

# GLOBAL INFORMATION SOCIETY WATCH 2019

## *Artificial intelligence: Human rights, social justice and development*



ASSOCIATION FOR PROGRESSIVE COMMUNICATIONS (APC),  
ARTICLE 19, AND SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY (SIDA)

# Global Information Society Watch

## 2019



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Artificial intelligence: Human rights, social justice and development

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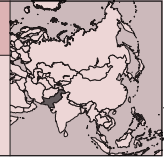
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### Internet Policy Observatory Pakistan

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## Introduction

The field of artificial intelligence (AI) in Pakistan is evolving rapidly and poised to grow significantly over the coming decade. AI is a technology that is creating new opportunities in education, promoting equality and freedom of expression and access to information. The advancements in data collection, processing, increased computing power and low costs of storage have resulted in numerous AI start-ups offering insights into the control of new diseases, identifying patterns of human interactions,<sup>1</sup> setting up smart electrical systems<sup>2</sup> and intelligent irrigation systems,<sup>3</sup> powering smart cities,<sup>4</sup> and analysing shopping data,<sup>5</sup> apart from the not-so-popular uses of AI such as identifying tax evaders<sup>6</sup> and policing.<sup>7</sup>

AI-powered applications are set to play a very critical role in the cyber ecosystem in Pakistan, which will also introduce significant risks and challenges by amplifying existing bias, discrimination and ethical issues in its governance. AI-driven algorithms and applications are growing at a rapid pace, but most of the development is happening in the private sector, where little consideration or thought is given to human rights principles when designing computer code carrying instructions to translate

data into conclusions, information or outputs. The potential impact on human rights is worsened given that no framework is available in Pakistan that regulates the application of AI from a human rights perspective.

The aim of this maiden scoping exercise is to look at the human rights legal framework for AI in Pakistan and to propose a theoretical framing for thinking about the obligations of government and responsibilities of private companies in the country, intersecting human rights with the expanding technological capabilities of AI systems.

## AI and human rights in Pakistan

The growing digitalisation in our everyday lives has given way to the rise of a robotic age with machine-driven AI reshaping the way we connect and perceive the digital world. The benefits and advantages of the internet since its very inception have not been evenly distributed and there is a perceived risk that AI systems will further exacerbate the inequalities by facilitating discrimination and impacting marginalised populations and nations like ours.

Despite the plethora of projects, AI and machine-based learning technologies are still in their infancy in Pakistan. This means that it is very important that in employing new, emerging technologies both public and private sector organisations in the country find ways to protect human rights, primarily due to the fact that these technologies can exacerbate discrimination, inequality and exclusions already prevalent in Pakistani society.

Pakistan has a poor human rights record. The international community and human rights organisations have long been concerned about the persistent patterns of human rights violations occurring in the country, including forced disappearances, torture and extrajudicial execution.<sup>8</sup> The suppression of freedom of expression online has intensified and the introduction of the Prevention of Electronic Crimes Act, 2016<sup>9</sup> is being used to threaten, harass and detain human rights activists, silencing them online. Forced disappearance has become widespread and paid trolls harass in-

1 McGee-Smith, S. (2019, 30 January). AT&T: Intelligent Pairing Ups Agent Success. *No Jitter*. <https://www.nojitter.com/contact-center-customer-experience/att-intelligent-pairing-ups-agent-success>

2 Jazz. (2019, 22 January). Jazz reducing electricity line losses with GSM, CISNR, and PESCO. *The Nation*. <https://nation.com.pk/22-Jan-2019/jazz-reducing-electricity-line-losses-with-gsm-cisnr-and-pesco>

3 [www.rcai.pk/ResearchCenterAI/project/pp1.html](http://www.rcai.pk/ResearchCenterAI/project/pp1.html)

4 Sethi, M. (2019, 6 June). Opinion: Smart cities will heal the world. *SilverKris*. <https://www.silverkris.com/opinion-smart-cities-ayeshakhanna>

5 Ibid.

6 Bhutta, Z. (2019, 13 March). Govt to use NADRA's database to detect tax evaders. *The Express Tribune*. <https://tribune.com.pk/story/1928627/2-govt-use-nadras-database-detect-tax-evaders>

7 Hussain, S. (2019, 27 March). Capital's cops to get facial recognition devices soon. *The Express Tribune*. <https://tribune.com.pk/story/1937963/8-capitals-cops-to-get-facial-recognition-devices-soon>

8 <https://www.amnestyusa.org/countries/pakistan>

9 [www.na.gov.pk/uploads/documents/1470910659\\_707.pdf](http://www.na.gov.pk/uploads/documents/1470910659_707.pdf)

dividuals online with impunity. Violence triggered by alleged “blasphemy” recently claimed the life of a young university student, leading to rare condemnation from the government after pressure from social media users.<sup>10</sup> All these issues highlight the importance of a human rights framework for AI.

