

# 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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We would like to extend a special note of thanks to a number of authors who have made ad honorem contributions to this edition of GISWatch.

We gratefully acknowledge the following:

Philip Dawson and Grace Abuhamad (Element AI)  
Anita Gurumurthy and Nandini Chami (IT for Change)  
Rasha Abdul Rahim (Amnesty International)



APC would like to thank the Swedish International Development Cooperation Agency (Sida) and ARTICLE 19 for their support for Global Information Society Watch 2019.

Published by APC

2019

Printed in USA

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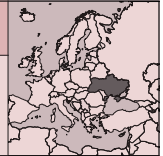
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Global Information Society Watch 2019 web and e-book

ISBN 978-92-95113-13-8

APC Serial: APC-201910-CIPP-R-EN-DIGITAL-302

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## Introduction

This report presents a general overview of the future vision for artificial intelligence (AI) in modern Ukraine. With the 2018-2019 election campaign by the country's new president Volodymyr Zelenskyy – in which a digital agenda was placed squarely in the spotlight – as a backdrop, it considers the potential, needs and human rights implications of making the country a prominent actor in the field of AI globally.

### “Artificial intelligence should replace the mentality of officials”

In April 2019, following a successful election campaign largely based on digital tools,<sup>1</sup> a comedian, Volodymyr Zelenskyy,<sup>2</sup> won the Ukrainian presidential elections with an unprecedented 78% of the vote, bringing the promise of much awaited change to the county.<sup>3</sup> Commenters reported that much of Zelenskyy's success is owed to his appeal to the younger generation of Ukrainians, who see digital technology as an everyday necessity, and expect the new leader to embrace the digital

future.<sup>4</sup> This was anticipated during the campaign, with Zelenskyy's team – officially called “Ze!Team”<sup>5</sup> – appointing a digital campaign leader right from the start. Mikhailo Fedorov, in charge of the digital campaign, gave several interviews stating that the priority of the new president would be to develop the digital sphere in the country in order to optimise the everyday experience of Ukrainian citizens.<sup>6</sup>

These promises are expected to be kept by Zelenskyy, who sees AI as the best tool to reboot the mind-set of Ukraine. During his official visit to Canada on 2 July 2019, Zelenskyy outlined the country's priorities:

With the digitalisation of processes, and the implementation of “a state in a smartphone”, artificial intelligence should replace the current mentality of officials. It will be used for overcoming monopolies, and fighting smuggling; for protecting property rights, improving the country's credit rating, and attracting large-scale investment. All this should be done in order to improve the living standards of Ukrainian citizens.<sup>7</sup>

However, does the country have enough resources to implement these ambitious strategies, and most importantly, is the new government aware of the negative sides of AI?

- 1 For detailed figures see Shishatskii, E., & Yurasov, S. (2019, 26 April). U nas est' proekt Chernaya biblioteka Poroshenko: onlain-strateg Ze [The lead online strategist of Ze Team: We have a project of Poroshenko's black library]. *tech.liga.net*. <https://tech.liga.net/technology/interview/pochemu-poroshenko-proigral-intervyu-s-onlayn-strategom-zelenskogo>
- 2 There are several transliteration options of Volodymyr Zelenskyy's name due to the different spelling of his name in Ukrainian and in Russian, as well as different transliteration styles. In this article I am using transliteration from the official website of the president of Ukraine (<https://www.president.gov.ua/en>). However, if his name appears in a quote in a different transliteration, the spelling used in the original source is maintained.
- 3 The elections took place in an important time in Ukrainian political life, following the legacy of the 2014 Ukrainian Revolution (also known as the Maidan Revolution), the annexation of Crimea, and an ongoing military conflict in the Luhansk and Donetsk regions of the country.

