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Human Rights and the Era of Generative Artificial Intelligence – Assessing and Enhancing Pakistan's National AI Policy with an Insight into Global Perspectives

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Abstract

This research explores the complex interplay between Generative Artificial Intelligence (GAI) and human rights. It starts by defining GAI and establishing the intrinsic importance of human rights protection in the face of such technological advancements. On one hand, it explores the potential positive effects, including improved healthcare outcomes, reduced discrimination, and increased access to education. On the other hand, it critically examines the negative consequences, such as privacy concerns arising from data collection and use, and the potential for bias and discrimination set within algorithms. To substantiate these theoretical explorations, the paper incorporates two compelling case studies: the controversial use of AI in hiring practices and predictive policing in the United States. These instances provide concrete illustrations of how GAI interacts with human rights in varied contexts. The focus is next shifted to the legal framework developed by the United States of America, the European Union, China, and Pakistan for the deployment of GAI and their relevant scopes. Pakistan's National AI policy primarily focuses on the ways through which GAI can be used, while delaying ethical considerations, and human rights concerns. Informed by these analyses, the study recommends modifying the National AI policy of Pakistan and enacting it as soon as possible to mitigate the negative effects of GAI and maximise its potential to benefit Pakistan and humanity. This research employs a doctrinal research methodology.

***Keywords*:** AI, China, GAI, Human Rights, EU, Pakistan

Introduction

Rights, in general, refer to a set of legally recognized and enforceable rules that tell a state how it is expected to behave towards its citizens or the right holder. This expectation involves both the actions and omissions that are expected from the state (Woodiwiss, 2005). Human Rights, in particular,

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are the basic rights that a person is given by virtue of the fact that he was born as a human being (Falk, 2004). These are the foundational principles that acknowledge the inherent dignity and value of every human being. These rights include a broad range of entitlements and freedoms that are universally applicable and indivisible (Renteln, 1988). Primarily, human rights uphold the fundamental values of equality, justice, and respect for the inherent humanity of all individuals, irrespective of all grounds of discrimination (Weston, 1984). They comprise political and civil rights of a human, such as the right to life, liberty, and freedom of speech, as well as social, economic, and cultural rights, such as the right to education, healthcare, and an adequate standard of living (Orend, 2002). Human rights not only include individual rights such as the right to privacy and the right to a fair trial, but they also extend to rights held by people collectively, such as the right to a healthy environment. These rights are enshrined in international documents like the Universal Declaration of Human Rights and various other treaties and conventions (Australian Human Rights Commission, n.d.).

The importance of human rights lies in their role as the cornerstone of a just and equitable society. Human rights serve as a moral compass, guiding individuals, governments, and organisations toward the principles of fairness, dignity, and respect for all. They offer a structure that protects individual freedoms, promotes social justice, and fosters communities where everyone can thrive.

Human rights need to be protected because they are at risk of violations and abuses by individuals, institutions, and states. Without adequate protection, individuals may face discrimination, oppression, and injustice, leading to great suffering and inequality. Societies that respect and uphold human rights tend to be more prosperous, peaceful, and resilient (Hall, 2013). By ensuring that everyone has equal opportunities and access to justice, human rights contribute to building cohesive communities and fostering social harmony. Therefore, it is imperative for governments, civil society organisations, and individuals to actively promote and defend human rights, both at the local and international levels, to create a world where justice, dignity, and equality prevail. Safeguarding these rights requires governments, organisations, and individuals to ensure that laws, policies, and practices are designed to protect and promote these rights,

cultivating a world where every person can live with freedom, dignity, and respect (Council of Europe Portal, n.d.).

The opportunities and challenges of the modern era are causing changes in human rights. The field of human rights activism, advocacy, and protection has seen significant change in an era marked by globalisation, technological breakthroughs, and changing social dynamics. One key aspect of this revolution is the increasing recognition and addition of new rights in response to emerging issues and changing societal norms. For example, the rights to privacy and data protection have gained prominence in the digital age, as individuals battle with concerns about surveillance, data breaches, and online privacy violations. Human rights have advanced as a result of these changes, but they have also created new challenges. The rise of technological advancements like artificial intelligence raises complex ethical and legal questions regarding individual autonomy, transparency, and privacy (Kaplan, 2016).

This paper highlights the impact on human rights, specifically a person's right of privacy, transparency, and non-discrimination due to the emergence of generative artificial intelligence (GAI) by first giving a brief introduction to GAI along with its impact on human rights, followed by highlighting the areas where its use is notable. It then discusses the prominent laws that have been made in different regions of the world for tackling the newly arising issues. Lastly, a thorough discussion of loopholes in these laws, specifically Pakistan's Policy on Artificial Intelligence, assists in highlighting the key recommendations that would prove to be beneficial for the better protection of human rights in Pakistan with the advancements in the field of artificial intelligence (AI), specifically GAI. In recent years, Pakistan has also taken further steps towards AI regulation by introducing the *Regulation of Artificial Intelligence Bill 2024* and the following approval of the *National AI Policy 2025,* developments that reflect the growing recognition of the need for a comprehensive and rights-based framework for AI governance in the country.

Scope of the Research

The research paper looks into the complex relationship between GAI and human rights. It explores the potential positive and negative impacts of GAI on human rights protection, with a focus on discrimination and privacy concerns. Additionally, the paper examines two case studies-predictive

policing in the United States and the use of AI in hiring practices - to show how GAI interacts with human rights in various contexts. Moreover, the research evaluates the legal frameworks developed by the European Union, China, and Pakistan for the use of GAI and evaluates how well they handle ethical issues and human rights concerns. Finally, the study recommends modifications to Pakistan's National AI policy to remove negative effects and maximise the potential benefits of GAI for Pakistan.

