AI Ethical Challenges: A Perspective of AI Developers in Postcolonial Countries

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Abstract

Purpose:

The study of AI Ethics is rapidly expanding, but West Africa faces a disadvantage due to the lack of available data and research. This leaves the region susceptible to the negative consequences of imported AI technologies. Our study helps to identify the root causes of unethical outcomes. It provides valuable insights for dealing with AI's unethical outcomes and understanding the social changes it may bring while addressing the pressing need for research that explores the interaction between resources, power relations, and social norms that influence AI development from the developer's perspective.

Design/methodology/approach:

Following critical social theory, we interviewed forty-five system developers from West Africa. We adopted the postcolonial theory to examine power dynamics in AI development, thematic analysis for the data analysis.

Finding:

This study examines the power dynamics in global AI development through the lens of postcolonial theory, highlighting the dominance of the Global North, particularly corporations and research institutions in North America and Western Europe. This dominance extends beyond technological control, including narratives, resources, and policymaking processes that influence AI's global trajectory. Local entities in the Global South, such as those in West Africa, heavily depend on foreign vendors for AI technologies. This reliance curtails local autonomy and perpetuates a cycle of dependency reminiscent of historical colonial practices,

a phenomenon described as technological imperialism, thus driving technology mimicry and algorithm colonisation.

Originality/value:

Our research is a valuable and timely contribution to AI ethics, providing insightful perspectives on the ethical challenges posed by AI in West Africa. Our findings serve as an essential roadmap for shaping policy decisions related to AI education, governance, and design, aiming to promote inclusive and ethical development in West Africa. Through our rigorous theoretical analysis and practical insights, we aim to foster a culture of inclusive AI development, ethical excellence, social responsibility, and accountability in our rapidly evolving world.

Keywords: Artificial Intelligence ethics, Algorithm colonisation, Postcolonial theory, Algorithm decolonisation

1. Introduction

Artificial Intelligence (AI) systems with adaptive and self-learning capabilities are increasingly transforming sociotechnical landscapes. Their deployment has enabled unprecedented efficiencies across healthcare, criminal justice, education, defence, and commerce (Qin et al., 2020; Abràmoff et al., 2020; Abbass, 2021). However, while these advances offer opportunities for innovation, they also raise critical concerns regarding surveillance, data colonialism, and algorithmic bias (Couldry & Mejias, 2019; Birhane, 2023; Chimhangwa, 2020).

AI systems are now embedded in core decision-making processes, often determining access to employment, financial services, healthcare, and social benefits (Trites, 2019; Mikalef et al., 2022; Yu et al., 2023). However, these systems' opacity and reliance on historical datasets risk perpetuating existing social inequalities, embedding cultural biases, and reinforcing discriminatory patterns through algorithmic profiling (Katzenbach & Ulbricht, 2019; Topol, 2019). As algorithmic outputs increasingly shape everyday life, individuals impacted by these systems often lack the knowledge, resources, or mechanisms to contest or navigate such decisions (Martin, 2019; Innerarity, 2021).

Despite efforts to guide responsible AI development through ethical guidelines and principles (Jobin et al., 2019; Gordon & Nyholm, 2021), critiques persist that these frameworks are shaped mainly by Western philosophical traditions and institutional norms (Waelen, 2022). As such, they may lack contextual relevance when deployed in postcolonial regions characterised by distinct socio-cultural, legal, and epistemic foundations (Rizk, 2020; Pilling, 2019). In regions like West Africa, importing foreign AI technologies designed and trained in contexts with different normative assumptions poses unique challenges for local developers adapting these systems to local realities (Oxford Insights, 2019; Nakalembe & Kerner, 2023).

Furthermore, the lack of robust local AI research and development infrastructures exacerbates existing knowledge production and governance asymmetries, raising concerns about digital dependency, epistemic exclusion, and the erosion of local agency (Gwagwa et al., 2020; WHO, 2021). The growing centrality of AI in governing life thus compels a more grounded, participatory, and context-sensitive approach to understanding AI ethics, especially in regions historically marginalised from global technological discourse and power.

Calls for developer accountability are gaining momentum (Winfield et al., 2019; Kolkman & Kemper, 2019), yet empirical research on developers' lived experiences, ethical dilemmas, and sociotechnical constraints, particularly in postcolonial contexts, remains limited (Calvo et al., 2020). Each deployment of AI is situated, reflecting distinct moral, institutional, and infrastructural configurations. Understanding how local developers navigate the ethical terrain of imported technologies is thus essential to informing inclusive and just AI governance.

This study addresses this gap by exploring the perspectives of AI developers in West Africa. It investigates the ethical tensions they encounter, the systemic barriers they face, and the opportunities for constructing a more inclusive and contextually grounded AI ecosystem in the postcolonial era. Specifically, the study is guided by the following research question:

> *From the developers' perspective, what are the barriers to ethical AI development, and how can we construct an inclusive AI ecosystem in the postcolonial era?*

In this study, ethics is approached from a rights-based perspective, foregrounding autonomy, dignity, privacy, and self-determination (Lanzing, 2019). This framework recognises individuals as ethical agents entitled to self-ownership and the ability to consent or withhold

consent from systems that influence their lives (HLEG, 2019; Leslie, 2019; Hoag, 1991). However, in contexts where power imbalances persist and transparency is minimal, such rights are often compromised, especially when algorithmic governance is outsourced to systems developed beyond local epistemic and legal frameworks.

This study defines developers as individuals directly involved in designing, programming, and deploying artificial intelligence (AI) technologies, including software engineers, data scientists, and related technologists whose decisions influence algorithmic functions and ethical outcomes. The AI ecosystem refers to the broader network of actors, institutions, infrastructures, policies, and sociotechnical contexts in which AI systems are developed, implemented, and governed.

In what follows, we present Postcolonial Theory as the conceptual lens for analysing how historical and contemporary power asymmetries shape AI ethics and development across West African contexts.

2. The theoretical framework of research

Postcolonial theory provides a critical framework for examining how the legacies of colonialism continue to shape global inequalities, knowledge hierarchies, and institutional power. Emerging from the works of scholars such as Said (1978), Spivak (1999), and Bhabha (1994), this approach interrogates how domination persists through cultural, economic, and technological systems, even in the post-independence era. In the digital age, postcolonial theory helps expose how algorithmic systems and data infrastructures often reproduce historical injustices through new forms of control and marginalisation (Ashcroft et al., 2003; Gandhi, 2022).

When applied to AI ethics, postcolonial theory centres questions of epistemic injustice, power asymmetry, and technological dependency. It challenges dominant Eurocentric narratives that present AI as universally applicable, revealing instead how AI systems are often embedded with racialised, cultural, and geopolitical biases that disadvantage postcolonial societies.

2.1. Power Dynamics in AI development

AI development is primarily driven by powerful actors in the Global North, corporations and governments in the US and Europe, who set the world's technical standards, ethical norms,

and governance frameworks (Eubanks et al., 2018). This centralisation of power mirrors colonial hierarchies, where the Global South becomes a source of data and labour, but is excluded from meaningful decision-making or policy influence (Couldry & Mejias, 2019a; Ashcroft et al., 2003). Postcolonial theory foregrounds how these dynamics reproduce dependency and marginalisation, turning AI into a global control mechanism. As such, AI is not a neutral technology but a socio-political artefact shaped by historical and geopolitical interests.

2.2. Algorithmic Colonialism

The Algorithmic colonialism refers to the imposition of AI systems developed in the Global North on societies in the Global South, often without regard for cultural specificity, legal frameworks, or local needs (Mohamed et al., 2020). These systems often extract data from marginalised populations, producing insights that benefit distant commercial actors while deepening local vulnerabilities (Couldry & Mejias, 2019). This form of digital domination reflects colonial logics of exploitation and control. As Said (2021) and Kim (2024) argue, AI can replicate processes of "othering" by treating specific populations as data subjects without rights, agency, or voice. It thus becomes crucial to interrogate who defines ethical AI, and for whom.

2.3. Technological Mimicry

Bhabha's (1994) concept of mimicry provides insight into the uncritical adoption of foreign-developed technologies in postcolonial societies. Technological mimicry refers to replicating AI systems designed for different social and political contexts, often resulting in dependency, underdevelopment, and the erosion of local innovation (Birhane, 2023; Beck, 2013). This mimicry not only entrenches technological subordination but also displaces indigenous knowledge systems. Postcolonial theory encourages scrutiny of such patterns and supports strategies that enable local adaptation, agency, and critical resistance to imported digital norms.

