

# Algorithmic Discrimination: The Impact of Artificial Intelligence on Human Rights in Less Developed Countries and the Question of Structural Inequalities in International Law

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## Abstract

The global advancement of artificial intelligence (AI)-based technologies, while creating extensive opportunities, has also generated novel challenges for human rights, particularly with respect to algorithmic discrimination. This form of discrimination, which arises from biased data and inequitable algorithmic design, has more profound consequences in less developed countries, as AI systems often disregard the cultural and social contexts of these societies, thereby exacerbating existing inequalities and increasing the vulnerability of marginalized and disadvantaged groups. This study aims to examine the impact of algorithmic discrimination on human rights in less developed countries and to analyze its relationship with structural inequalities within the international system. Employing a descriptive-analytical approach and drawing on selected case studies, the research examines the direct and indirect effects of inequitable uses of AI technologies on the human rights situation in developing countries. The findings indicate that developed countries, through their control over advanced technologies and restrictions on access to them, contribute to the emergence and persistence of technological inequalities that may manifest in the form of algorithmic discrimination. This process not only leads to violations of the economic, social, and cultural rights of vulnerable groups but also contributes to the reproduction of unequal structures of global power within the technological domain, thereby impeding the realization of global justice in the digital sphere.

**Keywords:** algorithmic discrimination, artificial intelligence, human rights, development, less developed countries.

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## 1. Introduction

In this study, algorithmic discrimination is conceptualized as one component of broader data-driven algorithmic discrimination whose roots extend beyond the limited domains of technology and algorithms. This conceptualization indicates that algorithmic discrimination is not merely a consequence of how artificial intelligence technologies are designed and programmed; rather, it is more deeply connected to structures of global inequality and international law. Indeed, insofar as developed countries, which are the principal creators and developers of artificial intelligence technologies, do not provide less developed countries with full access to these technologies, an imbalance and a digital divide emerge that manifest themselves in the form of algorithmic discrimination. Contrary to the prevailing approach that confines algorithmic discrimination to

technical issues and algorithm design, the present article analyzes this phenomenon within the context of global power relations and economic and social inequalities. In particular, the author argues that algorithmic discrimination is not merely the outcome of technical biases or algorithmic design but is rooted in structures of global inequality and power relations between developed and less developed countries. Algorithmic bias may, in fact, result in algorithmic discrimination, but not every instance of algorithmic bias necessarily produces discrimination. From the author's perspective, algorithmic discrimination constitutes a global and political problem arising from unequal access to advanced technologies. In other words, at the global level, this form of discrimination contributes to widening the digital divide and reproducing inequalities between developed and developing countries.

The aforementioned discrimination observed at the global level not only intensifies economic and social inequalities but also reinforces existing structures of global power. Algorithms and artificial intelligence, which are predominantly products developed by technologically advanced countries, consciously or unconsciously incorporate the preferences, cultures, and values of those countries and are subsequently deployed in less developed societies. Accordingly, the biases embedded within these algorithms systematically and structurally contribute to the reproduction and reinforcement of global power relations.

Within this framework, algorithmic discrimination is not merely a technology-based issue but has become an important indicator of global inequality, whereby less developed countries, owing to their limited access to resources, data, and advanced technologies, are exposed to erroneous and harmful forms of decision-making. This situation largely reproduces a cycle of dependency and domination in which developed countries retain technological influence over developing countries, with potentially serious implications for human rights and global justice.

## **2. The Concept of Algorithmic Discrimination**

Algorithmic bias differs from algorithmic discrimination. The former describes “systematic and repeatable errors in a computer system that generate ‘unfair’ outcomes, such as ‘favoring’ one category over another in ways that differ from the intended function of the algorithm” (Cossette-Lefebvre & Maclure, 2023). Algorithms do not lend themselves to a single simple definition; however, they may generally be understood as sets of instructions that determine how programs read, collect, process, and analyze data in order to generate an output. Advances in computer hardware have dramatically increased the capacity to process, store, and transmit data (Chen, 2023). These developments have facilitated the design and adoption of technologies such as machine learning and artificial intelligence. By analyzing and processing data, algorithms constitute the underlying infrastructure of search engines, social networking websites, recommendation systems, online retail platforms, internet advertising, and numerous other applications.