In other words, this paper revolves around the research question of how GAI relates to human rights, considering its potential positive and negative impacts, and how legal frameworks, particularly Pakistan's National AI policy, address ethical considerations and human rights concerns in the deployment of GAI.

Methodology

This research paper has employed the doctrinal research method. Books, journal articles, news articles, statutes, and websites were used as sources for assessing the impact of GAI on Human Rights. An insight into the EU and China's AI laws is also provided. The emerging framework for AI regulation in Pakistan is also analysed by consulting the National AI Policy and feedback in the form of policy analysis given by the Islamabad Policy Research Institute and the Digital Rights Foundation, and other sources.

Generative Artificial Intelligence and Human Rights

Generative Artificial Intelligence, a technology that is subject to humans but does tasks superhumanly, at superhuman speed. The hype GAI is getting is completely understandable; it can create, craft, reconstruct, predict, review, solve, and produce content, including numbers, texts, images, music, audio, and much more (Hofmann & Urbach, 2021). Also, it is to be noted that AI has been here for a decade but was not as much into our daily lives as GAI, the reason is that AI is a close ended system, it relies only on human fed data and cannot generate or create new data, while GAI is an open ended system, what we can really say intelligent as it can learn and generate novel content (Marr, 2023; van der Zant et al., 2013). Certainly, humans do have control of GAI, but detailed instructions are not to be given every time, as compared to AI. Also, Conventional AI systems are typically employed for analysing data and making predictions, while generative AI goes beyond that by generating new data that closely resembles its training data (Marr, 2023).

AI can be classified into two types based on its functions and abilities. The first one is weak or narrow AI, which can do limited tasks like Siri searches, facial recognition, and the second one is Generative Artificial Intelligence, which is stronger and can outperform humans in nearly every cognitive task (Tai, 2020). GAI is founded on Machine learning, a potent subset of artificial intelligence that utilises extensive datasets to extract patterns and insights, while GAI transforms machine learning inputs into content, allowing it to learn and produce data, but also improves its outputs (Robb, 2023).

GAI's current forms in common use are Chat-GPT and Bard, and apparently, they are very helpful in education, at work, or even at home. One can ask anything to these language models and the answer is generated in seconds. It can also write you emails, essays, can be used as an assistant in research, and provide you with a recipe for your favourite meal.

Tai's research on the impact of GAI on bioethics exposes us to the benefits and promising features of AI in medical fields (Tai, 2020). IBM's Watson computer facilitates rapid and precise diagnostics by instantly analysing digital data from physical exams, providing AI-generated treatment suggestions. There is a Virtual presence technology that enables remote diagnostics, aiding patients unable to travel. Therapeutic robots, designed for seniors, offer companionship and assistance with household tasks. Moreover, AI-based surgical procedures, like the da Vinci system, enhance precision, reduce trauma, and minimise blood loss. Continuous AI advancements are also improving radiology, with enhanced disease detection algorithms.

Tech companies are constantly working on improving and polishing this technology. Recently, Samsung introduced its Galaxy AI robot, which is a wireless ball-shaped robot having vision and movement features (it can detect its surroundings and move around), which will serve as an assistant or a helper to humans. It is claimed to control all your Samsung devices installed at your home or workplace, which means it will control your TV, Washing Machine, Dishwasher, Robot Cleaner, etc., and will also give you timely updates.

GAI also proves beneficial in the construction and building industry. It can revolutionise project management by interpreting complex requirements, optimising schedules, and providing real-time updates,

ensuring efficient decision-making and timely project completion (Rane et al., 2023). In design optimization, ChatGPT enhances creativity by generating and evaluating design concepts, expediting the process and elevating the final product's quality (Rane et al., 2023). AI-powered communication and logistics in supply chain management facilitate teamwork, while in construction, ChatGPT ensures quality control, site safety, and proactive risk management, contributing to overall project success and sustainability (Rane et al., 2023). However, all these advantages may come at the expense of human rights, such as privacy, non-discrimination, and most importantly, employment, since the usage of GAI is somehow decreasing the employment level of humans and making it difficult for them to earn a living.

Impact of Generative Artificial Intelligence on Human Rights

The rise of GAI has the potential to significantly impact human rights in both positive and negative ways. GAI presents complex ethical, social, and legal challenges that intersect with various human rights principles. On one hand, GAI has the capacity to improve the fulfilment of human rights by improving access to information, healthcare, education, and other essential services. AI-powered technologies can help address societal challenges such as poverty, inequality, and discrimination by improving resource allocation, enhancing decision-making processes, and promoting more inclusive and efficient governance systems (Risse, 2019).

However, the widespread use of GAI also raises concerns about the destruction of certain human rights, particularly those related to privacy, autonomy, and employment. The collection and analysis of large amounts of personal data by AI systems may jeopardise individuals' right to privacy and data protection, especially in the absence of robust regulatory frameworks and oversight mechanisms. Moreover, the automation of jobs and economic activities driven by GAI technologies could worsen inequalities, lead to job displacement, and undermine workers' rights, including the right to fair wages, decent working conditions, and collective bargaining (Cataleta, 2020).

Furthermore, the potential misuse of GAI for surveillance, censorship, and control poses grave threats to freedom of expression, assembly, and association, undermining the foundations of democratic societies. As such, safeguarding human rights in the age of GAI requires proactive measures to

ensure transparency, accountability, and ethical use of AI technologies, as well as the development of policies and regulations that uphold human dignity, equality, and justice in the face of unprecedented technological advancements (Rodrigues, 2020).

