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From Data to Decolonial Peacebuilding: African Epistemologies, Indigenous Knowledge Systems, and The Reengineering of Digital Humanities and AI in Conflict Analysis

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ABSTRACT

This study examines the epistemic, methodological, and political effects of applying digital humanities and artificial intelligence (AI) to the analysis of conflict and peacebuilding in African contexts. It is situated within a growing critique of data-driven governance that highlights the persistent epistemic asymmetries inherent in computational systems. Although AI and digital humanities methods have broadened the analytical scope of conflict studies through large-scale text mining, predictive modelling, and networked data interpretation, their foundational architectures often rely on Eurocentric ontologies that prioritise abstraction, quantification, and universalism over contextually grounded systems of knowledge. In the African conflict landscape, layered histories, diverse epistemologies, and communal logics are embedded in all conflict processes; thus, such methodological approaches risk misrepresenting the nature and causes of violence and its trajectories, thereby undermining the potential for sustainable peacebuilding. Against this background, a key research question driving this inquiry is: how can African epistemologies and indigenous knowledge systems be systematically integrated into digital humanities and AI frameworks to reshape the analysis of conflict within decolonial and context-responsive notions of peace? Subsidiary questions explore how existing computational models often obscure or distort local meanings of conflict; whether and how indigenous interpretive frameworks, oral traditions, communal memory, cosmological narratives, and normative ethics can be translated into computationally legible forms without losing their epistemic significance; and what institutional and methodological adjustments are needed to embed such epistemologies within algorithmic infrastructures. The study aims to advance the concept of “decolonial computational peacebuilding” as an alternative analytical approach that challenges not only the use of local knowledge as supplementary data but also underscores epistemic subalternity by redefining the epistemological foundations of digital conflict analysis.

The study will employ a mixed-methods, multi-layered research design that combines computational analysis with interpretive, ethnographically-informed inquiry. The empirical approach includes three main data sources: (1) a corpus of conflict-related policy documents, peace agreements, and media texts that are analysed using advanced computational techniques such as topic modelling (LDA and BERTopic), sentiment and discourse analysis, as well as network mapping; (2) digital data collected from community-based platforms, oral history archives, and social media to create a narrative space reflecting indigenous perspectives on conflict and reconciliation; and (3) qualitative data from semi-structured interviews and focus group discussions with community leaders, peace practitioners, non-governmental organisations, and knowledge custodians within selected African conflict zones. Using a convergent-parallel framework, analytical procedures involve critically interpreting the outputs of computational methods through hermeneutic analysis, thereby highlighting discrepancies between algorithmic representations and lived experiences.

By supporting various forms of participatory design, algorithmic outputs can be continually recalibrated in line with cultural logics, thereby reducing certain forms of epistemic erasure and enhancing contextual fidelity. Emphasising reflexivity, co-production, and epistemic plurality, this approach redefines our methodology of viewing digital humanities and AI as dialogical rather than extractive tools. Overall, the study advances the process of reengineering conflict analysis by demonstrating how the intersection of computational accuracy with Indigenous epistemologies can produce practically robust, ethically sound, and decolonially sensitive frameworks for peacebuilding in Africa.

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Introduction

AI and digital technologies have disrupted the way in which conflict is analysed and predicted. But these tools do not come neutral; rather, algorithms contain biases about what counts as

knowledge and who gets to represent whom. Thus, the main obstacle to AI-assisted conflict analysis in Africa becomes whether its presuppositions reflect African realities. Using exact calculations on bad categories just creates clever fakes. This problem has historically been linked to colonialism, in which Western modes of thinking have continued to exercise power by naturalising them as forms of authoritative knowledge. These

inherited hierarchies are not erased and continue to inform Ghajiga et al. who present an argument for epistemic decolonisation in AI, arguing that big data and AI need epistemic decolonisation to ensure that technological infrastructures do not replicate historical injustices [1]. This leads to an apparent paradox: the very technologies that have the potential to democratise knowledge are also those that enable new forms of algorithmic infrastructure underpinning neocolonial relations.

Such a contradiction particularly arises during wars in Africa. Then, conflict is not a number you can be trained on; it has a meaning deeply rooted in historical and cultural contexts. Rivas highlighted the gap between this externalised view of intervention and women engaging with violence in lived experience [2]. When we apply these to Africa, they are forcing an external computational framework onto local interpretative layers of meaning, causing outsiders to misdiagnose conflict. This opens the door to digital colonialism, which creates epistemic dependency through data and classification controlled from elsewhere. Jahed et al. connect digital colonialism to African peacebuilding challenges and argue the importance of decolonising AI to prevent it from reproducing structural inequalities [3]. At its core, digital colonialism is not so much about foreign control of infrastructure as it is about who gets to define African lived experiences and what constitutes acceptable evidence. This means that external algorithms could, in theory, process African data but would not be sensitive to local realities.

In addition, digital humanities incorporate computation alongside traditional humanities (not always in a decolonial fashion), serving as a bridge between both modes of knowledge. As noted by Ogunwola and Suberu the introduction of digital humanities in connection with Africa's epistemologies has the potential to disrupt conventional knowledge hierarchies [4]. Similarly, Madore identifying gaps for digital humanities and AI within African Studies, stresses the importance of a decolonial analysis [5]. Which means it is not so much that participation at the level of skill matters (how to participate) as the quality of saying something or participating, essentially, its governing epistemology. Language clearly illustrates this challenge. Only a very few computational models, mostly confined to dominant language modalities, encapsulate the culturally specific lexicon characterising African conflicts. And, this means accepting technologies that marginalise African languages, as Makamani cautions [6]. So, in the case of conflict analysis, it means that all those whose voices are not expressed through languages embedded within these tools are left digitally unheard. This makes what appears to be an absence of data really the voicing of communities of people who have been made politically voiceless, their epistemologies silenced.

