Editorial: Legal-Technical Governance and Regulation of Artificial Intelligence in Africa

CI Okorie* and V Marivate**

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Authors

Chijioke Okorie
Vukosi Marivate

Affiliation

University of Pretoria, South Africa

Email

chijioke.okorie@up.ac.za
vukosi.marivate@cs.up.ac.za

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Guest Editors

Prof Chijioke Okorie
Prof Vukosi Marivate

Journal Editor

Prof Wian Erlank

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Abstract

This editorial introduces the special issue on the legal-technical governance and regulation of artificial intelligence (AI) in Africa, the product of a project launched by the Data Science Law Lab in collaboration with the Data Science for Social Impact research group at the University of Pretoria. It situates the five peer-reviewed contributions within a legal-technical approach to AI governance: a transdisciplinary approach in which the legal and the technical are fused to add nuance to regulatory forms and practices and to close the legal-technical gap in AI governance and regulation. The contributions move from conceptual foundations, where legal-technical governance is advanced as an analytical framework, through continental norm-making on the transition from African Union soft law to an AI treaty and national policy design on intellectual property in African AI strategies, to the operation of AI systems in practice, addressing the algorithmic sovereignty gap in AI-enabled surveillance in South Africa and Nigeria and the legal status of predictive policing in the fight against cybercrime in Nigeria.

Keywords

Artificial intelligence; legal-technical governance; AI regulation; Africa; AI policy.

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It is with great pleasure and a keen sense of timeliness that we welcome readers to this special issue of the *Potchefstroom Electronic Law Journal*, dedicated to the legal-technical governance and regulation of artificial intelligence (AI) in Africa. As AI systems increasingly mediate economic, social and civic life across the continent, the task of governing them can no longer be approached from a purely legal or a purely technical vantage point. The contributions gathered here proceed from the conviction that, in the governance of AI, the legal and the technical are so intertwined that each is hard to tell apart. A legal-technical approach fuses the two, adding nuance to regulatory forms and practices and ensuring that AI innovation is regulated in a way that respects both legal standards and technological innovation. Such a hybrid, transdisciplinary approach holds the promise of closing the legal-technical gap in AI governance, reconciling the often-disparate domains of law and technology, and charting a path towards more effective and responsive regulatory environments.

This collection has its origins in the Legal-Technical AI Governance and Regulation in Africa project, launched by the Data Science Law Lab in collaboration with the Data Science for Social Impact research group at the University of Pretoria, with the support of Meta. Following a continental call for papers, the authors of accepted abstracts convened at a publication symposium on the legal-technical governance of AI in Africa, where each contribution received critical input and where researchers, legal experts and technologists fostered the ongoing collaboration that this project seeks to build. Recordings of the symposium presentations remain publicly available and complement the fuller, citable scholarship now presented in this issue. While the symposium served as a catalyst, each article stands as an independent piece of scholarship that has undergone a rigorous, blind peer review process, ensuring scholarly rigour and individual merit. For transparency, we disclose that one of the guest editors, Chijioke Okorie, is the author of a contribution to this issue. In line with the journal's editorial policies, that article was handled independently by the co-editor and the journal editor, subjected to the same blind peer review process as all other contributions, and the author-editor was recused from all editorial decisions concerning it.

Thus, this curated compilation aims to identify, map and proffer solutions to close the legal-technical gaps in AI governance and regulation in Africa. The five articles move deliberately from conceptual foundations, through

continental norm-making and national policy design, to the operation of AI systems[1] in surveillance and law enforcement.

Chijioke Okorie opens the issue by introducing legal-technical governance as an analytical framework for examining Africa's emerging AI regulatory landscape. Distinguishing governance from regulation, the article demonstrates that AI governance in Africa is already distributed across data protection statutes, fintech guidelines, cybersecurity frameworks and the content moderation policies of global platforms, making a broader, systems-level analytical tool both necessary and timely. Foregrounding the co-constitutive relationship between legal norms and technical operations including data labelling, model training and algorithmic auditing, and drawing on Dooyeweerd's modal aspects as a philosophical lens, the contribution reveals how institutional fragmentation, infrastructural dependency and global platform dominance undermine state-centred regulatory models, and advances legal-technical governance as a productive framework for scholarship and policymaking at the intersection of law, technology and development in Africa.