Automation helps remove human interventions from decision-making processes, which can have both positive and negative impacts on human rights,<sup>11</sup> whether accessing business or government services, or simply accessing content online. AI also poses new risks for human rights, as diverse as non-discrimination, privacy, security, freedom of expression, freedom of association, the right to work and access to public services.<sup>12</sup> Pakistan has the opportunity to shape the direction of AI in the country from a socio-ethical perspective by attending to important issues such as privacy, data protection, human dignity and non-discrimination. As the AI ethics guidelines presented by the European Commission’s High-Level Expert Group on Artificial Intelligence (AI HLEG) rightly suggest, “AI should be developed, deployed and used with an ethical purpose, grounded in, and reflective of, fundamental rights, societal values and the ethical principles of beneficence, non-maleficence, autonomy of humans, and justice.”<sup>13</sup> Pakistan should also follow these guidelines in the deploying of AI systems to ensure a human-centric approach to AI with the aim of maximising the benefits of AI and minimising its risks.

### The use of AI in the public sector

Because AI is driving towards greater personalisation in an era of information abundance,<sup>14</sup> it can also help government agencies in developing countries like Pakistan solve complex public sector issues by giving citizens a more personalised and efficient experience. There is huge opportunity for the government to capitalise on this new technology to

improve people’s lives, end poverty and introduce transparency in decision-making processes by reducing fraud, waste and abuse in all departments. In a bid to increase tax collection, the government has embarked on using AI and big data to identify tax evaders.<sup>15</sup> It is hoped that this will help widen the tax net in Pakistan and make tax auditing faster and more efficient. The National Database and Registration Authority (NADRA),<sup>16</sup> custodian of citizen records, in collaboration with the Federal Board of Revenue, have identified 53 million individuals as tax evaders using data mining and AI technologies.<sup>17</sup>

The widespread collection of citizens’ data by the government, and the mining of multiple data sets, increases the risk of manipulation, bias and discrimination based on ethnicity, gender, geography and holding pluralistic or dissenting political views. One such data set involves the national identity smartcard issued by NADRA, which is required for banking transactions,<sup>18</sup> purchasing vehicles,<sup>19</sup> real estate<sup>20</sup> and airline tickets, and travelling abroad,<sup>21</sup> among other transactions. The use of facial recognition technology is another area in the public sector where the government has emphasised the use of AI algorithms. Facial features will become part of a system used for facial identification, matched against existing data sets with citizens’ information. Facial recognition technology can easily identify “discriminating” features on a person and help anyone from researchers to law-enforcement authorities find who they are looking for quicker than ever.<sup>22</sup>

The most pressing challenge for adopting AI technologies is that they should be consistent, accurate and consciously checked for unintended bias. The algorithms used in powering AI platforms must be stable and transparent in design to ensure that small changes in inputs do not change the

10 <https://www.amnesty.org/en/countries/asia-and-the-pacific/pakistan>

11 Council of Europe. (2018, 22 March). Algorithms and Human Rights: a new study has been published. <https://www.coe.int/en/web/freedom-expression/-/algorithms-and-human-rights-a-new-study-has-been-published>

12 Scientific Foresight (STOA). (2019, 19 March). Is artificial intelligence a human rights issue? *European Parliamentary Research Service Blog*. <https://epthinktank.eu/2019/03/19/is-artificial-intelligence-a-human-rights-issue>

13 European Commission. (2018, 18 December). Draft Ethics guidelines for trustworthy AI. <https://ec.europa.eu/digital-single-market/en/news/draft-ethics-guidelines-trustworthy-ai>

14 Nyst, C., & Monaco, N. (2018). *State Sponsored Trolling: How Governments are Deploying Disinformation as Part of Broader Digital Harassment Campaigns*. Palo Alto: Institute for the Future. [http://www.iftf.org/fileadmin/user\\_upload/images/DigIntel/ITF\\_State\\_sponsored\\_trolling\\_report.pdf](http://www.iftf.org/fileadmin/user_upload/images/DigIntel/ITF_State_sponsored_trolling_report.pdf)

15 Sajid, H. (2018, 8 October). Pakistan government to use Big Data and AI to find tax evaders. *Samaa*. <https://www.samaa.tv/news/2018/10/pakistan-government-to-use-big-data-and-ai-to-find-tax-evaders>

16 <https://www.nadra.gov.pk>

17 Khan, M. (2019, 22 June). Online tax profiling system for 53m people unveiled. *Dawn*. <https://www.dawn.com/news/1489672>