2.2.1. Interrelationship Between Algorithmic Colonialism and Technological Mimicry

While analytically distinct, algorithmic colonialism and technological mimicry are deeply intertwined. The former creates the structural conditions for the latter. When postcolonial societies lack local infrastructure, funding, or design autonomy, they are compelled to adopt foreign systems. Technological mimicry reinforces algorithmic colonialism by entrenching

dependence on foreign technologies and ethical standards, deepening systemic inequality and epistemic exclusion. Together, they form a dual process of technological domination and internalised adaptation that sustains digital imperialism.

2.4. Data Sovereignty, Representation and Decolonisation

Postcolonial theory strongly advocates data sovereignty, the right of communities, especially historically marginalised ones, to govern how their data is produced, used, and interpreted (Noble & Tynes, 2018; Merz, 2020). AI systems often misrepresent or exclude these communities, reinforcing stereotypes and deepening inequality. In this context, decolonisation involves dismantling Western-centric knowledge hierarchies and enabling alternative epistemologies to shape AI development (Ngũgĩ wa Thiong'o, 1986; Ayana et al., 2024). This requires intentional efforts to redistribute power, ensure representational justice, and support inclusive innovation that reflects postcolonial societies' values and lived realities.

2.5. Summary

Postcolonial theory provides a vital framework for critically interrogating global development and deployment of AI technologies. It reveals how algorithmic systems often reproduce colonial-era power, knowledge, and control structures centralising authority in the Global North while marginalising the Global South. Concepts such as algorithmic colonialism, technological mimicry, and data sovereignty expose the asymmetrical dynamics that underlie contemporary AI governance. These dynamics frequently result in exploitative data practices, representational harms, and the erosion of local epistemologies, particularly in postcolonial societies. In this way, postcolonial theory challenges the presumed neutrality of AI and disrupts universalising ethical frameworks that fail to account for histories of domination and exclusion.

At the same time, postcolonial theory offers more than critique. It gestures toward a transformative vision of AI ethics grounded in justice, equity, and epistemic plurality. By centring the voices, knowledge systems, and agency of those historically excluded from technological design, it reimagines AI as a site of resistance and possibility. This theoretical approach in postcolonial contexts, such as West Africa, enables a deeper understanding of the barriers to ethical AI development while illuminating pathways toward decolonial technological futures. This study adopts the postcolonial lens to foreground local

perspectives, challenge inherited asymmetries, and contribute to constructing a more inclusive, contextually grounded, and emancipatory AI ecosystem.

3. Background of the study

The rapid advancement of artificial intelligence (AI) has ignited widespread concerns regarding its ethical implications (Awad et al., 2022; Ageev, 2023; Klenk, 2024). Scholars from diverse schools of thought have proposed ethical frameworks grounded in privacy, transparency, fairness, accountability, and autonomy (Green, 2021; Awad et al., 2022). Although definitions of ethics vary, Bartneck et al. (2021) describe it as a philosophical discourse on what constitutes good or harmful practices within society.

However, mainstream ethical AI discourses are often shaped by technocentric and universalist assumptions that marginalise non-Western worldviews. As Birhane (2023) argues, dominant AI paradigms frequently obscure the epistemic violence embedded in their design and implementation, mainly when exported to African contexts. These frameworks do not merely omit cultural and contextual factors; they often perpetuate structural injustices by disregarding local knowledge systems and sociopolitical realities. In parallel, Lewis et al. (2020) call for adopting Indigenous protocols that centre relationality, sovereignty, and place-based ethics, advocating a shift from extractivist AI development toward community-grounded approaches.

3.1. The Power Dynamic in Recent Global Efforts Towards AI Ethics

Although international organisations, governments, and corporations have published ethical guidelines as depicted in *Table 1*, these remain overwhelmingly shaped by Western institutions such as UNESCO, the OECD, and the European Commission. Frameworks like the EU's *Ethics Guidelines for Trustworthy AI* and the OECD's *Principles for Trustworthy AI* emphasise key concepts such as transparency, accountability, and human oversight (Stamboliev & Christiaens, 2024; Whittlestone et al., 2019). However, they often fail to account for postcolonial societies' colonial legacies and contextual specificities (Bernal, 2020).

As Couldry and Mejias (2019b) compellingly argue, this omission is not incidental but reflects the logic of "data colonialism," wherein social life is appropriated as a raw resource for capitalist extraction. These frameworks reinforce Western epistemologies that frame the

Global South as a site of data harvesting and technological testing, reproducing the dynamics of historical extraction and dependency. Lewis et al. (2020) stress that ethical guidelines must move beyond technocratic checklists to embrace Indigenous and local worldviews that foreground relational ethics and accountability. However, most global AI ethics principles remain overly abstract and poorly operationalised in non-Western contexts (Morley et al., 2019).

Table 1. International Efforts in AI Ethics

Organisation	Jurisdiction	Framework	Focus		Remarks
INTEL.gov (2020)	United States	*AI Ethics Framework for the Intelligence Community*	Purpose-driven, rights-respecting, human oversight, explainability, and bias mitigation		Limited to US public services; lacks focus on inclusion, digital equity, or the Global South
UNESCO (2022)	United Nations	*Recommendation on the Ethics of Artificial Intelligence*	Emphasises education, science, culture, and communication		No binding ethical guidance; lacks specificity on AI ethics in postcolonial contexts
The Alan Turing Institute (Leslie, 2019)	United Kingdom	AI Ethics and Safety Guidance	Fairness, accountability, transparency, and sustainability support the UK Data Ethics Framework		Lacks attention to global inequalities and postcolonial specificity
European Commission HLEG (2019)	European Union	*Ethics Guidelines for Trustworthy AI*	Human oversight, robustness, transparency, fairness, societal and environmental well-being		Reflects industry influence; lacks inclusion beyond formal diversity metrics (Stamboliev & Christiaens, 2024)
OECD (2024)	Global (34 countries)	*Principles for Trustworthy AI*	Inclusivity, transparency, accountability,		No African member states raise questions

			and human-centric development		about global inclusivity and applicability

Source: Author's own work

Despite global efforts, principle-based ethics often fail to provide actionable mechanisms to ensure implementation (Hagendorff, 2020; Mittelstadt, 2019). Morley et al. (2019) argue that these principles frequently focus on the *what* rather than the *how*, remaining too general to guide behaviour effectively or address non-Western contexts (Whittlestone et al., 2019). While some scholars advocate for regulatory frameworks that reflect the complexity of AI decision-making (Winfield et al., 2019; Ageev, 2023), others highlight concerns that regulation cannot keep pace with technological advancement (Shin, 2020). Adaptive and scalable governance models have been proposed (Falco et al., 2021), but these remain limited in uptake.

Furthermore, reliance on AI for ethical judgment raises questions about moral agency, trust, and the potential erosion of human reasoning (Green, 2021; Awad et al., 2022; Price et al., 2019).

3.2. Environmental Sustainability in Postcolonial AI Ethics

While fairness, transparency, and accountability have gained traction in AI ethics, environmental sustainability remains underexamined, particularly in postcolonial contexts. These regions, often acutely vulnerable to climate change, disproportionately bear the ecological costs of AI development while receiving minimal benefit. Energy-intensive AI models require vast computational power, contributing to carbon emissions, water depletion, and electronic waste (Bender et al., 2021; Crawford, 2021). These costs are frequently externalised to the Global South, where data centres are located in jurisdictions with lower energy costs and weaker regulations.

Although some frameworks, such as the EU's *Ethics Guidelines for Trustworthy AI*, gesture toward "societal and environmental well-being," they rarely confront the uneven global distribution of environmental harms. In postcolonial contexts, environmental sustainability must be treated as a central, not peripheral, ethical concern. Furthermore, the environmental implications of AI in postcolonial settings are compounded by limited infrastructure for

recycling e-waste, weak legal protections against ecological degradation, and the lack of climate-adaptive technologies. Ethical frameworks that ignore these issues risk further exacerbating climate injustice under the banner of digital innovation.