Lukman Abdulrauf turns to the continental plane, outlining an agenda for the transition from the African Union's soft law initiatives, chief among them the Continental Artificial Intelligence Strategy, towards a binding AU treaty on AI. Writing in the wake of the European Union's Artificial Intelligence Act and the global race for governance legitimacy it has provoked, the article contends that the central challenge is not merely the codification of rules but the normative reconciliation of African values with global standards often shaped by Eurocentric epistemologies and market logic. Cautioning that the pursuit of regulatory autonomy must not lapse into technological isolationism, the contribution argues for a hybrid normative approach that retains the technical interoperability necessary for international collaboration while embedding the African philosophies of Ubuntu, solidarity and fairness within the legal architecture of AI governance.

Desmond Oriakhogba examines how intellectual property (IP) should be approached in AI strategies in Africa: should policy-makers develop new IP rules for AI, or revise or simply implement existing IP rules within the AI context? Adopting a qualitative methodology by way of policy review, the

* Chijioke Okorie. LLB (NAU Nigeria), LLM (Strathclyde), PhD (UCT). Associate Professor, Faculty of Law and Director, Data Science Law Lab, University of Pretoria, South Africa. Email: chijioke.okorie@up.ac.za. ORCiD: https://orcid.org/0000-0002-1794-4396.

** Vukosi Marivate. BSc MSc (Wits), PhD (Rutgers). Professor and Director, African Institute for Data Science and Artificial Intelligence, University of Pretoria, South Africa. Email: vukosi.marivate@cs.up.ac.za. ORCiD: https://orcid.org/0000-0002-6731-6267

article unpacks these questions through a techno-legal lens, reviewing the African Union's continental AI strategy and existing national AI strategies, and drawing comparative insights from judicial and policy developments in the United States of America, China, Australia and Europe. The article contends that the answer depends on the AI-IP issue in focus, and that an approach which is human-centred, development-focused and equitably balances the promotion of AI innovation by enabling access to quality data, with the protection of IP rights and just reward for creators, innovators and indigenous communities will position Africa to leverage AI more effectively towards national and regional development.

Maria Lungu shifts the focus to the operational realities of AI-enabled surveillance, asking how the constitutional guarantees of privacy and due process in South Africa and Nigeria can be meaningfully enforced when the systems governing surveillance are supplied by foreign vendors and remain technically and legally inaccessible to domestic oversight. The article's theoretical contribution is the concept of the algorithmic sovereignty gap, i.e., the persistent disjunction between constitutional guarantees and the operational realities of vendor-controlled tools. Extending Pasquale's black-box problem and Couldry and Mejias's data colonialism framework through a postcolonial lens, and drawing on qualitative content analysis of constitutional law, statutes, case law and investigative reporting in both countries, the article shows how procurement-led deployment and national security exceptions hollow out rights that the legal texts appear to guarantee. It closes with a prescriptive hybrid governance model anchored in constitutional baselines and supported by mandatory AI impact assessments, audit rights, source-code escrow, data localisation and procurement transparency.

Ifeoma Nwafor brings the issue to a close with a criminological analysis of the law enforcement response to cybercrime in Nigeria, a country that ranks fifth globally as a source of cybercrime on the world's first Cybercrime Index yet whose law enforcement agencies remain ill-equipped to confront the technological sophistication of AI-enabled cyber threats. Based on qualitative and desktop research, the study explores the adaptation of predictive policing techniques to the Nigerian cybercrime situation and examines their legal status, compliance and risk management considerations. Drawing on insights from Nigerian law enforcement, it finds that predictive policing is not a preventive measure for combating cybercrime in Nigeria, owing to the legal, ethical and human rights concerns inherent in such AI-driven tools; that the legal status of these systems remains ambiguous in the absence of a dedicated AI governance and regulatory framework; and that formal oversight of their deployment is

limited and largely ad hoc. These findings underscore, in the most concrete terms, the legal-technical gap this issue seeks to close.

In closing, our sincere appreciation goes to the authors whose invaluable contributions have enriched this collective endeavour, to the peer reviewers whose careful engagement strengthened each article, to the symposium participants whose input shaped the work in progress, and to Meta for funding the project under whose auspices this issue was produced. As the pages of this special issue unfold, we trust that it will stand as a lasting resource for scholars, policy-makers and technologists alike, and that it will inspire further exploration and collaboration at the nexus of law, technology and development in Africa.

CI Okorie

V Marivate