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?

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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.
Global Information Society Watch 2019
Artificial intelligence: Human rights, social justice and development

Operational team
Valeria Betancourt (APC)
Alan Finlay (APC)
Mallory Knodel (ARTICLE 19)
Vidushi Marda (ARTICLE 19)
Maja Romano (APC)

Project coordination team
Valeria Betancourt (APC)
Cathy Chen (APC)
Flavia Fascendini (APC)
Alan Finlay (APC)
Mallory Knodel (ARTICLE 19)
Vidushi Marda (ARTICLE 19)
Leila Nachawati (APC)
Lori Nordstrom (APC)
Maja Romano (APC)

GISWatch 2019 advisory committee
Namita Aavriti (APC)
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Valeria Milanes (Asociación por los Derechos Civiles)

Project coordinator
Maja Romano (APC)

Editor
Alan Finlay (APC)

Assistant editor and proofreading
Lori Nordstrom (APC)

Publication production support
Cathy Chen (APC)

Graphic design
Monocromo

Cover illustration
Matías Bervejillo

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ARTIFICIAL INTELLIGENCE AND SOCIAL DEVELOPMENT IN VENEZUELA

Fundación Escuela Latinoamericana de Redes (EsLaRed)
Sandra L. Benítez U.
www.eslared.org.ve

Introduction
The economic, political and social crisis in Venezuela is a national tragedy that significantly affects social development. It is a humanitarian crisis that has resulted in levels of impoverishment unprecedented in the history of the country. In this context, it is necessary to evaluate different ways to overcome the crisis and promote the social development of the country, including through the use of artificial intelligence (AI) and the construction of environments that open development opportunities in critical sectors. Emerging technologies, such as blockchain, chatbots, robotics and biometrics, have been developed in recent years by different actors in the public and private sectors in the country, and show significant promise in addressing many of its socioeconomic needs.

This report considers several initiatives using AI that have been implemented in Venezuela. These include the use of a cryptocurrency, the application of AI in health care, and the use of robotics for surgery and for military needs, among others. The laws, plans and treaties that are relevant to the use of emerging AI technologies are also listed. Finally, recommendations are made to encourage the optimal use of AI for social development in Venezuela, so that the country can return to a path of sustainable prosperity.

Policy and legal framework
Venezuela has a regulatory framework that guarantees the basic human rights of citizens, such as economic, social and cultural rights (ESCRs) and internet rights, and which allows the social development of the country to be strengthened. These rights are enshrined in the Constitution of the Bolivarian Republic of Venezuela (CBRV) in the following articles: 52, 57, 59, 60, 61, 67, 75, 95, 110, 118, 184, 199, 201 and 308 (internet rights), and 3, 80, 83, 84, 85, 86, 305 (ESCRs). The use and management of emerging technologies are part of public policy and are covered by the following laws and plans: a) Organic Law of Science, Technology and Innovation, b) Reform of the Organic Law of Science, Technology and Innovation, c) National Science, Technology and Innovation Plan, d) Law of the Government, e) National Plan of Information Technologies for the State, f) Telecommunications Law, g) Law Against Computer Crimes, h) Law on Data Messages and Electronic Signatures, and i) Law on the Simplification of Administrative Procedures, among others. The use of technology is also included in the following development plans and programmes: the Second National Economic and Social Development Plan 2013-2019, The Homeland Plan 2019-2025, the Economic Recovery Programme for Growth and Prosperity, and the Plan for the Country's Future, which was created by the political opposition. In addition, the National Constituent Assembly proposes adding a clause in the CBRV against the military use of science (warning of the danger of using AI and robotics for military purposes, and the risk that this may imply for people globally).

In recent years, the Venezuelan government launched its own cryptocurrency called Petro and created a series of decrees, regulations,
measures and plans to support the development of AI technologies, specifically: the Petro white paper,\textsuperscript{16} Petro regulations,\textsuperscript{17} the national cryptoasset plan involving the development of the Petro,\textsuperscript{18} the superintendency for the cryptocurrency,\textsuperscript{19} the treasury for cryptoassets,\textsuperscript{20} regulations for the exchange of cryptoassets,\textsuperscript{21} the registration for services in cryptoassets,\textsuperscript{22} the exchange for cryptoassets,\textsuperscript{23} and the superintendency for digital mining,\textsuperscript{24} among others.

