

AI and vulnerabilities in sub-Saharan Africa: The need for trustworthiness, reliability and equitable access

Ugochukwu Ejike Akpudo^{1,2*}, Jake Okechukwu Effoduh^{1,3,4}, and Jude Dzevela Kong^{1,3,4}

¹*Africa-Canada Artificial Intelligence and Data Innovation Consortium (ACADIC), York University, Toronto, ON, Canada*

²*School of Engineering and Built Environment, Griffith University, Brisbane, QLD, Australia*

³*Laboratory for Industrial and Applied Mathematics (LIAM), Department of Mathematics and Statistics, York University, Toronto, Ontario, Canada*

⁴*Global South Artificial Intelligence for Pandemic and Epidemic Preparedness and Response Network (AI4PEP), York University, Toronto, ON, Canada*

**Corresponding author. Email: akpudougo@gmail.com*

Abstract

Sub-Sahara Africa (SSA) reserves some of the world's oldest cultures and traditions, and with the traces of colonialism still lurking in her sociopolitical affairs, her participation in contributing significantly to achieving sustainable development goals (SDGs) and widespread adoption of artificial intelligence (AI) seem hindered by several factors including her existing conservative/traditional policies. In her quest for adopting these AI technologies, acceptable reliability measures must be put in place (as policies) to ensure that the already-existing class imbalance in SSA communities does not help in the realization of the SDGs; especially data security, and safety, and equitable access to AI technologies for SSA. Trustworthy, safe, and inclusive AI and data policies should be designed amidst the unfortunate SSA's socio-political ecosystems to ensure equitable access. This brief unveils some vulnerabilities surrounding the use of AI in SSA and promotes equitable access to new technologies in SSA amidst the anxiety around AI and concerns about data governance.

Keywords— Artificial Intelligence, Trustworthiness, Equitable access, Data governance, Vulnerabilities in sub-Saharan Africa, Data policy, Reliability

1 Provocation Statement

AI interventions in Africa present unique ethical issues and risks. Combined with Africa's acute socioeconomic and political challenges, the volatile climate, disease outbreaks, food shortages, and civil unrest demonstrate the necessity for AI-enabled innovations. Despite this, AI development and implementation on the continent are not effectively overseen and regulated by formal mechanisms. In an ad hoc implementation, AI is difficult to govern, and innovations are implemented before the risks are fully understood. Africa's vulnerabilities to a hasty AI adoption demand careful evaluations of trustworthiness, reliability, and equitable access.