18 Dawn. (2010, 22 December). SBP’s directive to banks on CNIC. *Dawn*. <https://www.dawn.com/news/592915>

19 INCPak. (2019, 9 February). Biometric verification mandatory for registration and transfer of vehicle. *INCPak*. <https://www.incpak.com/info/biometric-verification-mandatory-for-registration-and-transfer-of-vehicle>

20 Dawn. (2011, 23 June). Ban imposed on real estate deals without police, Nadra checks. *Dawn*. <https://www.dawn.com/news/638786>

21 Passports are linked to the smartcard database.

22 Khan, D. (2018, 30 March). Pakistan is Developing Its Own Facial Recognition System for Security Purposes. *ProPakistani*. <https://propakistani.pk/2018/03/30/pakistan-is-developing-its-own-facial-recognition-system-for-security-purposes>

output results. It is important that during design the principles of algorithmic fairness and bias-free algorithms are considered. The United Kingdom recently published its guidelines on the use of AI in the public sector, highlighting the need for a balanced, ethical, fair and safe approach to the application of algorithms.<sup>23</sup> These kinds of initiatives can serve as useful templates in developing a similar framework for the application of AI in the public sector in Pakistan.

## The use of AI in the private sector

AI has disrupted the way businesses interact with consumers. It has already become integrated into our daily lives and AI is found in all of our digital devices, including search engines, social media platforms and chat applications. Google, Facebook, Amazon, Apple and Netflix all use AI as means of enhancing (and controlling) the user's experience.

The private sector in Pakistan has been quick to realise the immense potential of AI in improving operations and sales strategies in businesses.<sup>24</sup> Daraz, one of the leading e-commerce platforms in Pakistan, and recently acquired by the China-based Ali Baba group,<sup>25</sup> is empowering tens of thousands of sellers to connect with millions of customers using AI to power its smart search app. The app is powered by deep learning and natural language processing algorithms. It recommends products to shoppers, and informs retailers when they need to increase their inventory to keep up with the demand. The leading telecom service provider, Pakistan Telecommunication Company, also uses AI for interacting with its customers.<sup>26</sup>

The market for AI-powered assistants is growing in Pakistan. Similar to Apple's Siri, Google's Assistant and Microsoft's Cortana personal assistants, RUBA, the world's first Urdu-speaking AI bot has been launched.<sup>27</sup> The AI bot can speak and

understand Urdu while working as your personal assistant in performing tasks such as messaging someone, finding a contact or calling them.

Meanwhile, using big data, machine learning and cognitive intelligence, Mindshare Pakistan has built AI-rich solutions that have transformed the way media planning is done, for instance, through customising advertising using AI.<sup>28</sup>

Finally, ADDO AI, a company started in Pakistan, is one of the emerging AI companies in Asia that is using historical and real-time data gathered through satellites and hyperspectral imaging for planting, harvesting and crop management.<sup>29</sup> The goal is to improve the crop yields for farmers and to protect seed lenders<sup>30</sup> against risks and climate challenges.

These are just some of the AI initiatives in the country's technological sector, which all show how seriously the potential of AI is being taken for business planning and operations at all levels.

## A human rights framework for AI in Pakistan

AI is driving towards greater personalisation of the online interactions of users. This, on one end, allows easy and timely access to required information based on personal preferences as learned by an AI system using a set of behaviour patterns. On the other end, it minimises the exposure to diversified views. Such personalisation may reinforce biases and incentivise the promotion and recommendation of inflammatory content or disinformation in order to sustain users' online engagement.<sup>31</sup> AI-based personalisation risks undermining an individual's ability to find certain kinds of content online by deprioritising content with lower index or search rankings, especially when the system's technical design occludes any kind of transparency in its algorithms.

AI has further encouraged the use of big data-driven systems in both the private and public sector, with the widespread collection and exploitation of individuals' data, increasing risk of manipulation, discrimination and micro-targeting.

23 Government Digital Service & Office for Artificial Intelligence. (2019). *A guide to using artificial intelligence in the public sector*. <https://www.gov.uk/government/collections/a-guide-to-using-artificial-intelligence-in-the-public-sector>

24 Minetti, S. (2018, 21 April). Ensuring the private sector takes full advantage of AI solutions. *Global Banking & Finance*. <https://www.globalbankingandfinance.com/ensuring-the-private-sector-takes-full-advantage-of-ai-solutions>

25 The Express Tribune. (2018, 8 May). China's Alibaba Group acquires Daraz. *The Express Tribune*. <https://tribune.com.pk/story/1705095/2-chinas-alibaba-group-acquires-daraz>

