 2023), but in countries such as Guatemala, Panama and Costa Rica, women use digital banking solutions more than men (*Revista Summa*, 2024). And according to IDB Invest (2023), in areas with access to digital payments and mobile money, women are 9 per cent less likely to live in poverty and their consumption of goods and services is 18.5 per cent higher than in areas with limited access to digital payment services.

The startup ecosystem

According to Failory (2024), LAC shows remarkable dynamism in the startup ecosystem. The region can claim 26 unicorns, operating across sectors including fintech (C6 Bank, Creditas, Uala, Clara, Bitso, Clip, Neon, Konfio and EBANX), e-commerce and retail (Kavak, Rappi, Nuvemshop, Olist, Merama, MadeiraMadeira and Movile), logistics and supply chain (Loggi, LifeMiles and CargoX), entertainment (Wildlife Studios), health and wellness (Betterfly and NotCo), and IT (Unico and CloudWalk). Brazil hosts 15 unicorns - the largest number in the region, 15 (QuintoAndar, C6 Bank, Creditas, Nuvemshop, Wildlife Studios, Loft, Unico, CloudWalk, Inc., Loggi, Olist, Neon, MadeiraMadeira, CargoX, Movile and EBANX), but also the highest valued (with 6Bank valued at

3 However, countries like Chile and Panama have achieved rural internet access levels comparable to the OECD (UNDP Latin America and the Caribbean, 2024).

$5.05 billion in 2022 and Kavak valued at $8.70 billion in 2020), followed by Mexico with six (Kavak, Bitso, Clip, Konfio, Merama and Clara), Chile and Colombia with two each (NotCo and Betterfly, and Rappi and LifeMiles, respectively), and Argentina with one (Uala).

Fintech is main sector in the regional startup ecosystem, with several companies valued at close to $20 billion. This positions LAC as a global leader in this space, with one-third of fintech enterprises led by women. Colombia, Mexico and Brazil have the highest numbers of women-founded fintech companies, while Uruguay leads proportionally, with 47.4 per cent of its fintech enterprises women-led (Cárdenas, 2022). In 2021, one-quarter of fintech startups in the region focused on digital payments and remittances, followed by about one-fifth focusing on alternative financing (lending) platforms, and about one-sixth providing services related to enterprise technologies for financial institutions including scoring, identity services and fraud detection (Baker et al., 2023).

The startup landscape in the LAC region highlights strong innovation potential and a developing investment and support network, though significant imbalances exist across the region. Notably, the fintech sector—arguably the region's most dynamic area of tech innovation—has comparatively better female representation, although it remains far from achieving gender parity. Data even show that in some countries, women are more frequent users of fintech services than men. This suggests a promising area of specialisation, in which women can increasingly lead as both business founders and users, helping to shape the region's tech landscape.

The labour market, education and upskilling

According to the IADB, an analysis of AI's impact on occupational exposure across 23 major job categories in LAC reveals that sectors such as office and administrative support, production, and sales are the most exposed to AI disruption. According to this study, 16 million jobs may be at risk of AI exposure in Mexico alone. Across the broader LAC region, estimates suggest that 84 million jobs could be exposed to AI within a year, with this number projected to reach 114 million in five years and 132 million in 10 years. AI automation may also significantly disrupt sectors such as agriculture, manufacturing and transportation. In countries including Argentina and Brazil, where agriculture is a key sector, AI-driven precision farming is already reducing the need for manual labour while improving productivity (OECD, 2023). And, as pointed out above, some institutions anticipate that administrative personnel, secretaries and human resources workers, who are predominantly women, are particularly susceptible to automation due to the repetitive and structured nature of tasks (Vaca Trigo and Valenzuela, 2022).

However, AI also offers significant potential for job creation in emerging fields. According to the World Economic Forum (2023), the adoption of AI could generate new roles in areas such as cybersecurity, data science and AI ethics, necessitating reskilling efforts across LAC. The International Labour Organization (2024) projects that 8 per cent to 14 per cent of jobs in the region could benefit from productivity gains due to AI.

Nonetheless, predictions of AI's impact on jobs have evolved significantly over the years, often reflecting shifts in both technology and understanding of its societal implications. Early projections, especially in the 2010s, tended to be much more catastrophic. Reports like the one from Frey and Osborne (2013), which suggested that 47 per cent of U.S. jobs could be automated within two decades, sparked fears of widespread job loss and economic disruption. However, over time, these projections have become more nuanced. Studies in the later 2010s and 2020s began to emphasize not only the jobs that might be displaced but also the potential for new job creation, particularly in AI-related

fields, data science and automation management. Some recent work also calls for a more nuanced and location-specific analysis of the impact of AI on work and workers, as Generative AI may be impacting higher skilled workers more than initially anticipated. Benítez-Rueda and Parrado (2024), for instance, highlight that in Mexico, medium-skilled workers in formal, middle-income jobs may be particularly vulnerable to AI. Interestingly, informal jobs in Mexico may be less exposed to AI-related risks, offering some protection from displacement.

Governments in countries including Chile and Uruguay have started to address these issues, exploring strategies both to promote AI adoption and invest in workforce resilience through training programs (OECD, 2023). Even so, many Latin American countries' educational systems are struggling to keep pace with rapid technological change, particularly in rural and underserved areas. This educational gap risks deepening inequality, as those with higher skills will be better positioned to take advantage of AI-driven opportunities, while lower-skilled workers may face displacement and limited re-employment options.