- 4 The phenomenon of Zelenskyy's rapid success is of course more complex than just the reference to new technologies. Some suggest that this is a part of a “global trend of rebelling against the government systems [...] when the masses get tired of the old elites and raise populists and other ‘friends of the people’ to rebel against these systems” [AFRIC. (2019, 22 April). Elections in Ukraine: The Zelenskyy phenomenon. *AFRIC*. <https://afric.online/11555-elections-in-ukraine-the-zelenskyy-phenomenon>]; some root it in the success of the highly popular TV series “Servant of the People”, which portrays a school teacher played by Zelenskyy winning the presidential elections [Fisher, J. (2019, 22 April). Zelenskyy win: What does a comic president mean for Ukraine. *BBC*. <https://www.bbc.com/news/world-europe-47769118>]. There are other speculations among political analysts. For the purposes of this report, such speculations will be only mentioned marginally, and the report will largely focus on the strategic implementation of AI and its related context during the rule of the new president.
- 5 Importantly, the name of the campaign mimicked the branding of the IT giant Apple. Following the branding scheme of iTunes, iPhone, iPad, iWatch, etc., the election campaign introduced Ze!Team, Ze!Academy, Ze!Elections, etc. Interestingly, “Ze” also implies the English definite article “the”, thus hinting at the European/international nature of the campaign.
- 6 <https://www.bbc.com/ukrainian/features-russian-48014443>
- 7 Author's translation of the original. <https://www.president.gov.ua/news/gromadyanin-kluyent-vlada-servis-prezident-u-kanadi-nazvav-p-56169>

## New president, new government – new (AI) life?

Fedorov, who was appointed as Advisor to the Head of State in May 2019,<sup>8</sup> thinks that there is a great potential for Ukraine to enter the AI world. Ukraine is among the top four countries with the largest number of IT specialists,<sup>9</sup> and in the last four years, according to PwC, the number of IT specialists has more than doubled, from just over 40,000 to nearly 92,000. In terms of available talent, Ukraine already outpaces its competitors in the region, including Poland and Hungary, and PwC believes the number of IT professionals will double again by 2020.<sup>10</sup>

The effectiveness of this potential was clearly demonstrated during the election campaign led by Fedorov and largely based on volunteers. By the time of the elections, Ze!Team had 600,000 followers on Instagram, 500,000 on Facebook and 160,000 on Telegram, with four billion website visits, and more than 18 billion campaigning emails, which is a significant achievement taking into account that they started from scratch just four months before the elections.<sup>11</sup>

Fedorov stresses that AI algorithms were used for detailed analysis of campaign data, resulting in 32 segments of data:

Based on these segments, we understood who was most interested in us, who wanted to interact with us the most. We identified key segments: IT specialists, mothers, people who supported certain aspects of our programme, and worked with these segments. Plus, we identified people who supported the [then] current government and those who did not. [...] We used geolocation, targeting cities, because the CTR<sup>12</sup> is always higher in cities. [...] We tested a lot.<sup>13</sup>

When asked whether Ze! campaigners were looking into the way Trump had run his election campaign, Fedorov responded that Ukrainian AI specialists used data much better than Trump, and also in a more open manner, noting however that a detailed analysis of both campaigns was yet to be presented.<sup>14</sup>

The use of AI in the Ze! election campaign is somehow illustrative of the situation with AI in the country as a whole – there is a lot of testing, which produces some good results; however, there is no systematic approach to this testing.

In October 2018, Ivan Primachenko, a co-founder of the Ukrainian educational platform Prometheus that provides online courses from top world universities, published an article questioning whether Ukraine was ready to enter the era of AI. His conclusions expressed disappointment in government structures and state universities, which, in Primachenko's opinion, failed to embrace AI technologies, especially at the level of legislation and teaching.<sup>15</sup> The best initiatives in this sphere were still located within private companies and individual initiatives.<sup>16</sup>

However, with Fedorov joining the presidential office, there seem to be radical changes with respect to AI initiatives at the governmental level. The first large presidential initiative is called “State in a Smartphone”, an advanced e-government project that would move all government-related services online. Some steps towards this direction have been made in the past four years; but the development strategy is now more ambitious. “The ultimate goal for most services should be full automation, when the decision is made not by the official, but by the system, based on a clear algorithm provided by a regulatory framework,” says Oleksiy Viskub, first deputy head of the State Agency for e-Governance.<sup>17</sup>