In the present study, algorithmic bias is regarded as only a limited component of broader algorithmic discrimination. In other words, insofar as developed countries that create artificial intelligence technologies do not make the capabilities and knowledge associated with these technologies available to less developed countries, an imbalance will inevitably emerge that, in practice, gives rise to algorithmic discrimination. Algorithmic discrimination extends beyond the technological sphere and systematically affects international law as well. This phenomenon reflects the structural inequality between developed and developing countries, which is intensified through artificial intelligence and digital technologies and contributes to the reproduction of dominant global power structures. Accordingly, with respect to the similarities and differences between algorithmic bias and algorithmic discrimination, “algorithmic discrimination refers to a situation in which an algorithm unfairly harms or discriminates against a group of individuals” (Cossette-Lefebvre & Maclure, 2023). Such discrimination may result from algorithmic bias, although the defining concern in this context is the production of inequality or differential treatment among groups. Discrimination may be intentional, for example where an algorithm is specifically designed to benefit a particular group, or it may arise from biases embedded in the underlying data. Accordingly, “algorithmic bias refers to systematic errors in algorithmic decision-making that may arise from incomplete data or flawed algorithmic design” (Peters, 2022). Such errors may occur either unintentionally or consciously. Algorithmic discrimination, by contrast, refers to unfair and discriminatory outcomes that may arise from algorithmic biases, defective design, or even specific intentions embedded in the development of algorithms. Discrimination in this context means imposing disadvantages on a particular group because of its specific characteristics.

Based on the foregoing discussion, algorithmic discrimination, as a manifestation of structural inequality, plays an important role in reproducing the dominance of developed countries over developing countries. Within the contemporary international system, developed countries, through their command of advanced technologies, utilize artificial intelligence tools and data-driven algorithms to expand their economic, political, and cultural influence. These technologies, which play a significant role in political and economic decision-making, have directly and indirectly challenged the national sovereignty of developing states. One of the principal factors underlying this inequality is the dominance of technologically advanced countries over global data resources. Data, as a strategic asset, provide the capacity to shape policies and decision-making processes. Developing countries, which have limited access to such resources, effectively become consumers of technologies produced in Western countries, thereby reinforcing their structural dependence. At the same time, this technological monopoly widens both the digital and economic divides and deprives less developed countries of opportunities for sustainable growth and development.

### 3. Artificial Intelligence and Human Rights

Artificial intelligence has become an increasingly significant component of everyday life. Technology can serve as a powerful instrument for the advancement of human rights. As John F. Kennedy is frequently quoted as stating, “the rights of every man are diminished when the rights of one man are threatened” ([Harishbhai Tilala et al., 2024](#)). Nevertheless, artificial intelligence also poses substantial challenges. On the one hand, AI can contribute to the promotion of human rights and facilitate access to essential human services; on the other hand, its improper or uninformed use can constitute a serious threat to fundamental human rights.

One of the most significant threats that artificial intelligence poses to human rights concerns the large-scale collection and analysis of personal data. AI systems with access to user data can extensively collect and process individuals’ sensitive and private information ([Taghizadeh & Kheradmandnia, 2024](#)). In the absence of adequate oversight, such practices may result in violations of privacy and the misuse of personal information. Thus, although artificial intelligence promises forms of intelligence that may surpass certain human capabilities, the reality is that, as a human-created instrument, it is susceptible to problems analogous to those encountered in human decision-making. Many of these problems involve ethical dilemmas that may undermine the use of artificial intelligence in the protection of human rights. Any institution seeking to employ generative artificial intelligence should therefore do so responsibly. The first challenge concerns data bias. AI models are only as reliable as the data on which they are trained; where such data are biased or incomplete, AI-generated predictions may be inaccurate or, more seriously, discriminatory. Such misconceptions or errors may lead to false accusations or the failure to identify warning signs among populations that are inadequately represented in training datasets. In the context of human rights, such errors can have devastating consequences.

A second concern relates to transparency. Artificial intelligence algorithms, particularly those based on machine learning, frequently operate as “black boxes,” meaning that it can be difficult to determine precisely how they have reached particular conclusions. This lack of transparency can undermine users’ confidence in employing such algorithms for human rights monitoring. Human rights advocates may hesitate to trust decisions generated by these systems, particularly where they cannot fully understand or explain those decisions or the grounds on which they are based. This problem is particularly serious in relation to generative AI models, which may unintentionally disseminate misinformation or misunderstandings, especially in politically sensitive environments. These shortcomings are not necessarily insurmountable. Greater care in the training and use of AI models, particularly those designed to identify human rights violations, may make it possible to develop fairer and more balanced AI tools. Nevertheless, any artificial intelligence system used in the field of human rights protection must remain subject to robust ethical and human oversight in order to prevent harm. The following discussion therefore examines the relationship between artificial intelligence and human rights within the broader framework of international law and the digital divide between developed and less developed or developing countries.

#### 3.1. Artificial Intelligence in the Wrong Hands

Artificial intelligence in the wrong hands can be used for surveillance and the suppression of dissent, potentially resulting in further human rights violations. Facial recognition technology, for example, was initially developed for security purposes

but has subsequently been repurposed in certain countries for mass surveillance and the targeting of minority groups. This contradiction is particularly concerning: a technology that may ostensibly be employed to protect human rights can equally be used to undermine them. Facial recognition technology has emerged as a powerful instrument of public governance and security; however, its rapid expansion has generated substantial concerns regarding privacy, civil liberties, and ethical consequences (Wang et al., 2024).