Case Studies

Use of Generative Artificial Intelligence in Hiring Practices

Given the abilities and efficiency of GAI, today, companies are increasingly employing AI in hiring or recruitment processes, which is also termed as Digital Recruitment 3.0 (Black & van Esch, 2020). An example of its application is in resume screening, where artificial intelligence, particularly large language models like ChatGPT, is utilised to evaluate and prioritise resumes (Glazko et al., 2024). AI recruiting can be defined as any process within an organisation's recruitment and candidate selection that incorporates AI technologies. AI, in this context, specifies a system that is not only able to interpret input data precisely but also learns from it, and eventually applies those insights to achieve specific objectives and tasks through adaptable means. This encompasses various technologies, such as sophisticated machine learning techniques, natural language processing, and voice recognition (Hunkenschroer & Kriebitz, 2022). AI, in this context, denotes a system's capacity to accurately interpret external data, learn from it, and apply those insights to accomplish specific objectives and tasks through adaptable means (Hunkenschroer & Kriebitz, 2022). This encompasses various technologies, such as sophisticated machine learning techniques, natural language processing, and voice recognition. But simultaneously, questions are being raised on its validity, robustness, fairness, transparency, and ethicality.

Artificial intelligence (AI) is created by humans, who are fallible in their judgment and prone to errors in designing, programming, and utilizing AI solutions. These errors may lead to human rights violations, such as injuries or psychological distress caused by poorly calibrated AI solutions (Hunkenschroer & Kriebitz, 2022).

Also, GAI is at times proven to be biased in the hiring process. For example, an algorithm may be trained on historical employment data and integrate underlying bias, for example, preferring white men rather than Hispanics. This means that the algorithm may identify patterns in the data that reveal an applicant as a member of a protected group, which has

historically been less likely to be selected for a job interview (Köchling & Wehner, 2020). According to the research (Glazko et al., 2024), the current lack of representation of disabled individuals in the workforce, coupled with biases against disabled job seekers, is a significant issue. Current AI-powered recruitment systems are unintentionally sustaining the bias, in spite of attempts to alleviate it. Moreover, the Generative Artificial Intelligence (GAI), which was introduced as an innovative method for assessment and ranking of candidates, maintains partiality, albeit in subtle and inconsistent forms, among various disabilities. For instance, an African American person has filed a suit against Workday, which uses an algorithmic applicant screening tool for hiring, claiming that it discriminates the applicants based on race, age, and color (Mobley v. Workday, Inc., 2023). This is not the first case. A Shanghai-based company also faced the allegation of using an AI screening tool that rejects females aged 55 or older and males aged 60 or older (U.S. Equal Employment Opportunity Commission, 2023). The final decree in this case orders the company to pay $365,000 to the applicants rejected by their AI screening tool.

Although AI holds an edge over human evaluators in terms of neutrality, an issue arises when human candidates are notified of the inferences made by the machine. The lack of clarity in AI-driven evaluation poses litigation risks in a world where transparency is highly critical. This is to say that, when unable to provide rational, AI-powered recruitment decisions become vulnerable to scrutiny by employment tribunals. That said, job applicants view AI-driven hiring systems as fairer and more objective than human recruiters, according to research conducted by Black and van Esch (2020). Candidates are motivated to get involved with AI systems due to their apparent originality, empowerment, and ease of use. Organizations that use AI for hiring employees are seen as progressive, thereby strengthening their reputation. Likewise, candidates continue to value transparency around the chatbot use, notwithstanding the increasing ability of these systems to mimic human-like interactions. One of the real-time examples of a lack of transparency in automated decision-making is the case against Uber. In this case, the Amsterdam District Court ordered Uber to pay €584,000 as a penalty for not providing the transparency proof in the automated decision to fire 3 drivers (Uber B.V. vs Driver 1, Driver 2 & Driver 3, 2023). In addition to this, another case in Colorado has been filed where an indigenous deaf employee was refused promotion based on race and disability by an AI interviewing tool, violating the Colorado Anti-

Discrimination Act, the Americans with Disabilities Act, and Title VII of the Civil Rights Act (Fisher Phillips, 2025).

Use of Generative Artificial Intelligence in Predictive Policing

Predictive policing is a policing strategy that uses data analysis and machine learning to predict possible criminal behaviour and manage resources more effectively. In the United States, this strategy uses advanced data algorithms with crime history to predict beforehand where and when crimes will occur (Ferguson, 2017). The strategy includes collecting huge amounts of data from multiple sources such as crime reports, arrest records, emergency calls, demographics, socioeconomic information, and social media patterns (Yang, 2019). Statistical analysis and machine learning algorithms are applied to find patterns and trends in the data that predict future criminal behaviour. Artificial intelligence steps in by offering rapid analysis of large sets of data, therefore allowing law enforcement agencies to make smart decisions about resource utilisation and crime prevention.

One common approach used in predictive policing is hotspot analysis, which identifies high-crime areas. By identifying these high-crime areas, law enforcement agencies can send officers to these areas proactively, aiming to deter criminal behaviour and increase police presence where it's most required. Another method involves predictive algorithms that predict future crime hotspots based on pre-existing data and relevant surrounding factors. These algorithms continuously learn and adapt as new data becomes available, allowing for more accurate predictions over time. However, the reliability and fairness of such algorithms have come under legal scrutiny in the USA due to a lack of transparency and potential bias in influencing sentencing decisions (State v. Loomis, 2016).