3.3. AI's Artificial Personality and the Influence of Historical and Structural Inequalities

AI systems increasingly assume decision-making roles that affect individuals without avenues for appeal (Treleaven et al., 2019; Ågerfalk, 2020). Drawing from role theory (Biddle, 1986), these systems can be understood as social actors whose behaviour reflects and reinforces societal norms, including colonial and racialised assumptions (Nakalembe & Kerner, 2023). This dynamic can undermine human agency and reproduce harm (Rinta-Kahila et al., 2021; Kaptelinin, 2022; Köbis et al., 2021). AI's increasing cognitive capacity has led to the automation of tasks across diverse sectors (Lu et al.,2023; Koshiyama et al., 2021; Ågerfalk, 2020), displacing human labour and disrupting professional identities, particularly in the Global South (Hong, 2021; Calvo et al., 2020).

These transformations are unfolding in digital ecosystems already shaped by colonial legacies, wherein multinational corporations control software, hardware, and network infrastructure (Kwet, 2019; Babu & Tinarwo, 2023), reinforcing dependency and obstructing local autonomy. In this context, AI becomes not merely a tool but a performative agent that embodies the values and biases of its creators, posing profound risks when deployed without attention to historical context and social equity.

3.4. Colonial Infrastructure Creep and Platform Imperialism

Foreign corporations and governments often control the infrastructures that support AI—cloud platforms, submarine cables, and mobile networks. Projects like Facebook's Free Basics and China's Digital Silk Road exemplify a form of infrastructural imperialism that Couldry and Mejias (2019b) describe as the "costs of connection." Although marketed as solutions to the digital divide, these infrastructures create new forms of dependency, embedding external interests into the digital sovereignty of postcolonial states. Ethical AI must interrogate algorithms, platforms, and networks that determine access, agency, and control.

These systems often obscure power relations through narratives of progress and inclusion, masking extractive data practices and the asymmetrical flows of capital and information

characterising platform imperialism. They also complicate efforts to foster local innovation, as national infrastructures are increasingly beholden to the strategic priorities of foreign powers.

3.5. Barriers to Ethical AI Development in Postcolonial Countries

The ethical deployment of AI in postcolonial contexts faces multiple structural and systemic barriers. The lack of computational infrastructure, limited access to high-quality datasets, and insufficient local research and development funding restrict meaningful participation in AI innovation. Moreover, the hegemony of English-language datasets and Western-defined classification schemes often renders local languages, values, and social practices invisible. Birhane (2023) highlights that the unchecked importation of AI systems developed in the Global North results in algorithmic colonisation, whereby foreign technologies overwrite local ontologies and re-entrench digital dependency.

This is particularly dangerous given the opacity of many algorithmic systems, especially those driven by proprietary black-box models, where marginalised communities have limited avenues for recourse, accountability, or redress. Additionally, many postcolonial governments lack the technical expertise and regulatory infrastructure to scrutinise, govern, or reject AI systems imposed by external actors. This governance vacuum is often exploited by multinational firms seeking market dominance under the guise of development assistance or digital inclusion, which only deepens the asymmetry between creators and users of AI technologies.

3.6. Unequal AI Labour and the Digital Triangular Trade

A further ethical concern points to the invisible labour sustaining the global AI ecosystem. High-status, high-wage AI jobs, such as research, software engineering, and product design, are concentrated in North America and Western Europe. In contrast, low-wage, labour-intensive tasks like data annotation, image tagging, and content moderation are outsourced to the Global South (Gray & Suri, 2019; Irani, 2015). This division of labour starkly echoes colonial structures, where cognitive and strategic control resides with the Global North, while the Global South provides the raw data and human effort. This labour asymmetry is not merely economic but epistemic.

The lived experiences, insights, and contributions of annotators and content moderators are rarely acknowledged in research outputs or governance discussions. Their invisibilisation perpetuates epistemic injustice and devalues the knowledge systems of communities most affected by AI technologies. This "digital triangular trade" (Crawford, 2021) mirrors the transatlantic trade routes of colonial capitalism, where raw data is extracted from marginalised populations, processed by underpaid workers in the Global South, and converted into lucrative AI products marketed to the world. Without structural changes to this labour regime, ethical AI will remain complicit in the inequalities it claims to redress.

3.7. Algorithm Colonisation

Colonisation has evolved through distinct phases from territorial conquest to resource extraction and digital dominion. In algorithmic colonisation's fourth phase, Western-developed AI systems impose foreign logics on postcolonial societies, encoding power differentials into digital tools (Maringe & Chiramba, 2023; Kwet, 2019). Multinational corporations and allied state actors leverage AI to consolidate control over communication infrastructures, extract behavioural data, and shape user interactions to undermine local autonomy. These digital incursions replicate and intensify historical patterns of resource plunder and epistemic erasure (Babu & Tinarwo, 2023).

Moreover, authoritarian regimes increasingly use AI, such as facial recognition and predictive policing, to entrench political control (Beraja et al., 2023; Sugianto et al., 2021), often with tools imported from Western companies. This convergence of surveillance capitalism and state repression presents a critical ethical challenge for postcolonial societies, especially without strong democratic oversight and data protection mechanisms.

3.8. Synthesis of the Review

The preceding discussion highlights a critical disjuncture between dominant AI ethics frameworks and the lived realities of postcolonial contexts. While global ethical guidelines often advocate for values such as transparency, fairness, and accountability, these principles remain abstract, technocratic, and detached from the structural conditions under which AI technologies are deployed in the Global South. Rooted in Euro-American philosophical traditions and institutional priorities, mainstream AI ethics frameworks frequently obscure

the colonial continuities embedded in global digital infrastructures, labour regimes, and epistemic systems.

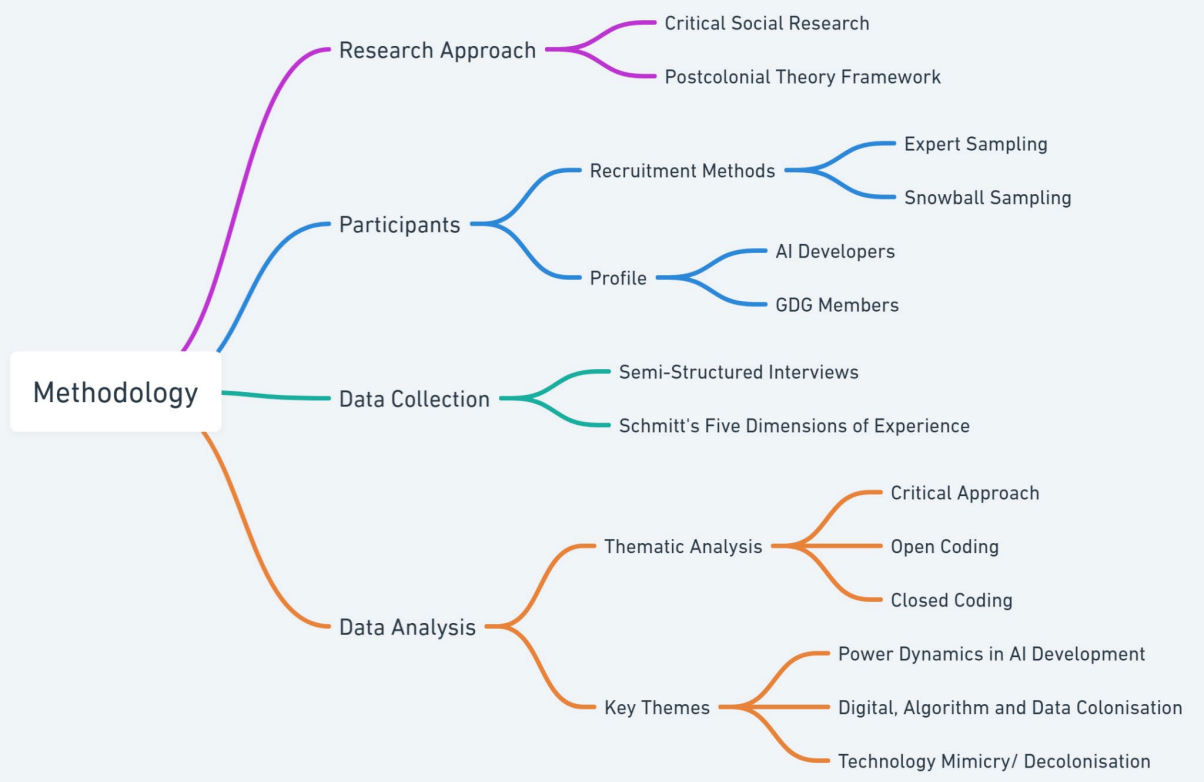
Across the reviewed literature, a recurring pattern emerges: the ethical governance of AI is deeply entangled with power asymmetries that shape access, agency, and representation. From the infrastructural imperialism of cloud platforms to the epistemic erasure of Indigenous knowledge systems, the ethical dilemmas of AI in postcolonial settings cannot be resolved through universalist codes alone. Instead, they demand a radical rethinking of what constitutes ethical practice that is pluralistic, situated, and historically conscious.