The implementation of artificial intelligence must therefore be accompanied by rigorous ethical guidelines to mitigate these risks. This entails ensuring transparency in AI systems, conducting regular audits to assess fairness, and preventing their misuse for repressive purposes (Harishbhai Tilala et al., 2024). Moreover, cooperation among governments, human rights organizations, and artificial intelligence developers is essential to ensure the responsible use of these technologies. In recent years, the application of artificial intelligence in military conflicts has received increasing attention. The use of this technology in military contexts generates serious ethical concerns because delegating targeting decisions to automated systems increases the risk of losing meaningful human control over critical decisions, potentially escalating violence and increasing civilian casualties.

In recent years, particularly in regions such as the Middle East, the combination of religious ideologies and dependence on technology has contributed to increasingly mechanized and dehumanized approaches to warfare, in which extensive destruction may be justified through the logic of efficiency and security. Military operations conducted by Israel in Gaza and Lebanon in 2023 and 2024 were increasingly influenced by a technologically oriented logic of operational efficiency and, according to critical assessments, frequently departed from the principles of proportionality and distinction that are fundamental to international humanitarian law (Gray, 2024). Evidence indicates that Israel has employed advanced unmanned aerial vehicles such as the “Harop,” which possess autonomous target-detection and engagement capabilities (Batabyal, 2024). Such drones can automatically identify potentially suspicious activities, including concentrations of hostile forces, unusual movements, and strategically sensitive locations, and transmit the relevant information to command systems. These data may subsequently be processed through artificial intelligence systems to determine operational priorities automatically. Furthermore, Israel can use AI-based analyses to model behavioral patterns of Hezbollah forces and other adversarial groups, as reportedly occurred in operations against Hezbollah forces in 2024. Drawing on data collected from multiple sources—including intelligence reports, satellite imagery, and field analyses—such systems predict where and when attacks are more likely to occur (D’Evereux, 2024). These analyses enable Israeli forces to prepare and respond before an anticipated threat materializes. Against this background, it is important to recognize that artificial intelligence, as a transformative technology, possesses considerable capacity to advance science, improve human life, and promote societal development. However, the misuse of this technology, particularly by states possessing superior technological capabilities and pursuing geopolitical or military objectives, can constitute a serious threat to human rights, particularly in less developed countries. Considering the example of Israel’s use of artificial intelligence in the conflict in Lebanon, the present analysis focuses on the ways in which AI may be deployed to threaten or violate human rights and the extent to which the digital divide can place fundamental human rights at risk.

### *3.2. Technological Monopoly and Inequality in Access to Artificial Intelligence*

Developed countries, as the principal developers of artificial intelligence technologies, have largely retained privileged access to these technologies. This technological concentration creates an imbalance of power within the international system and prevents less developed countries from fully utilizing these technologies to strengthen their security or promote economic development (Aderibigbe et al., 2023). The monopolization of artificial intelligence technologies by advanced countries effectively deprives less developed countries of opportunities to develop and utilize such technologies. Whereas technologically advanced countries employ artificial intelligence to promote economic growth, improve healthcare services, enhance national security, and obtain other social benefits, developing countries often lack access to comparable technological resources because of infrastructural, financial, and technological constraints. Article 27 of the Universal Declaration of Human Rights stipulates that “everyone has the right freely to participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits” (Cerqueira, 2023). Technological monopolization, particularly in the field of artificial intelligence, may undermine the practical realization of this right for populations in less developed countries by restricting their

ability to utilize and benefit from technologies capable of contributing to their social, economic, and cultural advancement. Such restricted access to technology not only perpetuates poverty and underdevelopment but can also deepen inequalities at the global level. Artificial intelligence can produce significant improvements in fields such as medicine, education, and security. Developed countries use these technologies to improve the quality of life of their citizens, whereas less developed countries risk falling further behind. This unequal access to technology produces inequalities in access to opportunities. Article 1 of the Universal Declaration of Human Rights states that “all human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood.” This principle stands in tension with the disproportionate concentration of advanced technologies such as artificial intelligence in developed countries and the consequent limitations on access experienced by developing countries. Accordingly, inequality in access to artificial intelligence may undermine the principles of equality and non-discrimination, insofar as populations in less developed countries are denied comparable opportunities to benefit from these technologies and to participate effectively in their own development.

The concentration of artificial intelligence technologies and unequal access to them may significantly aggravate human rights challenges in less developed countries. These disparities are particularly evident in the fields of security, economic development, healthcare, education, and equality. Addressing these challenges requires the international community to establish more effective and justice-oriented forms of cooperation in the transfer of technology to developing countries and to prevent the emergence of systematically unequal conditions of technological access. Governments and international organizations should also develop legal frameworks capable of protecting human rights and promoting equality in access to emerging technologies.

