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Amina Alaoui Soulimani   August 15th, 2022

Local talent should code Africa's algorithmic health infrastructures

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Africa's fourth industrial revolution has been dominated by discourses of infrastructure transformation which include digital healthcare. It is no secret that several smart hospitals in Africa are built through foreign direct investment. Amina Alaoui Soulimani argues that beyond the colonial gaze with which several of these hospitals are established, it is important to explore whether local talent should drive this innovation, and what these technologies mean for the management of patients' personal data.

New infrastructural frontiers

Africa's new development infrastructure frontiers are largely emerging at high-speed thanks to foreign direct investment. Since 1970, China has been building and subsidising hospitals in Ghana, Zimbabwe, Ethiopia, Niger and Benin, among other African countries, with a commitment of reaching 100 hospitals and clinics. The United Arab Emirates is further investing in the digital transformation of healthcare in Africa, aiming to develop the continent's smart hospitals.

Smart hospital infrastructures involve the establishment of technologies powered by Artificial Intelligence (AI). Hospital patients are often enthusiastic about technologies

that can reduce their waiting time and provide hope-driven treatments. Beyond the colonial gaze with which several of these hospitals are established, an important questioning to bring to the fore pertains to the algorithms adopted for the new technologies that underpin information management systems, precision medicine, or AI for cancer diagnosis, among others.

For instance, since 2017, several biolabs in Morocco, South Africa and Cameroon adopted the same AI driven solution for cancer diagnosis. The Swiss-American, data-driven medicine software company leading this innovation aims to exchange patients' data across 46 countries. However, transferring medical data to a centralised gatekeeper does not only increase the possibility of data breaches but of the often opaque manoeuvring of personal data.

What guarantees that patients' medical data is safeguarded? And what measures are put in place to track the mobility of genomic data? More importantly, can local talent drive this innovation? Beyond questioning the ways in which foreign health technologies will inhabit new contexts, we must also inquire about power and ethics that accompany these mobilities, which are often ungoverned and characterised with opacity.

The trajectory of the algorithms

Algorithms are the functioning heart of any artificially intelligent system. An algorithm refers to a particular set of guidelines or steps to produce a result or a specific outcome. Artificial Intelligence is an amalgam of algorithms or, as Ivana Bartoletti defined it in her book *An Artificial Revolution: On Power, Politics and AI* "artefacts used to detect context or to effect action in responses to detected contexts".

Data-driven technologies in hospitals risk exposing private data in the name of a better future, a better treatment, or a fair diagnosis. The oscillating pendulum of this matter for twenty-first century citizens is set between "service versus privacy." The control of an ecosystem in places like hospitals must not be granted to foreign governments. The invisibility of the algorithms that power medical technologies, patient watches, or diagnosis systems make it hard for a possible tracing of where these algorithms emerged, were built, and developed. And eventually, the possible spaces in which patients' data will be circulated.

Abeba Birhane argues for a consideration of the relevance and appropriateness of Western AI software to African contexts. What is deemed as personal information in a particular country in the global North could not be applicable to a Ugandan context, for instance. Often, the fragile accountability and regulations that currently exist put

patients' health data at risk. If we follow Birhane's argument, technological solutions within Africa's infrastructural frontiers should not be powered by Western developed AI.

Travelling technologies offer little space for local modes of production to emerge. At the 2019 World Economic Forum held in Cape Town, Nigerian entrepreneur, Iyinoluwa Aboyeji called for an investment in local talent in order to develop Africa's new transformative and innovative frontiers for equitable access. It is fair and honest to say that the enchanted determinism around what technologies can offer this new wave of mass data production and exploitation surpasses our imagination. Birhane and Aboyeji give us an answer: coding Africa's algorithmic healthcare Infrastructures must come from local talent.

As a researcher investigating these intersections in a Moroccan context, I seem to come across to my interlocutors as AI negative. Asking simple and basic / 'stupid' questions had been my point of departure. Can and should we trace these foreign algorithms deployed within national health infrastructures? 'What for' is the answer I have often received. While the pre-occupation is for the hospital to look in a specific aesthetic, the functionality of software for health seems to be the dominant priority.

Government discourses on local ownership of data are resurfacing. But, further questions must emerge with it: which citizens' data should governments have access to, and which ones should the private sector have control over? And what can we as individuals and communities protect, if at all?

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About the author
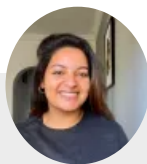
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