4. Method

To explore AI developers' perception of ethics in West Africa in the postcolonial era, we adopted a critical social research approach outlined by Myers and Klein (2011). Critical research in information systems focuses on social issues such as freedom, power, social control, and values related to the development, use, and impact of information technology (Myers and Klein, 2011), thus enriching researchers' and practitioners' understanding regarding AI ethical challenges (Stahl & Brooke, 2008). In this study, our objective is to challenge the established norm (Orlikowski & Baroudi, 1991) by employing a Postcolonial theory framework (Gandhi, 2022; Ashcroft et al., 2011) to illuminate the restrictive nature of the status quo.

Guided by the aim to catalyse changes in social relations and practices and to challenge technological discrimination and domination (Orlikowski & Baroudi, 1991), *Figure 1* presents a mind map summarising the study's methods and their interrelations within an iterative, critical research design.

Figure 1. Mindmap for the study method



Source: Author's work

4.1. Participants

A combination of Expert and Snowball sampling was used to recruit participants, who were programmers involved in Web, front-end and back-end development with AI experience to gain a broader knowledge of their experiences, which was not captured in previous studies (Gombault et al., 2016; Booth, 2017; Kirchberg & Tröndle, 2012). Typically, an AI developer in the study had professional experience of more than 2-5 years in AI-related projects. After the initial selection of fifteen experts in the field (Expert Sampling), they recommended an additional thirty programmers, who are Google Development Group (GDG) members from different parts of West Africa, to participate in the study (Snowball Sampling). The GDG is a formidable community of designers and experts who share knowledge and common interests in system design and development in the region.

4.2. Data Collection and Analysis

Data were collected through semi-structured interviews employing open-ended questions to elicit rich, detailed, and unanticipated insights on a complex subject matter (Cakir & Cengiz, 2016). Schmitt's (1999) five dimensions of experience, feelings, senses, thoughts, actions, and related attributes informed interview prompts, which provided a structured yet flexible

framework for exploring AI developers' perceptions, emotional responses, and cognitive orientations toward ethical issues. Given the large number of participants and the intensive nature of qualitative coding (Popping, 2015), we prioritised salient points based on thematic recurrence and analytical relevance, refining the interview process as new patterns emerged (Saunders et al., 2018).

To ensure participant independence and reduce group influence, interviews were conducted individually (Bryman & Bell, 2015; Saunders et al., 2018), and several participants were interviewed multiple times to clarify meanings or probe emerging issues more deeply. We employed a rigorous two-stage thematic coding approach grounded in critical qualitative inquiry to uncover how AI developers experience and navigate ethical challenges in postcolonial contexts. All interviews were transcribed verbatim and analysed using Atlas.ti to support systematic coding, traceability, and theoretical saturation.

In the **first-cycle coding**, we applied a hybrid of *descriptive* and inductive methods *in Atlas.ti* coding to foreground participants' language while capturing salient features of their experience. This inductive process ensured the coding remained close to the empirical data, allowing local concepts and lived realities to shape the initial codebook.

The **second-cycle coding** adopted *axial coding*, grouping first-cycle codes into higher-level thematic categories. These categories were then interpreted through the lens of postcolonial theory, enabling the analysis to engage deeply with issues such as epistemic dependency, digital colonisation, and algorithmic mimicry. This iterative process facilitated critical engagement with the content and context of participants' accounts. Thematic saturation was reached by the 38th interview, with the final seven interviews confirming rather than expanding the core themes. Analytical memos and reflexive journaling were used to track interpretive decisions and maintain epistemological integrity. *Table 2* presents illustrative quotes and their corresponding codes.

Table 2. Selected Codes and Empirical Illustrations

Code	Description	Empirical Illustration
Power Dynamics in AI Development	Captures postcolonial critiques of unequal power structures, highlighting dependence on	*"There is no strong patronage here. Most organisations prefer to work with foreign vendors. You know,*

	foreign vendors and externally imposed ethical standards.	*they control the data and the technology… internal and external superiors restrict us."* (DEV 40)
Algorithmic and Data Colonisation	Reflects perceptions of digital colonialism where Global South actors are excluded from data ownership and control, reinforcing mistrust and epistemic dependency.	*"Most clients are more comfortable working with non-Nigerians… They think a non-Nigerian would protect their data better. The bad economy may force a Nigerian to sell their data."* (DEV 1)
Technological Mimicry	Highlights concerns around the uncritical adoption of Global North AI systems, which displace local innovation and fail to align with cultural values.	*"We need to be careful about these things… If what people see daily distorts their beliefs, it can cause serious damage. The AI algorithm can impact mental health."* (DEV 2)
Lack of Representation and Decolonisation	Reveals how Western-centric datasets and design practices marginalise local cultures and fail to reflect postcolonial identities or values.	*"We do not own that data. It captures only Western values… If we must change the biased situation, we must engage digitally to generate balanced data for the future."* (DEV 45)

Source: Author's own work

First-cycle coding:

During the initial coding phase, we engaged in a close, inductive reading of the interview transcripts to identify themes emerging organically from the data. Particular attention was paid to repetition, recurrence, and emphasis, key indicators of meaning and salience in qualitative research. Through multiple rounds of reading and memoing, we familiarised ourselves with the content and began developing initial codes by assigning concise, descriptive labels to data segments that reflected features relevant to the research question. This process allowed us to identify recurring concerns and patterns within participants' narratives.

For example, many developers consistently felt undervalued due to their geographical location, an insight that informed the development of the algorithmic colonialism theme. Themes were then reviewed and refined to ensure they captured distinct, coherent patterns grounded in the data. We prioritised deep engagement with participants' social realities throughout this stage, recognising the phenomenological commonalities across individual experiences. Our analytic focus was guided by a commitment to interpretive rigour, empathy,

and epistemic respect, ensuring that the themes authentically represented the lived experiences and perspectives of AI developers operating in postcolonial contexts.

Second-cycle coding:

Following the open coding phase, we conducted a theory-informed analysis using closed coding to deepen our interpretive engagement. At this stage, we connected the emergent patterns with broader postcolonial ideologies, examining how participants' lived experiences reflect structural forces such as power, exclusion, and epistemic inequality. In particular, we explored the implications and functions of recurring themes, while also identifying silences or absences in the data that pointed to underlying dynamics of marginalisation. Using the criteria of recurrence, repetition, and emphasis**,** we revisited earlier themes such as algorithmic colonisation and expanded our analysis to encompass interrelated constructs including power asymmetries**,** data sovereignty**,** technological mimicry, and institutional resistance.

This iterative coding process was grounded in Postcolonial Theory, which enabled us to make visible the entanglements between historical colonial legacies and contemporary AI development in West Africa. Following the thematic analysis, the final analytical framework was organised into four interlinked domains: Power Dynamics, Data and Algorithmic Colonisation, Technological Mimicry, and Decolonisation and Representation. *Table 3* presents the extracted code tree, summarising the core themes, associated codes, code descriptions, and levels of groundedness. The table provides a transparent overview of how empirical data were systematically structured and aggregated into higher-order themes, illustrating the depth and distribution of codes across the analytical domains.