### *3.3. Military Use of Artificial Intelligence Against Less Developed Countries*

It is widely argued that the international community is approaching another military revolution. Governments are now actively seeking to harness artificial intelligence in order to obtain military advantages. Accordingly, artificial intelligence has become an increasingly important subject for security scholars concerned with global developments (King, 2024). In recent years, AI technologies have increasingly been employed to enhance the accuracy and operational effectiveness of military attacks. Under such circumstances, less developed countries and territories already affected by instability and armed conflict may become environments in which advanced military technologies are tested or deployed. During the wars in Afghanistan, United States and NATO forces employed advanced technologies, including robots and unmanned aerial vehicles. These systems, incorporating artificial intelligence capabilities, were designed to identify and neutralize threats automatically. Such robots were used particularly in areas contaminated by landmines and explosive devices. Nevertheless, in many instances, especially in rural areas of Afghanistan, these systems were not capable of consistently distinguishing threats accurately or preventing harm to civilians. Because such technologies are deployed in complex combat environments characterized by incomplete data and operational uncertainty, the risk of damage to civilian populations and infrastructure is particularly significant in less developed countries. The deployment of advanced military technologies in such contexts may therefore contribute not only to human rights violations but also to the intensification of poverty, instability, and humanitarian crises.

It is evident that the use of artificial intelligence in military attacks can lead to serious threats to the rights to life and security of civilians. Although such attacks may be technologically sophisticated, their practical implementation may remain operationally complex and subject to considerable error, potentially resulting in extensive civilian casualties. In many developing countries where healthcare and legal infrastructures are weak, the consequences of civilian casualties may be particularly severe. Less developed countries, especially those affected by armed conflict and political instability, may effectively become large-scale testing environments for advanced military technologies. Particularly in prolonged conflicts, this situation can systematically undermine human rights and complicate accountability for technologically mediated harm. “Superiority in artificial intelligence has become a new dimension of competition among major powers, as its extensive use in warfare may alter the outcomes of armed conflict. In an environment characterized by the increasing development of AI-enabled weapons systems and the emergence of ‘gray-zone’ conflicts, the nature of warfare itself is changing. Where humans retain control over weapons equipped with such technologies, the fundamental principles of the law of armed conflict can still be observed; autonomous AI weapons, however, may depart from these principles. This reinforces the need for new United Nations regulations governing, and potentially prohibiting, the development and use of such weapons” (Batabyal, 2024). The

deployment of such technologies in conflict-affected countries and regions, including Syria, Yemen, and Afghanistan, has not only contributed to civilian casualties but has also coincided with widespread displacement and the expansion of refugee crises at the global level. Developing countries, particularly those with weak infrastructure or situated near conflict zones, often lack sufficient capacity to manage such crises, with serious consequences for the economic, social, and cultural rights of affected populations. These effects are particularly pronounced in regions already experiencing prolonged armed conflict.

#### *3.4. Ethical Challenges and the Absence of Accountability in the Use of Artificial Intelligence*

Artificial intelligence technologies controlled by developed countries are frequently deployed without sufficient transparency or accountability (Chaudhary, 2024). Although these technologies are ostensibly designed to “increase accuracy” and “reduce error,” the opacity of algorithmic decision-making processes and the difficulty of tracing errors generate serious ethical concerns. In military, judicial, and security contexts, the use of artificial intelligence without adequate accountability can have particularly serious consequences. For example, the deployment of drones and autonomous systems for military attacks without meaningful human supervision may result in human rights violations and civilian deaths. In such circumstances, determining responsibility for errors or possible violations of the laws of armed conflict may be difficult. Article 6 of the Universal Declaration of Human Rights states that “everyone has the right to recognition everywhere as a person before the law.” Where technologies such as artificial intelligence are used in military or security operations without adequate transparency and accountability, affected individuals or groups may encounter significant difficulties in identifying responsibility for erroneous decisions or human rights violations. Such deficiencies in accountability may therefore undermine victims’ rights to remedy and justice. One of the most significant challenges associated with artificial intelligence is consequently the absence of appropriate accountability mechanisms for algorithmic errors. For example, military drones guided by artificial intelligence may conduct erroneous attacks resulting in civilian deaths. One notable example concerns a United States drone strike in Afghanistan that mistakenly killed civilians. In that attack, an aid worker and nine members of his family, including seven children, were killed on August 29, 2021. The strike occurred amid evacuation operations following the Taliban’s rapid return to power (King, 2024). Under such circumstances, responsibility for errors involving AI-supported systems may be difficult to identify or enforce. Pursuant to Article 8 of the Universal Declaration of Human Rights, every person whose fundamental rights have been violated is entitled to an effective legal remedy. Accordingly, where AI-generated decisions result in violations of human rights, affected individuals should have access to mechanisms through which accountability may be pursued. In the absence of accountability for algorithmic errors, the right to remedy and the effective realization of justice may be undermined. Ethical challenges and deficiencies in accountability concerning the use of artificial intelligence can seriously threaten human rights in less developed countries. Among the most significant risks are algorithmic discrimination, opacity in automated decision-making, and the absence of meaningful responsibility for AI-related errors. Addressing these concerns and safeguarding human rights require effective and transparent regulatory and oversight mechanisms at both international and national levels in order to prevent inequitable uses of artificial intelligence and ensure the protection of human rights across jurisdictions.