In the international arena, Venezuela is committed to promoting social development and the use of technologies in a series of pacts, treaties and declarations, such as: the International Convention on ESCRs,\textsuperscript{25} the Declaration on the Right to Development,\textsuperscript{26} the Millennium Development Goals (Goal 8: Promote a global partnership for development),\textsuperscript{27} the American Convention on Human Rights,\textsuperscript{28} the Universal Declaration of Human Rights,\textsuperscript{29} and the Declaration on Social Progress and Development.\textsuperscript{30} There are also agreements\textsuperscript{31} between Venezuela, Palestine, China\textsuperscript{32} and Russia\textsuperscript{33} on tourism and mining that incorporate the Petro as a currency.

The country is active in global events such as the First International Meeting on Cryptoassets\textsuperscript{34} and the St. Petersburg International Economic Forum,\textsuperscript{35} where it highlighted the development of the Venezuelan cryptocurrency.

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\textbf{AI applications for social development in Venezuela}
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Venezuela’s economic, political and social crisis is resulting in a significant delay in the development of the country. According to the 2018 report\textsuperscript{36} of the National Survey of Living Conditions (ENCÖVI),\textsuperscript{37} poverty has increased in Venezuela. The report reveals that the “number of poor households in Venezuela rose by two percentage points and stood at 48% in 2018.”\textsuperscript{38} Furthermore, it says that “vast sectors of the population across the social spectrum have been forced to migrate to seek opportunities in other countries to meet essential needs and generate income that helps sustain the survival of relatives in Venezuela.” Similarly, Feliciano Rey,\textsuperscript{39} founder of the NGO Acción Solidaria,\textsuperscript{40} says that in Venezuela there is a “complex humanitarian emergency; that is to say, a type of humanitarian crisis that produces a change in the political, economic and social life of a country, and whose characteristic is that it severely affects the population’s capacity to survive, and to live with dignity.”

The situation is not helped by the serious political conflict in the country, which includes a power struggle between two national assemblies, a presidential crisis,\textsuperscript{41} a lack of independent powers of institutions, and an erosion of the rule of law.\textsuperscript{42} There are two legislative governmental bodies, the National Assembly (NA)\textsuperscript{43} (democratically elected in 2015, but controlled by the opposition) and the National Constituent Assembly (NCA)\textsuperscript{44} (promoted by the president in 2017 according to Decree 2.830,\textsuperscript{45} with an official majority).\textsuperscript{46} These pass resolutions and laws and set the direction of public policies. However, both bodies follow different plans for the country’s development – the NA follows its plan for

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the country, and the NCA its homeland plan – which worsens the crisis in the country and limits the effectiveness and sustainability of measures aimed at its recovery.

For example, between 2018 and 2019, laws were passed that supported the creation of the Petro (backed by natural resources such as Venezuelan oil), and established the Comprehensive Cryptoasset System, with the aim of strengthening the Economic Recovery, Growth and Prosperity Programme. The NCA supported these initiatives; however, the NA declared them unconstitutional, since the CBRV defines the Venezuelan currency as the bolivar, and there is no way to change it without reforming the constitution. It is also unconstitutional because, unlike the bolivar, it is not guaranteed by the country’s oil reserves.

Faced with these challenges, it is critical to look for alternatives to overcome the crisis so that the country can be put on a path of socioeconomic recovery, and so that the living conditions of citizens, as well as the relations between citizens, groups and institutions that make up the social fabric of society, can be improved. With this in mind, a number of initiatives have emerged using AI technologies:

- **The use of blockchain technology:** In 2018 the Venezuelan government launched its own cryptocurrency called the Petro. An application for the exchange and purchase of goods and services using the cryptocurrency. It revitalises the digital economy in Venezuela, and is backed by a legal framework approved by the NCA. The platform is developed using blockchain technology, and offers the following services: a) the purchase of Petros using other cryptocurrencies (Bitcoin and Litecoin); b) Patria Remesas, which is a platform allowing people in Venezuela to receive remittances in cryptocurrencies quickly, safely and transparently; and c) access to a cryptocurrency savings plan using the Patria platform.