Table 3. Code tree extraction

Codes	Code Descriptions	Grounded
Power Dynamics in AI Development		**104**
Technological imperialism by the Global North	Codes explore technological imperialism and its effects on West Africa.	18
Foreign control over data and technology	Who controls the data and narratives? Who owns the data? Codes examine how data control and ownership affect AI ethical advancement in postcolonial regions.	22

Lack of local support and patronage	Does othering affect local patronage? Does colonial influence enhance support for foreign exploitation? Codes look at the lack of local support and patronage.	9
Restrictions by external ethical frameworks	AI ethical frameworks are designed with a colonial mindset, and codes highlight issues with external ethical frameworks.	11
Under-representation in the AI scheme	Codes explore the effects of under-representation in development and policymaking.	18
Unfair treatment and political resistance to change	Most developers confirm they face hostile situations as they are often tagged fraudsters, leading to mistrust. Digital stigma is further driven by the government policing system, which sends the wrong signal to the public. The code explores developers' resistance and technological advancement in the face of political resistance to change.	26
Data/Algorithm Colonisation		**101**
Poor alignment with local socio-cultural dynamics	AI development depends solely on foreign companies and institutions, negatively impacting postcolonial cultures and identities. Codes look at alignment with local socio-cultural dynamics.	20
Barriers to access/ education	Lack of affordable education hinders personal development as upcoming developers cannot bear the cost, thus eroding local knowledge.	12
Algorithmic Colonisation and Cultural Biases	AI development depends solely on foreign companies and institutions, thus enforcing othering. Codes explore forms of colonisation.	14
Economic and ethical stereotyping	Limited or lack of access to global services further entangles many developers as they struggle to maintain a professional identity. Codes examine economic and ethical stereotyping.	11
Environmental Impact	Allowing the AI revolution to go unchecked could have devastating effects on society. People are unaware of AI's impact on society, even as it eats deep into every part of their daily lives - codes to unearth the environmental effects of AI.	23
Institutional challenges	The sorrowful state of public universities creates further limitations to AI advancement, codes to explore institutional challenges.	6
Limited access to resources	Poor infrastructure results in inadequate or unavailable data. Code to examine resource distribution and access.	8
Structural inequality	Codes relating to the improvement of existing inequality through social inclusion.	7
Technological Mimicry		**76**

Adoption of foreign AI systems without adaptation	Code to examine the challenges of foreign values embedded in the AI system and its effects on the postcolonial region.	20
Distortion of local cultural identities	Codes explore issues related to the distortion of local cultural identities through AI adoption.	23
Psychological and cultural impacts of AI	Whose culture is impacted? What are the psychological effects? Codes to explore AI's psychological and cultural impact on postcolonial West Africa.	19
Culturally sensitive AI development	The code relates to a call for cultural sensitivity in AI development and related issues.	14
Lack of Representation and Decolonisation		**99**
Advocacy for robust policies for ethical AI development	Most developers claim they mainly abide by foreign organisations' guidelines, which are void of local context. This code addresses decolonisation from policy redirection.	20
Bias and lack of representation in AI systems	The Global South appears gravely misrepresented in development and policymaking. These codes consider representation in the AI sphere to decolonise and reduce global North dominance.	18
Educational deficiencies limiting local AI innovation	Codes highlight advocacy for a decolonised form of education to imbibe local values, culture and knowledge.	16
Opposition to technology interference in nature	The respondents agreed that the technology should not be allowed to meddle with nature in any form. The code looks into the opposition to cultural erosion via AI and related forms of domination.	12
Need for local data sovereignty	The Global North control the data and narrative. Codes explore decolonisation through local data sovereignty.	26
Regional Collaboration	Partnership with governments, researchers, developers and diverse stakeholders for inclusive and ethical AI development.	7

Source: Author's own work

4.3 Ethical considerations and trustworthiness

This study received ethical approval from the first author's institutional ethics committee. All individuals were provided with informed consent before participation, and confidentiality was maintained throughout the research process. Data were fully de-identified to protect participants' anonymity and ensure compliance with ethical research standards. To enhance the trustworthiness of the findings, we employed several strategies commonly used in

qualitative research. These included prolonged engagement with the data, member checking to validate emerging interpretations with participants, and peer debriefing sessions with colleagues experienced in critical qualitative methodologies.

Additionally, we maintained a commitment to reflexivity, engaging in ongoing self-reflection to critically assess our assumptions, positionalities, and potential biases. This reflexive stance enabled us to approach the data with openness and analytic sensitivity, ensuring that interpretations were grounded in participants' lived realities rather than researcher preconceptions. The findings of the study are presented in the following section.

5. Findings

This section presents the key themes from the data analysis, based on a two-stage coding process informed by critical qualitative methodologies. During the first-cycle coding phase, interview transcripts were inductively coded using open and descriptive techniques to capture participants' experiences, expressions, and concerns. During the second-cycle, focused coding, pattern recognition and axial coding were employed to develop higher-order categories aligned with the study's theoretical lens. Through iterative comparison and memoing, four core themes were identified: (1) Power Dynamics in AI Development, (2) Digital, Algorithmic and Data Colonisation, (3) Technology Mimicry, and (4) (Lack of) Decolonisation and Representation.

The four themes illuminate how colonial legacies shape the practice and imagination of AI development in West Africa, as the following subsections illustrate.

5.1. Power Dynamics in AI Development

Participants consistently described how the development of AI in their contexts is profoundly shaped by global power asymmetries and a structural dependency on foreign technologies, institutions, and standards. These asymmetries are not merely technical but are embedded within broader colonial legacies that continue to influence the infrastructures and imaginaries of technological innovation in postcolonial regions.

"There is no strong patronage here… they control the data and the technology… internal and external superiors restrict us." (DEV 40)

This statement encapsulates the institutional and infrastructural void in many postcolonial states, where developers operate without sustained government backing, robust R&D ecosystems, or independent technological infrastructures. As a result, AI development remains tethered to imported tools, cloud services, and algorithmic frameworks controlled by dominant actors in the Global North, mainly US and European corporations. This dependency often translates into limited room for innovation, adaptation, or localised problem-solving.

"We always use their APIs, datasets, and ethics checklists… Nothing is ours." (DEV 14)

Such expressions speak to a pervasive sense of technological disempowerment, where developers become implementers rather than innovators. Developers recounted being forced to conform to foreign standards that often conflict with local norms, values, or realities:

"The problems we face here, like land conflicts or market fraud, do not fit into their frameworks. But if you do not follow them, you will not get funding." (DEV 32)

This reflects what scholars describe as epistemic extractivism and developmental capture, where technological solutions, funding, and governance models are designed externally and imposed upon local contexts (de Sousa Santos 2014; Couldry & Mejias 2019b). In many cases, even the selection of problems to be solved with AI is predetermined by donor agencies or platform providers:

"You get calls for proposals and realise they already know the solution, it is facial recognition, it is AI for climate, but nothing about community needs." (DEV 11)

Such top-down impositions sideline local knowledge and constrain developers' ability to engage with community-specific challenges. Beyond structural exclusion, several participants discussed the social costs of operating under these conditions, including reputational damage and stigmatisation:

"They would say, 'Oh, you are a fraudster, you are a cyber criminal'… It affects everything we do." (DEV 24)

"When you say you are an AI developer in Nigeria, they look at you funny, like it is impossible. But if it is someone from Europe, they are a genius." (DEV 29)

These narratives highlight the symbolic violence experienced by developers in postcolonial contexts where global imaginaries often depict African technologists as either incompetent or illegitimate.

"We must prove we are not just copy-pasting code from GitHub constantly. It is exhausting." (DEV 6)

This burden of proof reflects broader postcolonial patterns of epistemic devaluation (Spivak 1988), where knowledge and competence are presumed absent unless validated by Western institutions. To be taken seriously, developers are often forced to over-perform or seek external recognition through fellowships, certifications, or collaborations. Moreover, the precarity of local AI development is exacerbated by labour dynamics that mirror global digital inequalities. While a few developers may access remote contracts, most described being locked out of high-paying opportunities and instead relegated to lower-value roles:

"All the high-paying AI jobs are there abroad. We are doing annotation, data cleaning, and if anything. But we are the ones living with the consequences." (DEV 7)

These testimonies mirror existing literature on the digital division of labour, where Global South workers disproportionately engage in invisible or undervalued AI tasks such as data labelling, content moderation, or annotation, while design and strategic control remain concentrated in the Global North (Graham et al. 2017; Irani 2015). These accounts reveal a multilayered structure of domination, where AI development is shaped by historical dependencies, economic exclusion, epistemic marginalisation, and symbolic discreditation. This constellation of power reflects what Mignolo (2011) terms the colonial matrix of power, which persists in shaping who defines, develops, and benefits from technological innovation.