#### *3.5. Threats to Human Rights: From Violations of Privacy to the Right to Life*

Although the use of artificial intelligence in real-world applications offers numerous opportunities for societies and industries, it also raises significant concerns regarding data privacy. “Data used in an artificial intelligence system are cleaned, integrated, and processed throughout the AI life cycle. Each of these stages can create distinctive threats to individual privacy and affect the ethical processing and protection of data” (Shahriar et al., 2023). Artificial intelligence is used not only in warfare but also for social control and practices that may infringe upon privacy. Developed countries can employ artificial intelligence to collect personal information, monitor populations, and potentially intervene in the domestic affairs of less developed states. China represents one of the most prominent examples of the use of artificial intelligence in systems of social control. Through the development of social-credit-related mechanisms, AI technologies have been used to monitor different dimensions of citizen behavior. Such systems may collect and analyze information concerning social conduct, financial behavior, and personal activities in order to assess individuals. Facial recognition cameras have also been extensively deployed,

enabling the automated collection of information relating to location, social interactions, and everyday behavior. Individuals subject to adverse classifications may encounter restrictions affecting certain public services, transportation, or employment opportunities. Such systems can directly affect freedom of expression and privacy because awareness of pervasive monitoring may discourage individuals from expressing views or engaging in conduct perceived as inconsistent with official policies.

Developed countries have also developed AI-enabled surveillance and spyware technologies that may subsequently be deployed in less developed countries. One prominent example is Pegasus spyware, developed by the Israeli company NSO Group. This software has reportedly been used to compromise mobile devices and monitor human rights defenders, journalists, and political figures in developing countries (Horak, 2023). Pegasus provides governments with the capability to monitor private communications and potentially exert pressure on political opponents and civil society actors. In Mexico, for example, the software has reportedly been deployed against journalists and human rights activists. Developing countries, because of technological vulnerabilities and insufficient cybersecurity capacity, may face considerable difficulty in responding effectively to such threats. Artificial intelligence, particularly when employed for pervasive surveillance and systems of social control, can therefore pose serious risks to human rights. From violations of privacy to restrictions on freedom of expression and challenges to national sovereignty, technologically advanced actors may employ these capabilities in ways that expand surveillance and political control. Cases involving social monitoring systems in China, the United States PRISM surveillance program, Israeli surveillance practices affecting Palestinians, and spyware such as Pegasus demonstrate the capacity of advanced digital technologies to reinforce inequalities and constrain human rights. Addressing such risks requires international regulation, greater transparency concerning the deployment of artificial intelligence, and the technological empowerment of less developed countries. Otherwise, these technologies risk becoming instruments of domination and systematic human rights violations.

#### 4. Algorithmic Discrimination and the Consolidation of Global Inequalities

Artificial intelligence algorithms are generally designed and trained in developed countries and frequently reflect the values, priorities, and cultural or political perspectives prevalent within those societies. This dynamic can contribute to algorithmic discrimination at the international level. In countries such as India and Nigeria, facial recognition systems largely developed by Western companies have demonstrated significant disparities in accuracy when identifying individuals with darker skin tones. For example, “in 2020, a Black American man named Robert Williams was wrongfully arrested after a facial recognition algorithm incorrectly identified him as a suspect” (Bergold & Kovera, 2024). When comparable algorithms are deployed in developing countries, they can contribute to wrongful arrests and undermine the right to a fair trial. Such systems have historically been susceptible to problems arising from training datasets that insufficiently represent diverse populations. When developing countries adopt these technologies, minorities and marginalized groups may consequently face greater exposure to algorithmic errors. Such outcomes can not only diminish confidence in judicial institutions but also reinforce pre-existing racial or ethnic inequalities.

Credit-scoring algorithms, such as models derived from systems developed by companies including FICO in the United States, are used to assess credit risk and support lending decisions. In countries such as Kenya and Bangladesh, comparable systems may categorize individuals as high-risk where substantial portions of the population lack access to formal banking services or sufficiently documented financial histories, thereby restricting access to credit. Such algorithms may be based on historical data and institutional assumptions derived from developed economies and therefore fail to adequately account for local conditions such as informal economic activity. Consequently, low-income individuals in developing countries may be excluded from formal financing mechanisms, reducing their opportunities to improve their economic circumstances. Such conditions can undermine sustainable development and equality of economic opportunity.