- **Chatbots:** There are many examples of the use of chatbots in Venezuela. For instance, “Mia” is a chatbot set up by the Mercantile Bank, and is a virtual assistant designed to answer frequently asked questions quickly and conveniently; “My Health Insurance Calendar” by Liberty Mutual Caracas allows members to receive information and personalised health reminders; and 3) “Pásalo” (“Pass It”), which is used for secure online payments, and which uses a chatbot.

- **Robotics:** There are also numerous examples of the use of robotics in Venezuela. To name a few, “Da Vinci” is a robot that allows robotic surgery at the Hospital de Clínicas Caracas. It is used by 23 surgeons with different specialties. “Commander IEOV01-02” is an autonomous robot developed by students at the National Experimental University of the Bolivarian Armed Forces (UNEF) that has the capacity to move, on a small scale, solid waste containers from a port to a floating oil platform. “Arpia” is an unmanned aerial vehicle (UAV) that is used to patrol border areas and oil zones. Finally, “ANT-x (Gavilán)”, also an UAV, performs environmental monitoring tasks as well as operating in areas where natural disasters have occurred.

- **Biometrics:** Examples of biometrics use in Venezuela include “BiopagoBDV”, a biometric payment system set up by Banco de Venezuela, which allows for the purchase of goods and services, and is used to control the sale of food in supermarket chains and pharmacies; and the Integrated Authentication System (SAI), a biometric

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49 [www.mppf.gob.ve/aprobada-ley-del-sistema-integral-de-cryptoactivos-en-la-anc/](http://www.mppf.gob.ve/aprobada-ley-del-sistema-integral-de-cryptoactivos-en-la-anc/)
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authentication system set up by the National Electoral Council (CNE). It uses e-election technology developed by the multinational Smartmatic.\textsuperscript{65}

The above shows that the private sector in Venezuela has used chatbot technology for banking, insurance, medical care, and digital payment systems. No widespread use of this technology in public institutions was observed, suggesting an opportunity to explore the potential of chatbots to optimise government processes, and simplify administrative procedures.

As can be seen, the use of robotics in Venezuela is oriented towards improving medical procedures, performing military operations such as patrolling territorial borders, in monitoring the environment, and for transporting waste. Actors from the academic and business sectors\textsuperscript{66} have stated that there is little government financial support to promote robotics, which does not allow them to collaborate as part of a national technological development strategy. However, companies such as Vehiculum\textsuperscript{67} are exploring the feasibility of using small robots to harvest vegetables in Venezuela’s Andean region. Robotics training programmes\textsuperscript{68} have also been created at different educational levels, and entrepreneurship is promoted through the digital business acceleration programme run by the transnational company Telefónica.\textsuperscript{69}

When it comes to blockchain and biometric technology, the government has used these technologies to promote a digital economy using cryptoassets, establishing national control mechanisms for the distribution and sale of basic necessities, and to manage electoral processes. The aim has been to encourage and develop an ecosystem of supply and consumption of goods and services based on the Petro, and to establish control mechanisms in critical sectors. Likewise, the government recognises the political, economic and social value of blockchain technology in managing big data, which is why the National Centre for Development and Research of Free Technologies (Cenditel) has developed the Blockchain Project\textsuperscript{70} and the Automated Open Consultation System.\textsuperscript{71}

These projects allow for the automated processing of data for modelling, based on latent Dirichlet allocation (LDA),\textsuperscript{72} and facilitating decision making in electoral processes.

The research for this report has shown that in Venezuela there are efforts to integrate AI technologies into different processes of innovation, development and management; however, there are no Venezuelan state strategies that integrate initiatives in the public and private sectors that make it possible to take advantage of the benefits of AI to guarantee sustained social development.