5.2. Digital, Algorithmic, and Data Colonisation

Several participants expressed frustration over their peripheral positioning in the AI value chain, particularly regarding access to data and involvement in high-level decision-making. Several developers described being systematically excluded from data-related processes due to perceived trust deficits:

> *"Most clients are more comfortable working with non-Nigerians… they fear a Nigerian would sell my data." (DEV 1)*

> *"When it is time for serious AI modelling, they ship the data abroad. We only do the frontend or data cleaning." (DEV 7)*

These exclusions reflect entrenched postcolonial assumptions that associate technical competence, reliability, and data stewardship with the Global North. Such biases replicate colonial narratives of local inadequacy and reinforce dependency on foreign firms for strategic functions. As one participant bluntly put it:

> *"We are good enough to clean the data, not to analyse it." (DEV 12)*

The consequences of this marginalisation are also felt in the technical performance of imported AI systems. Several developers shared experiences of tools and models that failed to function adequately in African contexts:

> *"The chatbot could not understand our accents. It kept giving wrong replies." (DEV 14)*

> *"I tried a facial recognition demo that did not recognise my face. It felt like it was not trained for us." DEV (21)*

> *"The sentiment analysis tool tagged our expressions as negative, but that is just how we speak." (DEV 33)*

These reflections echo broader concerns in the literature about algorithmic colonialism (Birhane 2023), wherein datasets and models trained primarily on Euro-American populations are exported to the Global South without adaptation. This results in what

Couldry and Mejias (2019) term data dispossession, the extraction of local data without reciprocal benefit or representation. Beyond performance issues, developers also pointed to the lack of locally relevant data and the infrastructural constraints that inhibit data collection:

> *"We do not have local datasets. If we want to train anything, we either scrape data or use foreign sources." (DEV 18)*

> *"Our internet is unstable, and power goes off. How can we train models like that?" (DEV 36)*

These challenges underscore the infrastructural legacies of colonialism, where the technological backbone of AI (electricity, connectivity, compute resources) remains underdeveloped or externally controlled. The reliance on cloud services based in the Global North further complicates matters:

> *"Everything is on AWS or Google Cloud. It is not ours, and it is expensive." (DEV 20*)

Educational limitations were also repeatedly cited as a key obstacle to building contextually relevant AI. Participants described the absence of localised curricula, inadequate mentorship, and over-reliance on foreign learning materials:

> *"Our universities teach old stuff. If you want to learn deep learning, you go to YouTube or Coursera." (DEV 5)*

> *"I follow researchers on Twitter to learn what is current. Nothing here prepares you for this field." DEV 29)*

These statements underscore a neocolonial educational dynamic: knowledge flows overwhelmingly from North to South, positioning local developers as consumers rather than producers of AI expertise (Mignolo 2011). These accounts demonstrate how digital and algorithmic colonisation operates through multiple interlocking mechanisms: data dependency, infrastructural insufficiency, representational bias, and epistemic marginalisation. The result is a system in which African developers contribute labour and

insight without equivalent power, visibility, or authorship in shaping AI that affects their societies.

5.3. Technology Mimicry

Across the interviews, participants frequently described a tendency to emulate AI technologies and development models from the Global North, often without sufficient contextual adaptation or critical reflection. This mimicry stems from aspirational alignment with dominant tech paradigms and structural constraints such as limited resources, lack of funding for local innovation, and dependency on foreign platforms.

> *"Most of the AI solutions we see here are imported Western templates. People change the name, maybe localise the language, and that is it." (DEV 11)*

This practice of digital replication reflects what postcolonial scholars describe as technological mimicry**,** a strategy through which post-colonial actors adopt the technologies and logics of dominant powers to secure legitimacy and resources. As Bhabha (1994) argues, mimicry is ambivalent, simultaneously a sign of aspiration and a reminder of subordination within a global hierarchy.

> *"Clients ask us, 'Can you make it like what Google is doing?' Even if it does not make sense here, that is what they trust." (DEV 35)*

> *"It is not just the code we copy, it is the thinking behind it, how problems are framed, what counts as success." (DEV 17)*

Developers acknowledged that imported AI models often embed assumptions that conflict with local values, cultural norms, and lived realities. For instance, mental-health applications based on Euro-American clinical data proved ill-suited to West African contexts:

> *"We had an app that was supposed to detect depression based on speech… but the indicators did not work here. People express distress differently." (DEV 9)*

Similarly, educational tools that failed to account for linguistic diversity or local pedagogical traditions tended to alienate rather than empower users:

"The AI said my accent was wrong. It kept flagging my students because they did not sound 'standard'. But who defines standard?" (DEV 38)

Several developers worried that sustained mimicry stifled creativity and undermined confidence in indigenous knowledge systems:

"There are smart people here, but we keep second-guessing ourselves. If it is not from the US, people think it is not good enough." (DEV 4)

"We are losing our way of solving problems because everyone is chasing what is trending in Silicon Valley." (DEV 15)

Collectively, these narratives reveal an epistemic dependency that extends beyond tools and algorithms to the logic of problem-solving. Imported AI systems become a form of algorithmic subordination**,** reducing local developers to implementers of externally defined solutions rather than originators of context-specific innovation. Technology mimicry thus reinforces a colonial dynamic of peripheral modernity in which African societies are expected to "catch up" by copying rather than creating.

5.4. Lack of Decolonisation and Representation

A final, cross-cutting theme concerned the persistent absence of local agency in shaping the ethical, cultural, and technological frameworks underlying AI development. Developers emphasised the disconnect between local realities and the systems they are building, particularly around data ownership, representational fairness, and institutional support.

"We do not own that data. It captures only Western values… we must engage digitally to generate balanced data for the future." (DEV 45)

"Most of the models we use are trained elsewhere, on people and behaviours that do not look like us, do not speak our languages, and do not share our values." (DEV 18)

Despite operating within African societies, developers often lack access to locally curated datasets or the resources to build them. Instead, they rely on "off-the-shelf" solutions that reflect the priorities of the Global North:

"It is almost like we cannot imagine AI on our terms. We are always adapting what someone else has built." (DEV 8)

Participants also critiqued universalist AI-ethics frameworks that ignore postcolonial histories of marginalisation:

"The ethical guidelines I see online talk about transparency and fairness, but fairness to whom? There is no fairness if the dataset does not know you exist." (DEV 37)

Institutional neglect amplified these frustrations. Developers pointed to minimal government investment in AI capacity-building and a widespread lack of digital literacy among policymakers:

"The Government cannot support it… a huge chunk of our politicians are digital illiterates." (DEV 25)

"There is no strong national AI policy, no roadmap. If you ask the ministry, they will tell you AI is for America and China." (DEV 31)

At the international level, many felt excluded from venues where AI standards are set:

"We are not even in the room when they make the rules. When we get access, the document is final." (DEV 13)

"The big conferences are too expensive. Even when we apply, it is rare to be selected if your research is not trendy or backed by a Western funder." (DEV 22)

These empirical accounts show that decolonisation is not merely rhetorical or historical. It must be enacted through infrastructural investment, inclusive governance, and epistemic recognition**.** Without local data control, design authority, and supportive policy frameworks, West African developers remain structurally peripheral to ethical AI development. Consequently, calls for "AI ethics" ring hollow unless grounded in representational justice and decolonial praxis:

"You cannot just talk about fairness in AI when we are not even seen. Start by making us visible, then maybe we can talk about ethics." (DEV 11)

Together, the four themes demonstrate how colonial legacies, infrastructural dependency, and socio-cultural erasure converge to shape the everyday realities of AI developers in West Africa. The following Discussion section interrogates how AI ethics can move beyond universalist abstractions toward grounded, decolonial frameworks that centre the histories, knowledges, and futures of postcolonial communities.

6. Discussion and Contribution

The findings from this study provide a critical lens on the global AI development landscape, revealing deep-seated power imbalances that reflect and perpetuate colonial legacies. By integrating AI ethics with postcolonial theory, the study offers a nuanced understanding of how technological advancements are intertwined with historical and ongoing power dynamics, particularly between the Global North and South.

6.1. Power Dynamics and Digital Imperialism

The dominance of AI development by entities in the Global North, particularly those in North America and Western Europe, extends beyond innovation to include control over data, narratives, and governance standards. This hegemony gives rise to what can be termed digital imperialism, whereby postcolonial societies are relegated to passive consumers of AI technologies designed elsewhere. The study notes that *"this creates a form of digital imperialism where the values and interests of dominant global actors overshadow the needs of local communities in West Africa."* As the findings show, developers in West Africa are often constrained by foreign ethical norms and infrastructures, undermining their autonomy and reinforcing a system of technological dependency that mirrors colonial governance structures.