##### 4.1. *The Role of International Institutions in the Regulation of Technology*

In the contemporary world, where emerging technologies—including artificial intelligence, the Internet of Things, blockchain, and other advanced technologies—are rapidly expanding, international institutions play a vital role in developing regulatory frameworks and establishing international standards. Particularly in relation to emerging technologies, these institutions undertake various initiatives aimed at protecting human rights, preventing potential abuses, and promoting justice and fairness at the global level. The United Nations and its various bodies, together with UNESCO, play important roles in the

international governance of technology. These institutions emphasize the protection of human rights and human dignity in the digital environment and contribute to the development of ethical principles and international standards governing technology. The United Nations and its affiliated institutions seek to develop laws and regulatory frameworks grounded in human rights principles so that emerging technologies such as artificial intelligence are used in ways that safeguard fundamental rights. Such measures are especially important for less developed countries that may lack sufficient institutional and technological capacity to deploy these technologies fairly and effectively. The Universal Declaration of Human Rights establishes fundamental principles concerning human rights that remain relevant in the context of digital technologies and the internet. Article 19, in particular, protects freedom of expression and access to information, rights that acquire renewed importance with the expansion of information technology and internet-based communications (Iristian, 2024). UNESCO also adopted its Recommendation on the Ethics of Artificial Intelligence in 2021, thereby contributing to the development of international standards concerning the ethical use of AI technologies (van Norren, 2023).

The European Union, as one of the leading actors in the regulation of emerging technologies, has established stringent standards concerning the protection of personal data, algorithmic discrimination, and transparency in the use of artificial intelligence. Particularly in the area of privacy protection, the European Union has played a leading regulatory role through the General Data Protection Regulation. The GDPR, which is binding upon European Union Member States, regulates the collection, use, processing, and storage of personal data. It safeguards individuals' rights regarding access to their personal information, rectification, and erasure. The European Union has also developed specific regulatory frameworks for artificial intelligence with the objective of promoting ethical and equitable use of these technologies. Such frameworks place particular emphasis on preventing algorithmic discrimination and promoting transparency in automated decision-making. European Union regulations are therefore highly significant for the protection of human rights, particularly the rights to privacy and data protection. These frameworks can serve as regulatory reference points for other jurisdictions seeking to govern emerging technologies and protect citizens against technological misuse. The Organisation for Economic Co-operation and Development, as an international institution promoting economic, social, and environmental policy cooperation among developed and developing countries, has likewise emphasized the governance of technology and artificial intelligence. Through international principles and policy recommendations, the OECD seeks to facilitate fair and ethical uses of emerging technologies at the global level. In 2019, the OECD adopted principles concerning responsible artificial intelligence that emphasize transparency, accountability, fairness, and respect for human rights. These principles encourage participating countries to shape their AI policies in ways that respect human rights and ethical standards. The OECD principles emphasize the development and application of technology in accordance with human rights, non-discrimination, and fairness. Such principles may provide useful guidance for less developed countries seeking to establish national regulatory policies concerning emerging technologies.

Accordingly, international institutions perform an indispensable function in the regulation of emerging technologies. Through the development of international principles and standards, these institutions can assist both developed and developing countries in using new technologies ethically and equitably. International cooperation in this field can contribute to narrowing inequalities and the digital divide and can strengthen social and economic justice at the global level. Conversely, the absence of clear and effective regulatory mechanisms may facilitate extensive technological misuse, human rights violations, and the aggravation of existing inequalities. Appropriate regulation and effective responses to the ethical and human rights challenges associated with emerging technologies are therefore essential to ensure that their benefits are distributed more equitably at the global level and that potential abuses are prevented.

#### *4.2. Less Developed or Developing States: Efforts Toward Agency*

The global adoption of artificial intelligence is accelerating, reflecting the transformative potential of this technology. Nevertheless, adoption remains highly uneven, with low-income countries lagging considerably behind. Less developed countries face numerous challenges and structural barriers that impede the appropriate and equitable use of artificial intelligence technologies (Khan et al., 2024). Whereas developed countries, as the principal producers and owners of these technologies, utilize them to strengthen their economic, political, and military power, less developed countries must, on the one hand, obtain meaningful access to such technologies and, on the other, effectively address algorithmic imbalances in order to prevent

violations of human rights. In this regard, governments of less developed countries can undertake several key measures to address algorithmic inequalities and discrimination. Such measures not only contribute to the protection of human rights within their territories but can also promote greater balance in the global utilization of emerging technologies.

One of the most significant challenges in this domain is the absence of adequate infrastructure for the development of, and education in, advanced technologies. Developed countries benefit disproportionately from artificial intelligence because of their greater access to financial resources, leading universities, and major technology companies. The United States and China, for example, are among the leading countries in this field and have made substantial investments in research and development. By contrast, developing countries such as Iran face considerable challenges in obtaining access to advanced AI education and technological capacity. To address these inequalities, governments in less developed countries should increase investment in universities and research centers specializing in emerging technologies. Kenya, as one illustrative example, has sought to reduce this gap through initiatives associated with the “Silicon Savannah,” which promote education and the development of specialized human resources in digital technologies and artificial intelligence. Such initiatives can help developing countries establish domestic capacity for the production and adaptation of artificial intelligence technologies while reducing technological dependence on developed countries.