26 Pakistan Telecommunication Company Limited (PTCL). (2017, 24 April). PTCL first to use Afniti's Artificial Intelligence Solution (AIS) in Asia. <https://ptcl.com.pk/Home/PressReleaseDetail?ItemId=540&linkId=0>

27 Rehman, S. (2019, 3 April). World's First Urdu Speaking AI Assistant Launched. *ProPakistani*. <https://propakistani.pk/2019/05/03/worlds-first-urdu-speaking-ai-assistant-launched>

28 The News. (2019, 22 February). Mindshare Pakistan has built AI-rich Media Planning solutions. *The News*. <https://www.thenews.com.pk/print/435128-mindshare-pakistan-has-built-ai-rich-media-planning-solutions>

29 Hynes, C. (2017, 31 August). Four Companies Using AI To Transform The World. *Forbes*. <https://www.forbes.com/sites/chynes/2017/08/31/four-companies-using-ai-to-transform-the-world/#3b5284744038#40eb31a14038>

30 In Pakistan, most farmers do not have the financial means for buying seeds for themselves, so seed lenders are people who give away seeds to be repaid later once the crops yield.

31 Tufekci, Z. (2018, 10 March). YouTube, the Great Radicalizer. *The New York Times*. <https://www.nytimes.com/2018/03/10/opinion/sunday/youtube-politics-radical.html>

Both public sector organisations and private sector companies should provide meaningful information and insights about how they develop and implement standards for personalising the information environment on their platforms. The opaqueness of the algorithms powering AI systems emphasises the importance of obligations of government and the private sector towards the human rights framework that imposes responsibility on both to desist from implementing measures that violate individual human rights. At a policy level, the government and private sector should make policy commitments to respect the human rights of their users in all AI applications, relevant to the collection and use of personal data needed to feed these systems.

Given the methods of profiling individuals using third-party data in Pakistan, it is imperative that the government devise data protection laws and standards with modern notions of consent, reason, use, transparency and accountability. This is particularly important if the personal data is being used without being de-identified before developing new data sets.

As in the government's tax profiling initiative, a further complication is introduced when multiple data sets are used for raising a new data set, in this case of suspected tax evaders. Such data sets have a tendency to lose the original context of where and when the data was acquired, and risk decisions against individuals with mostly out-of-date or inaccurate data.<sup>32</sup>

## Conclusion and recommendations

Many countries are involved in devising global, regional and national AI policies to maximise the potential and minimise the risks of this technology. It is imperative that Pakistan should develop its AI strategy and guidelines with a human rights framework at the core of its policy. The government should not focus only on public sector regulation of the use of AI, but also regulate its use in the private sector. This is because the private sector is more likely to dominate the AI evolution due to its ability to invest long-term in AI development and initiatives.

Furthermore, there is the risk that governments might hand over sensitive data to companies<sup>33</sup> for use in AI platforms, without the necessary safeguards in place. Pakistan should look at the framework provided by the European Union's General Data Protection Regulation (GDPR)<sup>34</sup> and other similar policy frameworks<sup>35</sup> to prevent the unaccountable use of AI and the use of personal data for training these systems. Efforts should be made to provide guidelines on ethical coding, design and application, and attention paid to the need for public oversight of AI machine-learning systems. Transparency is crucial in AI systems given that they are destined to have a significant impact on the lives of communities and individuals in Pakistan.

32 Schwartz, B. (2019, 2 June). Google pre-announces June 2019 core search algorithm update. *Search Engine Land*. <https://searchengineland.com/google-pre-announces-june-2019-core-search-algorithm-update-317698>

33 Due to political pressure, corruption and the importance of smartcard data to businesses.

34 <https://gdpr-info.eu>

35 Dutton, T. (2018, 28 June). An Overview of National AI Strategies. *Politics + AI*. <https://medium.com/politics-ai/an-overview-of-national-ai-strategies-2a70ec6edfd>

# Artificial intelligence: Human rights, social justice and development

Artificial intelligence (AI) is now receiving unprecedented global attention as it finds widespread practical application in multiple spheres of activity. But what are the human rights, social justice and development implications of AI when used in areas such as health, education and social services, or in building “smart cities”? How does algorithmic decision making impact on marginalised people and the poor?

This edition of Global Information Society Watch (GISWatch) provides a perspective from the global South on the application of AI to our everyday lives. It includes 40 country reports from countries as diverse as Benin, Argentina, India, Russia and Ukraine, as well as three regional reports. These are framed by eight thematic reports dealing with topics such as data governance, food sovereignty, AI in the workplace, and so-called “killer robots”.

While pointing to the positive use of AI to enable rights in ways that were not easily possible before, this edition of GISWatch highlights the real threats that we need to pay attention to if we are going to build an AI-embedded future that enables human dignity.

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2019 Report  
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