Additionally, some models of predictive policing focus on predicting specific types of crimes, such as robberies, burglaries, or gun violence, allowing law enforcement agencies to change their strategies and plan interventions accordingly. For example, if a predictive model shows an increased likelihood of gun violence in a particular neighbourhood during certain hours, law enforcement may implement targeted patrols or community engagement initiatives to address the underlying issues contributing to violence (Starbeck, 2022).

Despite its potential benefits, the use of AI in predictive policing also raises significant ethical and social concerns. Critics argue that AI

algorithms may maintain and increase biases present in previously available crime data, leading to unreasonable targeting of minority communities, increasing issues of racial profiling and discrimination. Additionally, there are concerns about the lack of transparency and accountability in how AI algorithms are developed, validated, and used by law enforcement agencies, highlighting the need for greater surveillance and regulation in the use of AI technologies in policing (Deloitte, n.d.).

In response to the negative impacts of AI on predictive policing in the United States, efforts are being made to address bias, enhance transparency, and promote accountability within these systems. One approach involves implementing fairness and accountability measures in the development and use of AI algorithms. This includes conducting thorough audits and evaluations of predictive policing models to identify and remove biases in the data and algorithms. Moreover, there is growing recognition of the importance of involving different groups, including community members and civil rights advocates, in the design and oversight of predictive policing programs to ensure that they reflect the values and priorities of the communities they serve.

Another key strategy for overcoming the negative impact of AI in predictive policing is increasing transparency and accountability in the use of these technologies. This includes providing clear explanations of how predictive algorithms work, the data they rely on, and the potential limitations and biases present in their predictions. Law enforcement agencies should also work to establish clear guidelines and protocols for the ethical use of AI in policing, including mechanisms for oversight, accountability, and redress in cases of misuse or abuse.

Furthermore, there is a growing emphasis on promoting equity and fairness in predictive policing practices. This involves prioritising community engagement and collaboration, investing in alternatives to traditional law enforcement approaches, such as community-based interventions and social services, and addressing underlying social and economic factors that contribute to crime and inequality. By taking these steps, stakeholders aim to ensure that AI-driven predictive policing systems are used responsibly and ethically, while also promoting public trust and confidence in law enforcement practices (Obioha, 2021).

Laws and Regulations targeting GAI

United States of America

Though there is no single federal-level legislation in the USA that regulates the use of AI, however, various acts and bills have been passed at local and state levels. These laws impose requirements of transparency, accountability, consent, and protection of individual rights on AI systems, particularly in the areas linked with public safety, identity, and hiring.

The ELVIS Act (Ensuring Likeness, Voice, and Image Security Act) of Tennessee, enacted on July 1, 2024, aims to ensure that individuals are protected from deepfakes based on their identity (Tennessee House Bill 2091, 2024). It has expanded the personal rights of an individual by recognising the right of an individual over their voice by amending the Tennessee Code (Tennessee House Bill 2091, 2024). Any person who, with the purpose of commercial exploitation, uses another person's name, identity, voice, photograph, or likeness in any manner is subject to a civil action against him (Tennessee House Bill 2091, 2024, Section 6a).

California has also recently signed a bill into law on September 29, 2025, the Transparency in Frontier Artificial Intelligence Act. This act, formulated based on the recommendations in California's first-in-the-nation report, aims to make California a national leader in the ethical and responsible use of AI (Governor of California, 2025). The act sets certain requirements for AI developers, including the requirement that developers publicly publish their framework to comply with national and international standards, as well as safety and security measures (Legiscan, 2025). Further, this act also contains provisions for innovation by providing for the establishment of a consortium for advancing safe and ethical AI. The act also sets civil penalties for violations of its provisions by developers (Legiscan, 2025, Section 2).

New York City and Illinois have hiring-specific legislation, namely, Local Law 144 of NYC and the Artificial Intelligence Video Interview Act, 2020, and H.B. 3773 (effective from Jan 1, 2026) of Illinois. The Local Law 144 of NYC (effective from July 3, 2023) requires the publication of a bias audit by the employer who uses automated employment decision tools (Law and the Workplace, 2021). The Act of 2020 in Illinois sets certain standards for the use of AI in hiring practices and employment decisions to protect individuals from bias and discrimination (Illinois General Assembly, 2019).

It requires the employer to inform the candidates beforehand about the use of AI in the video interviewing process **(**Illinois General Assembly, 2019). While House Bill 3773 provides that an employer that uses predictive analytics in hiring and related processes rejects a candidate based on race as a civil rights violation **(**Illinois General Assembly, 2024).

European Union

1. The European Union in 2019 adopted the *"Ethics Guidelines for Trustworthy AI,"* which provides guidelines to ensure safe and ethical use of AI. Though not a legally binding instrument, it serves as a guide for those involved in the AI world (European Commission, 2019).
2. The EU has also enacted the *"General Data Protection Regulation,"* which deals with the protection of personal data and provides Data Protection Impact Assessment tests in cases of exposure to risks while deploying AI (General Data Protection Regulation, 2018).
3. The *"EU AI Act"* is the first-ever AI legislation passed in July 2024, encompassing nearly all aspects of AI, from its safe and robust use to prescribing penalties for non-compliance with the regulation. The act came into force on August 1, 2024. Certain bans on AI systems, and requirements on AI literacy will come into force from Feb. 2, 2025 (European Union Artificial Intelligence Act, n.d.). On August 2, 2026, the Act will be applicable in general, and obligations with respect to high-risk AI systems will become applicable. It aims to promote transparency, neutrality, accountability, and safety in using AI. Article 3 defines AI as "*artificial intelligence system' (AI system) means software that is developed with one or more of the techniques and approaches listed in Annex I and can, for a given set of human-defined objectives, generate outputs such as content, predictions, recommendations, or decisions influencing the environments they interact with"* (European Parliament, 2023, Article 3).