This dynamic mirrors historical patterns of colonial exploitation, where benefits accrue primarily to those already in power, while marginalised communities bear the risks and ethical burdens. Kwet (2019) cautions that digital infrastructures, from software to networks, are primarily controlled by external actors, diminishing local agency. One participant reflected, *"Most developers agreed that one of the barriers to ethical AI development is that they only*

adhere to the global norm of Google, Apple, and Microsoft principles, but whose interests do these companies serve? Moreover, how inclusive are they?" This concern underscores how global platforms can shape ethical norms that fail to reflect local needs and values.

6.2. Algorithmic Colonialism and Epistemic Exclusion

Building on this, the study further conceptualises the phenomenon of algorithmic colonialism, where AI systems developed in and for Global North contexts are exported to the Global South with little or no adaptation to local social, cultural, or political realities. These systems often encode normative assumptions that reflect Western values, thereby marginalising non-Western epistemologies and misrepresenting postcolonial identities. For instance, one developer stated, *"It captures only Western values and cultures and does not represent us. If we must change the biased situation, we must engage digitally to generate balanced data for the future."* This quote highlights the epistemic exclusion encoded into dominant AI systems, which often silences or distorts the lived realities of postcolonial societies.

Imposing such systems without contextual sensitivity reflects a form of digital extraction that parallels earlier colonial practices. Another developer explained: *"The othering of the local developer and the imposition of foreign value through AI implementation appears to erode West African values that define ethics in their context and the reenactment of imperial control through AI algorithms."*

Abudu (2022) similarly warns that *"African philosophers must be saddled with the responsibility of critiquing the implications of Eurocentric hegemonic models in knowledge production."* This underscores the need for active epistemic resistance against algorithmic systems replicating historical hierarchies.

6.3. Technological Mimicry and the Reproduction of Inequality

Crucially, the study distinguishes between this externally driven algorithmic imposition and the internally driven process of technological mimicry. Drawing from Bhabha's (1994) concept of mimicry, technological mimicry refers to local developers' uncritical adoption and replication of foreign-developed AI systems in postcolonial contexts. While often framed as a strategy for modernisation or competitiveness, this mimicry reproduces dependency and limits innovation by crowding out indigenous approaches and reinforcing foreign standards.

As the findings note: *"Technology mimicry, as explored in this study, highlights the complexities of adopting AI technologies from dominant societies under the guise of modernisation."*

Developers often lack the institutional support or technical capacity to customise foreign tools, resulting in a dependence that reaffirms global hierarchies. These imported technologies frequently lack cultural or social alignment with local users, creating psychological dissonance and identity erosion. One developer warned: *"If what they see daily distorts their mental belief, then it can cause severe damage to our way of life. The AI algorithm can cause mental health challenges."* This example illustrates how mimicry is not merely technical or economic, but deeply cultural and ontological. It risks normalising foreign ideologies while displacing postcolonial societies' ethical frameworks and belief systems.

6.4. Interlocking Structures of Digital Subjugation

Together, algorithmic colonialism and technological mimicry operate as interlocking mechanisms that sustain digital subjugation. While the former reflects top-down imposition of foreign systems and ethics, the latter manifests as bottom-up internalisation of those systems due to structural exclusion and limited alternatives. This dual dynamic limits the ethical agency of local developers, marginalises local innovation, and entrenches epistemic dependency. Recognising this distinction allows for more targeted governance responses. Addressing algorithmic colonialism requires structural transformation, such as data sovereignty laws, regional infrastructure investment, and ownership of local AI systems.

On the other hand, tackling technological mimicry demands educational reform, digital literacy, and curriculum decolonisation. One participant observed, *"Our higher institutions are playing almost no part in it... You cannot support what you do not know. A huge chunk of our politicians are digital illiterates."* This reinforces the urgency of political commitment and capacity building for ethical AI development. By investing in algorithm decolonisation and ethical frameworks rooted in local values, postcolonial regions like West Africa can begin to reclaim control over their technological futures and resist the epistemic erasures embedded in current AI trajectories.

6.5. Further Considerations and Emerging Dynamics

While this study has examined the persistent power asymmetries in global AI development, it is important to critically reflect on how newer software production approaches may reinforce and challenge postcolonial harms. Emerging trends such as platform-based labour and low-code development tools are reshaping participation in the AI ecosystem, yet often within infrastructures that continue to reflect Global North dominance. The rise of platform work, including gig-based programming, content moderation, and data annotation, has created new economic opportunities for developers and digital workers in West Africa. However, these opportunities are often tightly regulated by algorithms, client ratings, and opaque terms of service, leading to unstable working conditions.

Such systems reproduce the colonial logic of extraction, where value is generated in the South but governed and captured by Northern intermediaries. As Couldry and Mejias (2019b) argue, these are the "costs of connection", participation framed as empowerment, yet structured through dependency and dispossession. Similarly, low-code and no-code development platforms are often praised for democratising access to software creation. They offer technical flexibility, allowing localisation of applications and interfaces in regional languages and adaptation to local norms. However, these tools are typically embedded within proprietary ecosystems controlled by large Western corporations.

This limits how far local actors can shape AI systems beyond surface-level configuration. What may appear as customisation often masks continued dependence, another form of technological mimicry**,** where systems are adapted but not transformed. This points to a broader tension in the social construction of AI. While AI systems appear universal and objective, they are shaped by cultural assumptions, linguistic preferences, and geopolitical power. Opportunities to train models on local data, use regional languages, or encode indigenous values offer some room for resistance. However, these efforts risk becoming symbolic rather than systemic, without addressing the deeper structural barriers, such as unequal access to infrastructure, funding, and decision-making power.

Localisation often becomes a form of cosmetic decolonisation**,** leaving underlying power relations intact. Another emerging concern is the role of intellectual property (IP) in AI-generated content. Generative AI systems are increasingly used to produce music, art, and

text, often trained on datasets that include culturally significant materials. This raises important questions about cultural appropriation**,** particularly for postcolonial societies with rich artistic traditions. Local creators may find their work replicated or transformed by AI systems without consent, recognition, or compensation. This represents a new channel of epistemic and economic extraction, where the creative labour of Western African states fuels global innovation without equitable returns.

Finally, while this study focused on developers affiliated with the Google Developer Group (GDG), this sampling approach may have skewed the data toward those working within or adjacent to US-based platforms and norms. Although this does not undermine the findings, it highlights the need for future research to include a broader range of actors. Label workers, platform moderators, and end-users, often less visible but structurally essential, may offer different insights into how AI systems impact daily life. Their experiences could deepen our understanding of algorithmic injustice and reveal new dimensions of postcolonial resistance.

In summary, while new technologies have opened avenues for participation, they often remain embedded within global structures that reproduce historical inequalities. Unless these systems are critically challenged and locally reimagined, they risk reinforcing rather than remedying the postcolonial harms this study seeks to address.

6.6. Contribution

This study makes a significant theoretical contribution by applying postcolonial theory to examine the global dynamics of AI development critically. It surfaces how enduring colonial structures are reproduced through AI infrastructures, governance, and narratives, advancing the concept of “digital imperialism”, a condition in which stakeholders from the Global North, particularly those in North America and Western Europe, dominate technological innovation, data infrastructures, and ethical standards. This dominance extends beyond technical domains into control over the socio-political imaginaries that shape global AI governance, marginalising developers and institutions in postcolonial regions.

The research introduces and substantiates the notion of “algorithm and data colonisation”, describing how AI systems enforce and normalise Western-centric norms, thereby erasing Indigenous knowledge systems and exacerbating epistemic dependency. Developers in West

Africa are often compelled to rely on foreign tools, data, and ethical frameworks, which entrench asymmetric power relations and limit contextual relevance. In parallel, the study elaborates on “technology mimicry”, a postcolonial phenomenon whereby local actors adopt externally developed technologies in the name of progress, yet often replicate the same biases and dependencies these systems carry. Such mimicry, while appearing modernising, constrains critical innovation and undermines the articulation of local technological imaginaries.