The AI economy in LAC shows how the innovation ecosystem has, indeed, inherited some of the weaknesses of the overall economy, but also points to unexpected strengths. The role of women in the fintech sector, and the role of technology and AI in providing avenues out of poverty for women, show how the region can develop an AI strategy that focuses on women and their needs, finding ways to transform the legal commitments outlined in the many regulations and guidelines reviewed above into real innovative practices that overcome many of the current dynamics of (biased) AI.

VI. Conclusions and Recommendations

The main goal of this report has been to place issues of AI gender bias in the broader context of AI in general, including risks and technical components, and of AI in LAC; specifically, existing initiatives and programs, regulatory efforts and the AI economy. This complex narrative has been chosen because technical developments do not exist in a void: the technologies that societies create reflect their time, social dynamics and level of progress. With data being key to the training and operation of AI, examining these socio-technical interactions is key to identify challenges and opportunities.

The picture that emerges—especially concerning gender bias in AI—is complex. The region boasts a vibrant AI ecosystem and multiple initiatives promoting the use of AI solutions in public and private settings. The data also show that women are making significant progress, as they are increasingly gaining a presence in spaces of responsibility and visibility, with their rates of participation in formal education and STEM programs particularly promising for the future. In addition, women play a remarkable role in the region's most salient startup sector–fintech–and are also avid users of digital solutions.

Yet for all these advances and efforts, the data show that any system trained with gender-specific data in the LAC region will inherit gender and other biases. The lack of awareness of the existence of AI systems impacting the life chances of women in LAC means that the policies and organisations that exist to protect women's rights may not even know how and where those rights are being eroded, or learn only after it is too late and AI systems have excluded women from key opportunities. The data show that, even given all the references to human rights, gender issues and the need for protection in AI policies, insufficient action has been taken to effectively protect women from AI-related risks and bias.

On a more general level, regional imbalances and a perceived lack of strategic direction at the regional level emerge as key challenges that make it difficult for the region and its inhabitants to claim a space in the global AI debate, which could be an opportunity to situate gender equality among the priorities of AI development.

However, when confronting AI and gender bias, principles and abstract commitments are not enough. They must be translated into concrete actions. Technically, this means ensuring that AI training datasets are diverse and representative, with a focus on identifying and mitigating bias during data collection and processing. Fairness metrics, bias detection tools, and techniques such as adversarial debiasing and fairness-aware algorithms must be used to evaluate and correct disparities in how AI systems treat different gender groups.

While developers are responsible for implementing these technical measures, governments play a crucial role in promoting gender fairness in AI. They can mandate transparency requirements through specific reporting standards, mandating companies to disclose the demographic composition of training datasets and the outcomes of their models on different groups. Governments can also incentivise research and development of bias mitigation tools and encourage collaboration between the AI industry and gender equality experts. Public funding should prioritise projects exploring the intersection of gender and AI, while regulatory bodies enforce standards, such as requiring gender and bias audits of AI systems before and after deployment.

Governments and regulators must create incentives for industry to invest in these areas. High-level ethical commitments are not enough; there must be a shift from principles to practices. Human rights considerations should be embedded in the technical specifications of AI systems, with practical tools to measure the impact of AI on human rights. Regulatory frameworks must evolve to ensure that companies move beyond symbolic pledges and incorporate accountability mechanisms that allow for ongoing monitoring of AI's social impact. Clear guidelines, industry standards and transparency requirements should be established to ensure rigorous monitoring of AI systems before and after deployment.

The LAC region has a unique opportunity to carve out a space in the global AI landscape by focusing on its strengths and some of the current gaps in the AI debate. Those strengths include the existence of an expanding group of women who are able to grow and achieve new professional heights in the startup ecosystem, of young girls who find their calling in technical studies and STEM programs, and of women in general who use digital solutions to access services and opportunities. The current gaps lay in the need to transform responsible AI from a principle into a practice.

While AI development is often dominated by a few tech giants, LAC countries can distinguish themselves by prioritising fairness, accountability and ethics in practice. By ensuring that AI systems in the region are not biased, manipulative, untrustworthy or unsafe, LAC nations can set a global standard for responsible AI. Governments can adopt robust regulations that prioritise transparency, mandating public audits of AI systems for biases and risks. Collaborations among academia, industry and civil society can drive the development of bias monitoring and mitigation tools, fostering more trustworthy AI applications tailored to the LAC context.

Moreover, by embracing responsible AI, LAC countries can amplify their voices regarding the AI dynamics that uniquely impact the region, such as the environmental costs associated with data processing and data centres, the lack of cultural and linguistic diversity in AI, the absence of voices from the Global South in forums where AI is discussed, or the need for jurisprudence that protects women victims and survivors of digital violence.

The challenges and possibilities of a fast-paced technology such as AI are manyfold and not straightforward, but the future is not yet written. The current dynamics of AI bias and exclusion, while pervasive, are not inevitable. Just as vaccines were not always subject to clinical trials and cars did not always have seatbelts, it takes time for society to recognize and address the darker sides of innovation. In LAC, women may very well be at the centre of accelerating a rights-based AI agenda as impacted communities, but also as representatives of the new spaces made possible by the possibilities of technology.

We stand at a critical juncture, where the harms of AI can still be mitigated and its potential redirected toward a more just and equitable future. There is a future where AI contributes meaningfully to improving the lives of all–where it works for women, protects the environment, and upholds human rights. But this future will not come about on its own. It will require bold ideas, committed action, and a collective effort across governments, industries and communities to harness AI's power responsibly.

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