The regulation has divided AI systems into four categories according to their purported use, viz. High-Risk AI Systems, Limited Risk AI Systems, Unacceptable Risk or prohibited AI Systems, and Minimal Risk AI Systems, and set limitations and restrictions on each of the systems. It has also set obligations on the providers of general-purpose AI systems, e.g., ChatGPT. The AI systems used in hiring Practices fall under the *high-risk AI systems* and hence require that the standards of transparency,

accountability, and accuracy must be upheld by the employers so that the rights of individuals can be safeguarded (Stevenson et al., 2024). Further, the act places a prohibition on those systems that are used for predicting or assessing a risk of commission of a crime by an individual merely based on personal, ethnic, or other discriminatory traits (Fair Trials, 2024).

The main focus of this regulation is the preservation of fundamental rights by providing comprehensive guidelines for AI. Depending on the degree of risk that artificial intelligence (AI) can produce, the regulation has set obligations for users and providers using a risk-based approach. Artificial intelligence (AI) systems that pose an unreasonable risk to public safety would be outlawed (European Parliament, 2023). Also, it provides the right to lodge complaints about AI systems and has set penalties for offenders of this regulation.

China

As compared to the EU, China has been regulating laws on specific issues step by step, which allows it to focus on particular issues, develop unique regulations, and gradually accumulate new policy instruments and regulatory expertise with each new regulation. Some of the laws focusing AI AI-related issues in China are:

1. The *"Administration of Deep Synthesis of Internet Information Services*" places responsibilities on those who supply and utilise so-called "deep synthesis technology," which includes machine learning, deep learning, and other algorithmic processing systems (China Law Translate, 2022a). This type of technology combines algorithms and mixed datasets to create artificial content, like deep fakes. Among the important clauses are the following: (1) Users must provide consent before any deep synthesis technology can use their image; (2) Deep synthesis services are not allowed to use the technology to spread fabricated news; (3) Deepfake services must verify users' real identities; (4) Synthetic content must have some sort of notification alerting users to the fact that their image or video has been tampered with by technology; (5) Content that violates existing legislation is forbidden.
2. The *"Provisions on the Management of Algorithmic Recommendations for Internet Information Services"* has set certain obligations for Algorithmic Recommendation service providers to use algorithmic technologies within the limits prescribed it and has set fines for non-

compliance with its provisions (the use of algorithmic technologies such as creation and synthesis, customized push, sorting and selection, extraction and filtering, and timing decision-making to supply information to users) (China Law Translate, 2022b).

3. The *"Interim Measures for the Management of Generative AI Services"* covers the use of Generative Artificial Intelligence to offer the public within the mainland territory of the People's Republic of China with services that generate textual, visual, auditory and other content and puts certain restrictions on its use e.g to not go against public interest, should not involve illegal practices, must respect the intellectual property rights etc. to promote safety, transparency and unbiased use of Generative AI (China Law Translate, 2023, Article 2). This regulation explicitly prohibits the usage of AI systems that cause discrimination based on sex, ethnicity, race, religion, age, occupation, or health (Choi & Lu, 2024). In case of non-compliance with its provisions, the offender is to be punished according to "Cybersecurity Law of the People's Republic of China", "Data Security Law of the People's Republic of China", "Personal Information Protection Law of the People's Republic of China", "Science and Technology Progress Law of the People's Republic of China", and other laws and administrative regulations (China Law Translate, 2023, Article 4 & 21).

The EU and China have used distinct approaches in addressing the issue of AI-related practices and obligations. As stated before, the EU is trying to make an All-encompassing law which might need secondary explanation and coverage of emerging issues. But China seems to be better standing to the author as with the emerging issues, it is simultaneously formulating and enacting laws and regulations to promote social well-being.

National Artificial Intelligence Policy 2025

The Ministry of Information Technology and Telecommunication of Pakistan proposed the National Artificial Intelligence Policy in 2022 and got unanimously approved by the federal cabinet in 2025. This policy is mainly focused on fair distribution of opportunity and its ethical employment and has three attributes: Evidence-Based and Target Oriented, User-Centric and Forward-Looking, Objective and Overarching (Government of Pakistan, 2022). These objectives serve as the policy's compass:

- The creation of an AI-focused knowledge-based economy,
- Establishing a reservoir of proficient AI experts inside the public domain,
- The creation of a strong and safe AI framework,
- To foster AI innovation, there is a promotion of public-private partnerships (PPPs) and international cooperation across many sectors,
- Making the adoption of moral AI-based solutions a top priority (Salman & Asfandyar, 2023).

The targets of this policy are Enabling AI through Awareness & Readiness, AI Market Enablement, Building a Evolving & Reliable Environment, incorporating AI in education, founding a National AI Fund, instituting Centres of Excellence in AI and Allied Technologies, transforming the public sector through AI, etc. that are to be met by 2028 (Iqbal, 2023; Salman & Asfandyar, 2023).

It also provides a comprehensive model for the implementation and review of this policy by establishing a steering/management committee that will be composed of government, academia, industry, and community members with balanced representation of each stakeholder convened by Secretary of Information Technology & Telecom, working groups representing policy drivers, an implementation cell which will complement the working of management committee and working groups and a review procedure and timeline to ensure accountability and continuous improvement (Salman & Asfandyar, 2023).