Another major challenge concerns insufficient or restricted access to advanced technologies. Developed countries, supported by major corporations such as Google, Amazon, and Microsoft, remain at the forefront of artificial intelligence development. Developing countries, by contrast, frequently lack access to these technologies because of financial and infrastructural limitations. Afghanistan and Sudan, for example, face substantial difficulties concerning access to the internet and digital technologies, which can impede the effective use of artificial intelligence. Governments in less developed countries should therefore establish national programs for digital infrastructure development and facilitate citizens’ access to AI technologies. Cuba, for example, through projects aimed at expanding public internet connectivity, may offer relevant experience for other developing countries seeking to broaden access to emerging digital technologies (Betancourt, 2024). Governments in less developed countries should also assume an active role in promoting human rights in the digital environment. Developing states should, for instance, adopt appropriate legislation to protect citizens’ privacy against the misuse of personal data and artificial intelligence algorithms. Brazil’s adoption of the General Data Protection Law (LGPD) may provide a useful model for other developing countries seeking to regulate the processing of personal data and protect citizens’ digital rights (D'Oliveira & Cunha, 2024). Nevertheless, in Iran, artificial intelligence and urban surveillance cameras have reportedly also been employed in ways that raise privacy concerns, including for the identification of women who do not comply with state-defined dress requirements. Governments therefore play a critical role in preventing imbalances and discriminatory practices associated with artificial intelligence. Through strengthening educational infrastructure, developing appropriate regulatory legislation, ensuring more equitable access to technology, actively participating in international governance processes, and protecting human rights in the digital environment, less developed countries can reduce the risks of human rights violations and expanding inequalities. Such measures can contribute not only to reducing algorithmic discrimination at the global level but also to advancing digital and social justice in societies with limited access to emerging technologies.

It should therefore be emphasized that algorithmic discrimination is not merely a technical problem confined to artificial intelligence technologies; rather, it is deeply intertwined with global economic, social, political, and human rights relations. As a global phenomenon, algorithmic discrimination is shaped by unequal access among countries to advanced technologies and strategically significant data. Developing countries, owing to existing limitations in access to technological resources and data, are systematically and continuously exposed to erroneous or harmful forms of decision-making, a condition that may lead to violations of fundamental human rights principles.

The findings of the present study demonstrate that artificial intelligence algorithms and technologies, which are predominantly designed and developed within the cultural, normative, and political environments of developed countries, may contain explicit or implicit biases that, when these technologies are deployed in less developed societies, contribute to the reproduction of global inequalities. Indeed, the continued concentration of artificial intelligence technologies in developed countries contributes to the emergence of a technological divide within the international legal order. This imbalance reinforces algorithmic discrimination, consolidates unequal structures of power among states, and strengthens the technological dominance of advanced countries over less developed states in the global arena. At the human rights level, the application of

biased algorithms in critical decision-making processes—including criminal justice, public policymaking, healthcare services, and resource allocation—may result in violations of fundamental rights. Among the consequences are threats to the rights to justice, equality, participation, and human dignity, which may be structurally disregarded in less developed societies. The findings therefore emphasize the need for developing countries to adopt proactive measures to improve access to artificial intelligence technologies, benefit from reliable and representative data, and establish effective mechanisms for assessing the legal and human consequences of algorithmic systems. They also highlight the role of international institutions in developing and implementing binding legal and ethical frameworks capable of ensuring transparency, accountability, and fairness in the application of artificial intelligence. Through such measures, the potential of artificial intelligence may be directed toward advancing social justice and protecting human rights rather than functioning as an instrument for the reproduction of domination and inequality.

## **5. Conclusion**

The results of this study demonstrate that algorithmic discrimination and biases embedded in artificial intelligence technologies, particularly as they affect less developed countries, constitute complex and multidimensional phenomena that extend beyond technical and technological concerns and are deeply intertwined with structural inequalities within international law and global power relations. Unequal patterns in the development and utilization of artificial intelligence, combined with restricted technological access and shortages of diverse and reliable data in less developed countries, contribute to imbalances and discriminatory outcomes that may have particularly adverse effects on minorities and vulnerable groups in these societies. Such discrimination not only intensifies existing economic and social inequalities but may, over the longer term, reproduce cycles of global inequality and reinforce the international power of technologically advanced countries.

In light of these findings, less developed countries need to adopt proactive measures to facilitate access to artificial intelligence technologies and reliable data while simultaneously establishing more rigorous mechanisms for monitoring and assessing algorithms and their effects on human rights. International institutions should likewise prioritize the development of legal and ethical frameworks governing the use of artificial intelligence and preventing algorithmic discrimination in order to avoid the intensification of existing inequalities. Ultimately, the realization of global justice and respect for human rights require greater attention to the development of a fair and transparent digital environment in which all countries, particularly less developed ones, can benefit from advanced technologies.