Notably, the study proposes a normative intervention in the form of “algorithm and data decolonisation.” This calls for dismantling colonial epistemic structures within AI systems and advocates for locally anchored innovations, data sovereignty, and AI ethics grounded in cultural relevance. Educational reform and policy development are key levers for fostering capacity, representation, and equitable participation in AI futures. Collectively, these insights reposition AI ethics as a geopolitically situated and historically contingent domain, where power, culture, and epistemology intersect. The study contributes a contextually informed framework for understanding and resisting the reproduction of colonial asymmetries in AI development, providing a critical foundation for more equitable and pluralistic AI futures. Outlined below are directions for Future Research.

Frameworks for Algorithm and Data Decolonisation:
Future studies should prioritise the development of conceptual and practical frameworks that centre Indigenous epistemologies, local values, and culturally situated knowledge in the design, deployment, and governance of AI systems. This includes strategies for community-led data practices and digital sovereignty in postcolonial contexts.

Culturally Situated AI Ethics and Policy:
Research should examine how global ethical frameworks largely shaped by Big Tech interact with local moral systems, and how alternative, culturally grounded ethical principles can be formalised into policy. Such work is essential to challenge digital imperialism and foster more inclusive and representative AI development.

Educational and Institutional Reform:

It is critical to explore how educational institutions and regulatory bodies in postcolonial settings can be reformed to empower local developers and researchers. This includes investigating curriculum redesign, establishing local AI research centres, and the role of public institutions in shaping ethical, context-aware innovation.

7. Limitations and Implications for Practice

One of the limitations is the low involvement of female participants in the study, which highlights gender imbalance as both genders participating in the research are not on equal footing. Although this is possibly due to men's dominance in the professional body in the region, it may result in a lack of insight into the female developers' perspective on AI development and ethical challenges. Although Nigeria has the largest economy, population, and technological advancement in West Africa, the concentration of participants in Nigeria and the geographical distribution may have influenced the study outcome, as AI ethical challenges are considered location-specific. Therefore, the study's findings may not represent all postcolonial countries' positions. Despite these limitations, the study provides three implications for practice as described below.

7.1. AI Policy Recommendations for Equitable AI Governance in West Africa

7.1.1. Promotion of Local AI Innovation and Contextual Relevance

To address the structural asymmetries in global AI development, African governments should prioritise homegrown AI innovation by supporting the creation of regional AI hubs, data commons, and incubators that promote solutions tailored to local challenges. These hubs should focus on critical sectors such as agriculture, healthcare, urban planning, and education contexts where AI can have a transformative impact when designed with cultural and linguistic relevance. Policy instruments should incentivise the collection, stewardship, and ownership of local datasets to prevent extractive data practices. Governments could establish public data trusts or community-controlled data cooperatives that set governance rules for accessing, sharing, and monetising local data.

These data infrastructures should be complemented by legislation that enshrines data sovereignty, ensuring that foreign AI companies obtain consent, share value, and adhere to local data protection laws when operating in the region. Educational policy should mandate the inclusion of AI ethics, decolonial technology studies, and indigenous knowledge systems

in STEM curricula. National innovation policies should also provide grants and technical assistance to local startups and research centres, reducing dependency on imported technologies and mitigating the harms of technological mimicry.

7.1.2. Establishment of Inclusive and Culturally Grounded AI Ethics Frameworks

Rather than adopting global corporate norms, African states should co-develop contextually relevant ethical frameworks through participatory governance models. Ministries of technology, in collaboration with academic institutions, developers, ethicists, civil society, and community leaders, should convene multi-stakeholder AI ethics councils tasked with drafting regulatory guidance that reflects local values, traditions, and collective priorities.

Such frameworks should:

- Be rooted in indigenous and community-based ethics, such as relational autonomy and collective responsibility.
- Impact assessments are required for AI systems before deployment, particularly those affecting access to education, health, credit, or public services.
- Ensure representational justice in datasets, interfaces, and outcomes, particularly for ethnic, linguistic, and gender minorities.

To support these aims, governments could adopt model ethical codes aligned with regional realities, like how GDPR set a precedent in Europe and mandate that foreign developers in African markets comply with locally approved algorithmic fairness and cultural respect standards.

7.1.3. Strengthening Capacity Through Policy Reform and Legal Infrastructure

Governments must develop comprehensive AI regulatory frameworks that embed transparency, accountability, and local ownership at every level of development and deployment. This includes establishing national AI regulatory authorities or embedding AI oversight units within existing data protection agencies to audit, license, and monitor AI systems, focusing on sociotechnical impacts and power asymmetries. Educational reforms should complement these efforts by embedding AI literacy and critical digital pedagogy across university and vocational curricula, equipping the next generation of developers, designers, and policymakers with the skills to build sovereign and socially just technologies.

Legal infrastructure should also protect against algorithmic harms by requiring explainability, redress mechanisms, and community consultation for high-risk AI applications. Finally, states should engage in regional policy harmonisation through ECOWAS or the African Union to build collective bargaining power, enforce regional standards, and resist fragmented governance regimes that favour multinational platforms. *Table 4* summarises policy pathways for inclusive and equitable AI governance, outlining key focus areas, recommended actions, responsible actors, governance mechanisms, and intended outcomes.

Table 4. Summary of Policy Pathways for Inclusive and Equitable AI Governance

Policy Focus Area	Key Recommendations	Responsible Actors	Governance Mechanisms	Intended Outcomes
Local AI Innovation and Contextual Relevance	- Establish local AI hubs, incubators, and data cooperatives - Invest in culturally relevant AI solutions - Support local data collection and ownership	Ministries of Innovation, Education, and ICT National Research Councils Local Tech Communities	- Grants and subsidies for local AI startups - Public data trusts and data commons - R&D tax incentives	Reduce dependency on foreign AI Increase socio-cultural relevance Strengthen local digital sovereignty.
Data Sovereignty and Protection	- Enact data sovereignty legislation - Mandate local consent and benefit-sharing from data use by foreign firms	National Legislatures Data Protection Authorities Regional Bodies (e.g., ECOWAS)	- National data protection laws - Community-controlled data governance - Cross-border data regulation frameworks	Prevent exploitative data extraction Protect the community agency and enable fair value distribution.
Ethical AI Frameworks and Participatory Regulation	- Co-create culturally grounded ethical guidelines - Establish national or regional AI ethics councils - Require algorithmic impact assessments	Ethics Committees Civil Society Tech Developers Academics Policy Makers	- Participatory consultation processes - Culturally contextual AI ethical codes - Mandatory fairness and transparency standards	Increase algorithmic accountability Promote inclusive representation Align AI with local norms and values.

Education and Capacity Building	- Reform STEM and CS curricula to include AI ethics and decolonial tech - Promote AI literacy and local content creation	Ministries of Education Universities Vocational Institutes NGOs	- Revised national education standards - Public-private partnerships for training - Funding for indigenous knowledge integration	Build local talent pipelines Empower ethical, locally aware developers. Support long-term digital resilience.
Institutional and Legal Infrastructure	- Create or expand AI oversight authorities - Require auditing and explainability for high-risk systems - Facilitate regional regulatory harmonisation	Governments Regulators Regional Alliances (e.g., AU, ECOWAS) Legal Institutions	- AI auditing frameworks - Cross-border policy coordination - Algorithmic redress and appeals processes	Strengthen governance legitimacy Mitigate algorithmic harms Resist fragmentation and regulatory capture.

Source: Author's own work

8. Conclusion

This study examines the power imbalances in global AI development by integrating AI ethics with postcolonial theory. It emphasises the prevailing dominance of AI development by entities in the Global North, perpetuating historical exploitation and control patterns. This leads to digital imperialism, algorithm colonisation, and technology mimicry, marginalising local developers and communities. The research underscores the urgent need for algorithm decolonisation to address these power structures. Decolonisation involves prioritising local innovation, promoting data sovereignty, and ensuring that AI technologies are culturally sensitive and contextually relevant.

Moreover, the study calls for reforms in education to better prepare local developers with the necessary skills and knowledge to contribute effectively to AI development. It also highlights the importance of robust regulatory frameworks that promote transparency and accountability in AI development, empowering marginalised communities to shape their technological futures actively. Additionally, this study enriches the broader conversation on AI ethics by applying postcolonial theory to reveal how colonial legacies continue to influence

the global AI landscape. It emphasises the pressing need for a more inclusive and decolonised approach to AI development that honours local knowledge, cultural contexts, and ethical considerations, ultimately promoting a more equitable and just technological future for all.

Disclosure Statement

No financial, personal, or professional conflicts could be perceived as influencing the work reported in this study.

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