Loopholes

Lack of Enforcement Mechanism

The policy has provided comprehensive guidelines for ethical and safe use of AI, but there is a lack of infrastructure and resources in the country to implement this policy, and the policy lags in addressing this part. It does not address some of the challenges that will be faced in remote and conflict-affected areas, including the Gilgit-Baltistan region (Abid, 2024). This omission fails to recognize the significance of network and communication infrastructure in these areas (Abid, 2024). Furthermore, the Act also lags in providing a framework of penalties or fines in case of breach of its

provisions. Without proper enforcement mechanisms and penalties for its non-compliance, this policy is a mere aspiration.

Vagueness in Objectives

The policy outlines numerous ambitious goals that are both unachievable and not feasible (Khalid, 2023). Many specifics regarding the procedures and methods have been omitted for the sake of brevity, suggesting that the document appears more focused on superficial compliance (Khalid, 2023). As per (Salman & Asfandyar, 2023), this policy is lagging in terms of stating clear aims and objectives. Though it has provided information on various features and aspects of AI elaborately, it failed to articulate explicit and measurable objectives (Salman & Asfandyar, 2023). With the current hype surrounding AI, countries worldwide are rushing to develop their strategies, and we cannot afford to lag, even if the policy's substance is ultimately disregarded (Khalid, 2023; Salman & Asfandyar, 2023).

Detestation to Digitization

The integrated scepticism of the bureaucracies for digitization is posing a significant challenge, which can only be addressed by the collaboration of both the federal and provincial governments' political oversight (Khalid 2023). Furthermore, if the state intends to adopt AI in a proper way, it is necessary to prepare for the step-by-step elimination of the conventional roles of administrative authorities termed as *clerical cops* (Khalid, 2023).

Data Privacy and Security Concerns

Though the policy acknowledges the cybersecurity concerns, it lacks properly defined procedures that address these concerns effectively, particularly in cases that relate to safeguarding the digital data and personal information from malicious actors. Even though the issue has been recognized, the absence of specific measures weakens the ability of the policy to decrease the cyber threats comprehensively. Establishing clear protocols and strategies is important for the strengthening of digital security frameworks and encouraging defences against potential attacks.

Lack of Reliable Data

For quick and successful growth of AI in various sectors, credible, timely and high-quality data is required however it is not currently available in Pakistan due to which concerns are raised on the implementation of this

policy as AI works on the data provided to it and as discussed before it can lead to marginalisation of a group or biases and prejudices therefore, it proves to be a major hurdle in the progress towards a strong policy regarding the solution of issues that arise due to AI.

Potential for Bias and Negative Use

The policy has emphasized inclusivity and equity, but it has not addressed the concerns of the circulation of biases in AI systems, as there has been a long-term brain drain in the country, resulting in the exploitation of AI. Addressing this is highly important for a proper mechanism to be established for the resolution of issues concerning biases that arise due to the negative use of AI.

Recommendations for Pakistan

In order to address the gaps highlighted above, a few recommendations are listed below so that Pakistan can create a transparent, accountable, and sustainable framework for AI development.

1. The National AI policy of Pakistan requires stronger legal foundations and clearer objectives to be considered truly effective across sectors.
2. The policy should establish detailed enforcement and review mechanisms that clearly define the roles and responsibilities of the regulatory bodies, including specific accountability standards as observed in the USA, EU, and China, which would enhance its legal strength.
3. Pakistan must also invest in expanding its digital infrastructure, including reliable internet and data centres, to support AI systems effectively (Abid, 2024).
4. Promoting AI literacy and ethical awareness among youth is essential as well, as they are the primary users and future developers of this technology (Google Public Policy, 2024).
5. AI education, online safety, and digital ethics need to be integrated into schools and universities' curricula to create a responsible and informed generation.

Conclusion

In the current era of GAI, concerns are raised about the encroachments on

human rights. While GAI is intended to be unbiased and secure, there are still some spaces left where there is a chance of discrimination and privacy breaches. To overcome this situation, different countries have employed different approaches in formulating laws and regulations targeting AI and GAI. The regulations for deployment of AI with certain limitations and restrictions in the EU and China, being distinct from each other, aim to promote safe use of AI, privacy, transparency, accountability, and neutrality. In comparison to these regulations, Ministry of Information Technology and Telecommunication of Pakistan proposed a policy in 2022 which is not yet enacted is focused on developing an ethical AI society, but it has some loopholes and gaps that need to be addressed e.g. Vagueness in objectives, Data Privacy and Security Concerns, lack of reliable data, potential for misuse, discrimination, and biases. Recommendations for addressing these gaps and clear enforcement mechanisms should be made with clarity in the aims and objectives of the policy. Also, privacy and discrimination concerns need to be addressed by mitigating these through proper rules and restrictions with independent oversight systems. This research paper recommends that, for building a robust, trustworthy, and responsible AI faculty in the country, the gaps and loopholes need to be removed, as there is a need for time to safely integrate AI in our daily lives to get benefits from its use. It would lead us to a world where Humans and AI could live harmoniously with less harm and more benefits.

Author Contribution

Mehr Un Nisa: resources, writing- original draft. **Hina Qayyum:** conceptualization, methodology, writing – review & editing. **Shizza Khan:** resources, writing- original draft

Conflict of Interest

The authors of the manuscript have no financial or non-financial conflict of interest in the subject matter or materials discussed in this manuscript.

Data Availability Statement

The data associated with this study is openly accessible from publicly available sources and online repositories cited within the article. All datasets, reports, and materials used are referenced accordingly.