Importantly, to realise this strategic plan, Ukrainian officials arranged multiple consultations with Estonian e-governance representatives. Over the past 20 years, the Estonian government has

8 Before this appointment, like Zelenskyy himself, Fedorov had never been in any public or political service. He ran a small digital agency, which was hired to promote Zelenskyy's comedy club “Kvartal 95”, later accepting Zelenskyy's offer to run his presidential campaign. <https://strana.ua/news/202366-mikhail-fedorov-naznachen-sovetnikom-prezidenta-ukrainy-vladimira-zelenskoho.html>

9 After the United States, India and Russia. See: Ukraine Digital News & AVentures. (2016). *IT Ukraine: IT services and software R&D in Europe's rising tech nation*.

10 Borys, C. (2018, 18 January). Ukraine's economic secret: 'Engineering is in our DNA'. *BBC*. <https://www.bbc.co.uk/news/business-42403024>; see also Andrienko-Bentz, O. (n.d.). *Export-oriented segment of Ukraine's IT services market: Status quo and prospects*. EBA and PwC. [https://eba.com.ua/static/export\\_it\\_industryfinal\\_29092016.pdf](https://eba.com.ua/static/export_it_industryfinal_29092016.pdf)

11 Shishatskii, E., & Yurasov, S. (2019, 26 April). Op. cit.

12 Click-through rate (CTR) is the ratio of users who click on a specific link to the number of total users who view a page, email or advertisement.

13 Shishatskii, E., & Yurasov, S. (2019, 26 April). Op. cit.

14 Ibid.

15 Primachenko, I. (2018, 24 October). Voidet li Ukraina v eru iskusstvennogo intellekta? [Will Ukraine enter the era of artificial intelligence?]. *NV.ua*. <https://nv.ua/opinion/vojd-et-li-ukraina-v-eru-iskusstvennoho-intellekta-2502284.html>

16 To list a few: People AI start-up by Oleg Roginsky with USD 30 billion investment by Andreessen Horowitz; Augmented Pixels by Vitaliy Goncharuk, which also holds the biggest AI conference in Ukraine; Artificial Intelligence Platform within the Everest Innovation Integrator by Yuri Chubatuk; initiatives in education include master classes in machine learning in the private Ukrainian Catholic University; and free online courses in machine learning available on the Prometheus platform.

17 <https://www.president.gov.ua/news/radnik-prezidenta-ukrayini-mihajlo-fedorov-obgovoriv-iz-pred-55621>

reached significant milestones in the digitalisation of its services. Having built a society where public and private digital services are woven into the fabric of everyday life, including the introduction of electronic ID cards linked to national registers, the first electronic elections, and 99% of government services online, the Estonian government now plans to build next-generation public services based on AI, according to its National Digital Advisor.<sup>18</sup> Ukraine is ready to join this future, as the two countries are seeking to “deepen cooperation” in the implementation of a new type of e-government.<sup>19</sup>

While it is still unclear which particular AI algorithms from the Estonian experience will be implemented in the Ukrainian e-government programme – a detailed action plan for 2019 and strategic goals until 2024 were presented to the European Parliament on 10 July 2019,<sup>20</sup> but the text has not been made public yet – it is important that the public joins in on the debates on its future.

The first survey on the public attitude towards AI in Ukraine, called “Artificial Intelligence: The Ukrainian Dimension”, was conducted by Gorshenin Institute and Everest Innovation Integrator in September 2018,<sup>21</sup> giving promising results, but also outlining concerns. Almost 85% of respondents had heard the term “artificial intelligence”, and 74.1% experienced the influence of AI on their life. Half of the respondents said they were interested when receiving information about AI. Finally, and notably, AI caused anxiety and fear in almost 23% of respondents.<sup>22</sup>

According to the survey, the majority of those who welcomed the development of AI in Ukraine considered it capable of replacing humans in dangerous workplaces, as well as increasing the productivity of industrial enterprises. Fewer respondents anticipated that AI would help in extending human life and preventing diseases, or would provide protection against natural disasters, catastrophes, wars and crime. On the other hand, the range of negative consequences was seen as somewhat more serious. The respondents feared that AI could result in oppression, while the most pessimistic predict the possibility of establishing

an AI dictatorship and the destruction of human civilisation.