Although artificial intelligence possesses exceptional potential to address global challenges, its concentration in the hands of technologically advanced states pursuing military, geopolitical, or economic objectives may transform it into an instrument that reinforces inequality and threatens human rights. Unequal access to this technology, challenges to national sovereignty, harm to civilian populations, and the reinforcement of global discrimination are among the potential consequences of this process. Preventing such outcomes requires transparent international legal frameworks, meaningful accountability in the use of artificial intelligence, and effective mechanisms for expanding access to technological capabilities in less developed countries.

## **Ethical Considerations**

All procedures performed in this study were under the ethical standards.

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## **Conflict of Interest**

The authors report no conflict of interest.

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## References

- Aderibigbe, A. O., Ohenhen, P. E., Nwaobia, N. K., Gidiagba, J. O., & Ani, E. C. (2023). Artificial intelligence in developing countries: Bridging the gap between potential and implementation. *Computer Science & It Research Journal*, 4(3), 185-199.
- Batabyal, G. S. (2024). Ethics, laws on war and artificial intelligence-driven warfare. In *Artificial Intelligence, Ethics and the Future of Warfare* (pp. 187). Routledge India.
- Bergold, A. N., & Kovera, M. B. (2024). The contribution of facial recognition technology to wrongful arrests and trauma. *Psychological Trauma: Theory, Research, Practice, and Policy*.
- Betancourt, R. J. (2024). Contribution of Cuban residents abroad to the Cuban economy. *International Journal of Cuban Studies*, 16(1), 104-122.
- Cerqueira, D. (2023). Article 27–Cultural rights. In *The Universal Declaration of Human Rights* (pp. 710-732). Brill Nijhoff.
- Chaudhary, G. (2024). Unveiling the black box: Bringing algorithmic transparency to AI. *Masaryk University Journal of Law and Technology*, 18(1), 93-122.
- Chen, Z. (2023). Ethics and discrimination in artificial intelligence-enabled recruitment practices. *Humanities and Social Sciences Communications*, 10(1), 1-12.
- Cossette-Lefebvre, H., & MacLure, J. (2023). AI's fairness problem: Understanding wrongful discrimination in the context of automated decision-making. *AI and Ethics*, 3(4), 1255-1269.
- D'Evereux, V. (2024). Israeli military artificial intelligence, its possible use in the war in Gaza. *Obrana a Strategie*, 2024(1), 125-142.
- D'Oliveira, N. P. C., & Cunha, F. J. A. P. (2024). Brazilian General Data Protection Law (LGPD): The relationship between information policy and information regime. *RDBCI: Revista Digital de Biblioteconomia e Ciência da Informação*, 22, 2-8.
- Gray, C. H. (2024). Military AI, sacred violence, and war in the Middle East. *Teknokultura: Revista de Cultura Digital y Movimientos Sociales*, 21(2), 166-177.
- Harishbhai Tilala, M., Kumar Chenchala, P., Choppadandi, A., Kaur, J., Naguri, S., Saoji, R., & Devaguptapu, B. (2024). Ethical considerations in the use of artificial intelligence and machine learning in health care: A comprehensive review. *Cureus*, 16(6), 2-8.
- Horak, G. (2023). *Personal details exposed: Spyware and human rights in the Middle East and North Africa* [Harvard University].
- Iristian, Y. (2024). Freedom of speech as a pillar of equality in Indonesia in the context of constitutional law. *Journal Of International Multidisciplinary Research*, 2(2), 84-101.
- Khan, M. S., Umer, H., & Faruqe, F. (2024). Artificial intelligence for low income countries. *Humanities and Social Sciences Communications*, 11, 1422.
- King, A. (2024). Digital targeting: Artificial intelligence, data, and military intelligence. *Journal of Global Security Studies*, 9(2), 1.
- Peters, U. (2022). Algorithmic political bias in artificial intelligence systems. *Philosophy & Technology*, 35(2), 25.
- Shahriar, S., Allana, S., Hazratifard, S. M., & Dara, R. (2023). A survey of privacy risks and mitigation strategies in the artificial intelligence life cycle. *IEEE Access*, 11, 61829.
- Taghizadeh, M., & Kheradmandnia, S. (2024). Generative artificial intelligence: Challenges and requirements for development and implementation. *Monthly Expert Reports of the Islamic Consultative Assembly Research Center*, 32(4), 12-22.
- van Norren, D. E. (2023). The ethics of artificial intelligence, UNESCO and the African Ubuntu perspective. *Journal of Information, Communication and Ethics in Society*, 21(1), 112-128.
- Wang, X., Wu, Y. C., Zhou, M., & Fu, H. (2024). Beyond surveillance: Privacy, ethics, and regulations in face recognition technology. *Frontiers in Big Data*, 7, 1337465.