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References

Abid, F. (2024, April 6). *Pakistan's draft artificial intelligence (AI) policy: Strengths, weaknesses, and implementation challenges.* Strafasia. https://strafasia.com/pakistans-draft-artificial-intelligence-ai-policy-strengths-weaknesses-and-implementation-challenges/

Australian Human Rights Commission. (n.d.). *An introduction to human rights.* Retrieved December 20, 2024, from https://humanrights.gov.au/our-work/education/introduction-human-rights

Black, J. S., & van Esch, P. (2020). AI-enabled recruiting: What is it and how should a manager use it? *Business Horizons*, *63*(2), 216–224. https://doi.org/10.1016/j.bushor.2019.12.001

Cataleta, M. S. (2020). *Human artificial intelligence: The fragility of human rights facing AI.* East–West Center.

China Law Translate. (2022a). *Provisions on the Administration of deep synthesis of internet information services.* https://www.chinalawtranslate.com/en/deep-synthesis/

China Law Translate. (2022b, April 1). *Provisions on the management of algorithmic recommendations for internet information services.* https://www.chinalawtranslate.com/en/algorithms/

China Law Translate. (2023). *Interim measures for the management of generative AI services.* https://www.chinalawtranslate.com/en/generative-ai-interim/

Choi, J., & Lu, L. (2024). *Embracing AI at workplace: Navigating the challenges and practical implications for employers.* DLA Piper. https://www.dlapiper.com/en/insights/publications/2024/12/embracing-ai-at-workplace-navigating-the-challenges-and-practical-implications-for-employers

Council of Europe Portal. (n.d.). *What are human rights?* Retrieved February 17, 2024 from, https://www.coe.int/en/web/compass/what-are-human-rights-

Deloitte. (n.d.). *Surveillance and predictive policing through AI*. Retrieved February 17, 2024 from, https://www.deloitte.com/global/en/Industries/government-public/perspectives/urban-future-with-a-purpose/surveillance-and-predictive-policing-through-ai.html

European Commission. (2019, April 8). *Ethics guidelines for trustworthy AI.* https://digital-strategy.ec.europa.eu/en/library/ethics-guidelines-trustworthy-ai

European Parliament. (2023, August 6). *EU AI Act: First regulation on artificial intelligence.* https://www.europarl.europa.eu/news/en/headlines/society/20230601STO93804/eu-ai-act-first-regulation-on-artificial-intelligence

European Union Artificial Intelligence Act. (n.d.). *Implementation timeline.* Retrieved December 17, 2024, from https://artificialintelligenceact.eu/implementation-timeline/

Fair Trials. (2024, March 13). *Partial ban on predictive policing included in final EU AI Act.* https://www.fairtrials.org/articles/news/partial-ban-on-predictive-policing-included-in-final-eu-ai-act/

Falk, R. (2004). *Is this the end of Globalization*? Slate Group, LLC.

Ferguson, A. G. (2017). *The rise of big data policing: Surveillance, race, and the future of law enforcement.* New York University Press.

Fisher Phillips. (2025, March 27). *AI screening systems face fresh scrutiny: 6 key takeaways from claims filed against hiring technology company.* https://www.fisherphillips.com/en/news-insights/ai-screening-systems-face-fresh-scrutiny-6-key-takeaways-from-claims-filed-against-hiring-technology-company.html

General Data Protection Regulation, Regulation. (2018). https://gdpr-info.eu/

Glazko, K., Mohammed, Y., Kosa, B., Potluri, V., & Mankoff, J. (2024, June 3–6). *Identifying and improving disability bias in GPT-based resume screening* [Paper presentation]. Proceedings of the 2024 ACM Conference on Fairness, Accountability, and Transparency, Rio de Janeiro, Brazil.

Google Public Policy. (2024, September 2). *An AI opportunity agenda for Pakistan.* https://publicpolicy.google/resources/pakistan_ai_opportunity_agenda_en.pdf

Government of Pakistan. (2022). *Draft national artificial intelligence policy 2022.* https://moitt.gov.pk/SiteImage/Misc/files/National%20AI%20Policy%20Consultation%20Draft%20V1.pdf

Governor of California. (2025, September 29). *Governor Newsom signs SB 53, advancing California's world-leading artificial intelligence*

industry. https://www.gov.ca.gov/2025/09/29/governor-newsom-signs-sb-53-advancing-californias-world-leading-artificial-intelligence-industry/

Hall, P. L. (2013). The importance of human rights. *British Medical Journal*, *329*, Article e0410351. https://doi.org/10.1136/sbmj.0410351

Hofmann, P., & Urbach, N. (2021, January 5–8). *Innovating with artificial intelligence: Capturing the constructive functional capabilities of deep generative learning* [Paper presentation]. Proceedings of the 54th Hawaii International Conference on System Sciences, Virtual Conference.

Hunkenschroer, A. L., & Kriebitz, A. (2022). Is AI recruiting (un)ethical? A human rights perspective on the use of AI for hiring. *AI and Ethics*, *3*(1), 200–213. https://doi.org/10.1007/s43681-022-00166-4

Illinois General Assembly. (2019). *Illinois House Bill 2557, Artificial Intelligence Video Interview Act, Pub. Act 101–0260 (Ill. 2019).* https://legiscan.com/IL/bill/HB2557/2019

Illinois General Assembly. (2024). *Illinois House Bill 3773, 103rd General Assembly.* https://legiscan.com/IL/bill/HB3773/2023

Iqbal, S. (2023, July 6). *Pakistan's draft national AI policy: Fostering responsible adoption and economic transformation.* International Bar Association. Retrieved February 17, 2024, from https://www.ibanet.org/Pakistan-draft-national-ai-policy-fostering-responsible-adoption

Kaplan, J. (2016). *Artificial intelligence: What everyone needs to know.* Oxford University Press.