Importantly, some survey questions were related to the use of AI in national and local government. Ukrainians are convinced that technological intelligence can ensure fair elections, reduce the level of bureaucracy, overcome corruption and optimise public spending. In urban areas, respondents said AI could regulate street lighting, traffic and parking, and garbage collection and processing, and monitor public order and the health of the environment.

It would be fruitful to compare these results with the ones from the year-long public debate over the algorithmic liability law in Estonia (a.k.a. the Kratt<sup>23</sup> law), which initiated the “opinion shift toward avoiding sector-based regulation, opting for general algorithmic liability instead.”<sup>24</sup> The Kratt law debates generated the important idea of providing algorithms with a separate legal status, similar to companies (a draft bill should enter the Estonian parliament for debate in summer 2019).

As Ukraine starts to have these ethical, moral and philosophical debates on AI, it is important they are discussed in all their complexity, and infused with human rights concerns, with respect to using AI in both the public and private sectors. To quote Yuri Chubatyuk, president of the Everest group of companies, which just launched a large Ukrainian AI platform:

We are at the stage when it is necessary to discuss an effective public-private partnership, which, with a holistic, deliberate concept of innovation and development, can create the expected technological leap for the country. We need a national strategy in AI development to provide a phased transformation of each industry, especially the educational sector, which directly affects the ability of Ukrainians to compete in the technological market in the near future. We must understand that the process of consolidating efforts in this direction should start now, involving business and research communities, members of the government, politicians, and the public.<sup>25</sup>

## Conclusion

With the election of the new president, who included a focus on new technologies as one of the priorities of his programme, Ukraine seems to be

18 Kaevats, M. (2018, September). AI and the Kratt momentum. *Estonian Investment Agency*. <https://investestonia.com/ai-and-the-kratt-momentum>

19 <https://www.president.gov.ua/news/ukrayina-ta-estoniya-pogliblyat-spiivpracyu-dlya-realizaciyi-55861>

20 <https://www.president.gov.ua/news/yevropejskij-soyuz-pidtrimaye-realizaciyu-koncepciyi-derzhav-56337>

21 <https://www.youtube.com/watch?v=AXOxQ5GggIA>

22 Trapeznikova, D. (2018, 19 December). *Iskusstvennyi intellekt nam pomozhet*. [Artificial intelligence will help us]. *day.kyiv.ua*. <https://day.kyiv.ua/ru/article/obshchestvo/iskusstvennyy-intellekt-nam-pomozhet>

23 Kratt is a magical creature in Estonian mythology. Essentially, Kratt was a servant built from hay or old household items. The Estonian government uses this character as a metaphor for AI and its complexities.

24 Kaevats, M. (2018, September). *Op. cit.*

25 Trapeznikova, D. (2018, 19 December). *Op. cit.*



looking towards accelerating the development of AI in both the public and private spheres. By some estimates, the country has good chances of becoming internationally visible in the sector. It does indeed have an impressive base of IT specialists and private initiatives in the AI field; however, this needs to be backed up with coherent governmental policies that allow public-private partnerships.

The positive move is that the new e-government initiative was launched in the first few days of the president taking office; however, it is still unclear what exactly it will entail.<sup>26</sup> Importantly, it will be necessary to invite the public to consider the issue, as well as to think of the human rights implications of any development. Currently, not all regions of Ukraine have sufficient telecommunications coverage. While this particular issue is being addressed,<sup>27</sup> it is important to continue addressing the digital divide in the country, alongside a focus on AI.