Conclusion

The serious frictions and differences that exist in different sectors of the country with respect to the development model and policies that must be implemented to overcome the political, economic and social crisis are significant barriers to integrating AI technologies in the country’s development efforts. This amounts to a lost opportunity to promote the social development of the country, based on the use and management of technologies. This report shows that AI is being used in disconnected environments with little cooperation between the project proponents. The lack of national consensus means that the national productive sector\textsuperscript{73} is largely unaware of the capabilities of emerging technologies already in use in the country. Those with the skills to implement the technology, are, in turn, unaware of the needs of the sector. In this environment, while the government must correct the economic distortions that are impoverishing citizens, it must also evaluate new ways to implement public policies and seek a national consensus that unites people for the good of the nation. Part of this involves allowing the strategic integration of AI in critical sectors in the country. Likewise, the private sector must contribute to developing democratic ways that promote change, that are necessary to guarantee social development in the country and the optimal use of AI.

The use of AI in the socioeconomic development of Venezuela, in some cases, has only just started and has responded to specific needs that are the result of the humanitarian social crisis in the country. This is particularly visible in the diaspora of Venezuelans, including the migration of medical specialists, which has resulted in the use of chatbots to attend to patients and manage virtual clinics, as well as using cryptocurrencies for remittances. The latter is a way to support Venezuelans who stay in the country and who face one of the worst economic

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  \item[66] www.ing.ula.ve/averod/?page_id=14
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crises in their history, where there is a galloping hyperinflation\textsuperscript{74} impacting on the cost of goods and services. A blockchain-based cryptoasset economy can introduce opportunities for economic innovation, such as using the Petro as an everyday medium of exchange, a unit for setting prices, and a form of savings for citizens, despite the unconstitutionality of the Petro, as argued by the AN, and the distrust in its use by many citizens. Also in the financial sector, the shortage of hard currency in the economy has prompted the use of digital payments supported by chatbots, and the management of banking services with virtual assistants.

The need to control the country’s borders, both for the country’s sovereignty and because of illicit activities, has led the government to deploy UAVs. Their use is also seen in environmental management, and in the monitoring of disaster zones. Robotics have also been used to manage waste in high-risk areas.

Finally, while AI has helped with the analysis of big data for socio-political purposes, biometric systems have been a way to control critical processes in the economy, such as managing the scarcity of goods. Biometrics have also been useful in electoral processes, helping to control electoral irregularities.

**Action steps**

The government has been taking measures to boost the digital economy in Venezuela as a way to establish alternative mechanisms for the development of the country. It has also used AI technologies to analyse big data, control processes in the distribution of goods and services, for electoral processes, and, although not discussed in this report, in the management of social networks.\textsuperscript{75} The strategic management of data allows the government to react in a timely and effective way to changes in the environment. However, this should be handled with caution, as political factors can influence decision making and subject citizens to unfair measures and restrictions, which can generate social chaos and discrimination. On the other hand, it is imperative that the use of the Petro reaches national consensus so that trust in the financial environment can be created. The government should build bridges to alleviate an atmosphere of distrust with regards to cryptocurrencies. It should promote technological innovation, not by imposition, but through debate and consensus. For their part, the private sector and civil society must consider how to optimise the use of AI, and in this way contribute to the creation of solutions that help overcome the crisis impacting so negatively on the development of Venezuela.


\textsuperscript{75} There is AI behind what we see on social networks. AI decides what is shown on the page every time we log into a social network. AI allows for dissemination strategies that can influence social processes through, for example, fake news or using algorithms to influence people’s online preferences. Social media is also being used for espionage, and the unauthorised use of personal data for political and economic purposes by large technological monopolies, governments and computer giants, among other things. [www.eluniversal.com/tecnologia/38629/las-redes-sociales-y-la-inteligencia-artificial](http://www.eluniversal.com/tecnologia/38629/las-redes-sociales-y-la-inteligencia-artificial), [www.aporrea.org/tecnol/n344005.html](http://www.aporrea.org/tecnol/n344005.html)
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