Khalid, Z. (2023, June 21). *Pakistan's draft national AI policy is a hodgepodge of technospeak.* Centre for Strategic and Contemporary Research. https://cscr.pk/explore/themes/politics-governance/pakistans-draft-national-ai-policy-is-a-hodgepodge-of-technospeak/

Köchling, A., & Wehner, M. C. (2020). Discriminated by an algorithm: A systematic review of discrimination and fairness by algorithmic decision-making in the context of HR recruitment and HR development. *Business Research*, *13*(3), 800–821. https://doi.org/10.1007/s40685-020-00134-w

Law and the Workplace. (2021). *Local laws of the City of New York for the year 2021.* https://www.lawandtheworkplace.com/wp-content/uploads/sites/29/2023/03/Local-Law-144.pdf

Legiscan. (2025). *California Senate Bill No. 53, Transparency in frontier artificial intelligence Act, Cal. S.B. 53*. https://legiscan.com/CA/text/SB53/id/3271094

Marr, B. (2023, July 24). *The difference between generative AI and traditional AI: An easy explanation for anyone.* Forbes. https://www.forbes.com/sites/bernardmarr/2023/07/24/the-difference-between-generative-ai-and-traditional-ai-an-easy-explanation-for-anyone/?sh=17592539508a

Mobley v. Workday, Inc., No. 3:23–cv–00770 N.D. Cal.___(2023). https://www.courtlistener.com/docket/66831340/mobley-v-workday-inc/

Obioha, I. M. (2021). Predictive policing and crime control in the United States of America and Europe: Trends in a decade of research and the future of predictive policing. *Social Sciences*, *10*(7), 234–247.

Orend, B. (2002). *Human rights: Concept and context.* Broadview Press.

Rane, N., Choudhary, S., & Rane, J. (2023). Integrating ChatGPT, Bard, and leading-edge generative artificial intelligence in architectural design and engineering: Applications, framework, and challenges. *International Journal of Architecture and Planning*, *3*(2), 92–124. https://doi.org/10.51483/ijarp.3.2.2023.92-124

Renteln, A. D. (1988). The concept of human rights. *Anthropos*, *83*(4–6), 343–364.

Risse, S. L. (2019). The future impact of artificial intelligence on humans and human rights. *Ethics and International Affairs*, *33*(2), 141–158.

Robb, D. (2023, June 29). Generative AI vs. machine learning. *eWEEK*. https://www.eweek.com/artificial-intelligence/generative-ai-vs-machine-learning

Rodrigues, R. (2020). Legal and human rights issues of AI: Gaps, challenges, and vulnerabilities. *Journal of Responsible Technology*, *4*, Article e00145. https://doi.org/10.1016/j.jrt.2020.100005

Salman, A., & Asfandyar, M. (2023). *Policy analysis decoding Pakistan's National AI Policy chair, economic security*. Islamabad Policy Research

Institute. https://ipripak.org/wp-content/uploads/2023/07/Policy-Analysis_Decoding-AI-Policy-2023.pdf

Starbeck, M. (2022). Artificial intelligence and predictive policing: Risks and challenges. *EUCPN*. https://www.eucpn.org/document/recommendation-paper-artificial-intelligence-and-predictive-policing-risks-and-challenges

State v. Loomis, 881 N.W.2d 749___ (2016). https://harvardlawreview.org/print/vol-130/state-v-loomis/

Stevenson, T., Kennedy, A., & Jackson, I. (2024). *What does the EU AI Act mean for employers?* Clifford Chance. https://www.cliffordchance.com/briefings/2024/08/what-does-the-eu-ai-act-mean-for-employers-.html

Tai, M. C.-T. (2020). The impact of artificial intelligence on human society and bioethics. *Tzu Chi Medical Journal*, *32*(4), 339–343. https://doi.org/10.4103/tcmj.tcmj_71_20

Tennessee House Bill 2091, Ensuring Likeness, Voice, and Image Security Act of 2024. (2024). *LegiScan*. https://legiscan.com/TN/text/HB2091/id/2913233

U.S. Equal Employment Opportunity Commission. (2023, September 11). iTutorGroup to pay $365,000 to settle EEOC discriminatory hiring suit. *US EEOC*. https://www.eeoc.gov/newsroom/itutorgroup-pay-365000-settle-eeoc-discriminatory-hiring-suit

Uber B.V. v. Driver 1, Driver 2 & Driver 3, Case C/13/73851 KG ZA 23-780 (Amsterdam Dist. Ct. Oct. 5, 2023).

van der Zant, T., Kouw, M., & Schomaker, L. (2013). Generative artificial intelligence. In V. C. Müller (Ed.), *Studies in Applied Philosophy, Epistemology and Rational Ethics* (Vol. 5, pp. 113–132). Springer. https://doi.org/10.1007/978-3-642-31674-6_8

Weston, B. H. (1984). Human rights. *Human Rights Quarterly*, *6*(3), 257–283.

Woodiwiss, A. (2005). *Human rights*. Routledge.

Yang, F. (2019). *Predictive policing in the United States.* Oxford Research Encyclopedia of Criminology and Criminal Justice. https://oxfordre.com/criminology/view/10.1093/acrefore/9780190264079.001.0001/acrefore-9780190264079-e-508