While the results of the national survey on AI showed that there was a high level of public awareness of AI in Ukraine, there is less recognition of Ukraine as an AI-progressive country on the international scene. While an annual international conference on AI held in Ukraine plays an important role in developing this visibility,<sup>28</sup> there are still concerns that the country is seen as an underdeveloped state with respect to AI.<sup>29</sup>

Most importantly, while the new president Zelensky sees AI almost as a mythological superpower,<sup>30</sup> which “should replace the mentality of officials,” it is important to consider the dangers of such “algorithmic governmentality”. What we face here is what Antoinette Rouvroy calls – following Foucault – a crisis of the regimes of truth: “To my mind, we are less facing the emergence of a new regime of truth than a crisis of regimes of truth. A

whole range of notions are in crisis: the notions of person, authority, testimony.”<sup>31</sup>

If Ukraine is going to implement these changes, they will be radical changes in how we see the world, and how the government works. Most importantly, if the implementations of AI and e-government allow the state to know in great detail about a citizen’s day-to-day life, the state would no longer need to ask people about their lives, thus dislocating the axis of power in the citizen-state relationship necessary for democracy to function, which might lead to unpredictable consequences.

## Action steps

The following are key needs in Ukraine:

- *National AI strategy*: There is a need to develop a national AI strategy to create a common framework for implementation in both the public and private sectors with a specific focus on human rights and the digital divide.
- *Algorithmic identity*: It is necessary to define – legally – what kind of algorithms are used in e-government and private sector initiatives, and who owns them.
- *An effective data protection policy*: How does one ensure the integrity of decision making with algorithms that evolve and change constantly? How can we be sure that sensor data used in algorithms has not been hacked or changed? Estonia’s experience in using KSI blockchain technology to secure its citizens’ medical records may help.<sup>32</sup>
- *A balanced debate on AI*: There is a need to have an honest, meaningful public debate on the technical and legal aspects of AI, including AI’s controversial attributes and threats. Any discussion must involve the public.
- *Visibility of AI*: It is also important to ensure that all AI strategies and initiatives are reported on and critically reviewed by the press and social media, both nationally and internationally. Their purpose and use needs to be clear and publicly known.
- *Education in AI*: There is a need to create AI and machine-learning courses in schools and universities nationwide.

26 The plan was presented to the European Parliament on 10 July 2019, but the documents have not yet been released to the public.

27 <https://www.president.gov.ua/news/radnik-prezidenta-mihajlo-fedorov-obgovoriv-z-predstavnikami-56201>

28 <https://aiukraine.com>

29 The futurist and author of international bestsellers Yuval Noah Harari in a conversation with Mark Zuckerberg put Ukraine in line with Honduras and Yemen when talking about the country’s AI development level. See: [https://fbnewsroomus.files.wordpress.com/2019/04/transcript\\_-marks-personal-challenge-yuval-noah-harari.pdf](https://fbnewsroomus.files.wordpress.com/2019/04/transcript_-marks-personal-challenge-yuval-noah-harari.pdf); for a discussion of this mistake in Ukrainian media, see Goncharuk, V. (2019, 4 May). *Ukraina – ne Gonduras: gre nashi mesto v oblasti iskusstvennogo intellekta*. [Ukraine is no Honduras: Where is our place on the AI scene]. *Ekonomicheskaya Pravda*. <https://www.epravda.com.ua/rus/columns/2019/05/4/647525>

30 Interestingly, the current major exhibition on AI at the Barbican Centre, London, showcases ancient beliefs, such as myths, magic, illusion and religion, as the predecessors of AI. See: <https://www.barbican.org.uk/whats-on/2019/event/ai-more-than-human>

31 Morison, J. (2016). Algorithmic Governmentality: Techno-optimism and the Move towards the Dark Side. *Computers and Law*, 27(3). [https://pure.qub.ac.uk/portal/files/89325400/Algorithmic\\_Governmentality.pdf](https://pure.qub.ac.uk/portal/files/89325400/Algorithmic_Governmentality.pdf)

32 KSI is a blockchain technology designed in Estonia after cyberattacks in 2007 and used globally to make sure networks, systems and data are free of compromise, and have 100% data privacy. See <https://e-estonia.com/solutions/security-and-safety/ksi-blockchain> and <https://guardtime.com>

# 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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