African indigenous knowledge is a way of knowing, not so much data. Khurana ties epistemic pluralism to decolonisation of AI; Sethy relates it to epistemic justice and inclusive innovation [7-9]. Indigenous peoples need to shape digital architectures from the ground up so that digitisation does not rob oral traditions of critical relational and spiritual contexts. According to Blayone and Mykhailenko even if digital technologies appear promising for enhancing indigenous cultures, they can only support the protection of cultural autonomy [10]. The central problem is how to reference indigenous knowledge computationally without committing cultural theft or decontextualising it. Cobzaru documents uneven practices in peacebuilding and shows that DH work cannot be sustainable unless exercised by the impacted communities, which have control over the underlying SKS [11]. This paper thus proposes decolonial computational peacebuilding as a methodology for analysing African conflict. Technological

design must be built on emancipatory and African approaches. This research examines how indigenous knowledge can be systematically incorporated into conflict-sensitive AI frameworks that are effective and culturally responsive. In the final analysis, for AI-assisted peacebuilding in Africa to be appropriate, it has to contextualise African epistemic agency even as it redistributes authority over knowledge and the definition of peace within technological architectures.

Literature Review

Digital Humanities, Artificial Intelligence, Indigenous Knowledge Systems and Decolonial Peacebuilding: Conceptual Perspectives

Digital humanities and artificial intelligence (AI) have revolutionised conflict analysis by enabling us to extract qualitative patterns from big data, shifting the focus from prediction-based inference of vulnerability to violence to prediction-driven, indicator-based insecurity forecasting. But these innovations pose fundamental challenges to how we think about knowledge representation and exclusion. This means understanding the intersection with indigenous knowledge and critically interrogating the sources of bias in digital infrastructures. Digital humanities represent the intersection of computation and cultural knowledge management. Because the discipline has evolved within Euro-American traditions that privilege written records, it encounters limitations when applied to African societies grounded in oral traditions and collective memory. Ogunwola and Suberu maintain that undertaking the decoloniality of digital humanities in Nigeria entails having an impact by recognising African epistemologies as not supplementary to Western infrastructures for knowledge production across Africa but as foundational [4]. Likewise, although AI can tremendously advance conflict prediction and crisis management, it is not neutral. Often, when algorithms are trained on data, they simply absorb prior bias, reproducing a dominant knowledge hierarchy and disregarding alternative epistemologies. According to Ghajiga, Warlimont and Sebakwane recent AI systems perpetuate global imbalances by privileging hegemonic traditions while disregarding indigenous knowledge or casting it to the outer fringes [1]. In the long run, advanced computational tools may deepen historical inequalities through automated knowledge exclusion.

African conflict is a social construction, shaped by culture and history. Standard computational metrics often miss the native ideas of justice, kinship and recovery that interact with African battle dynamics. Jahed, Niyitunga and Kilungu argue that algorithmic infrastructures may lead to digital colonialism by privileging universalist ideas over local understandings. Indigenous knowledge systems emphasise relationality, spirituality and context, unlike Western quantification [3]. Yet their systems remain underrepresented in digital structured data systems. Scholars have argued that for AI to respect epistemic pluralism, it must be rooted in indigenous knowledge from the ground up. As Khurana discusses, to decolonise AI, it is imperative to embed indigenous philosophies within algorithms, with a focus on the cultural responsiveness of technology [7]. To this end, decolonial peacebuilding postulates that we need to build digital platforms with attention to local cultural context and, in opposition to external expertise. Madore has stressed that researchers must develop decolonising approaches in which computational tools are coupled with interpretation grounded in the culturally situated context of communication, so that technology complements rather than confounds what is known about different cultures [5].

Technological Inclusion and Epistemic Justice AI is too often a means of propagating injustice due to its capacity to promote dominant cultural beliefs around indigenous conceptions without reference to their roots, as dictated by the preferential datasets available. As noted by Blayone and Mykhailenko Digital technologies are only indigenous futures when those technologies are structured and governed within an indigenous framework [10]. What will need to be relied upon is participatory AI to guard knowledge sovereignty. These epistemic exclusions are also more evidently connected to dependence on “dominant” languages. Indeed, Makamani argues that the Fourth Industrial Revolution will further entrench African languages in cultural meanings that are exclusive and difficult to translate [6]. Therefore, the reinvention of AI probably requires a multilingual framework that recognises African languages not just as tools for expressing complex philosophical traditions but also as philosophies.

The Decolonial Computational Peacebuilding framework proposed here views digital humanities and AI as dialogical rather than extractive. Contrary to conventional analyses of field collusion, which are based on principles of maximisation and prediction, it aims to combine computational capacity with indigenous epistemologies, participatory knowledge culture, and morals. Rather than fully rejecting AI or the digital humanities, it critiques their epistemological foundations and promotes systems grounded in African ontologies, indigenous practices, local-language infrastructure, and community collaboration. Thus, innovation is linked to epistemic change. Therefore, the aim of digital humanities towards the democratisation of knowledge aligns with AI, indigenous knowledge and decolonial peacebuilding. The question is not whether these technologies should be adopted in Africa, but the extent to which they can be re-engineered to incorporate Africa’s epistemological diversity into mainstream paradigms and escape digital colonialism. Such a transformation could result in multi-layered, culturally rooted, technologically informed, and ethical approaches that yield more effective conflict analysis and peace across Africa.

AI, Digital Humanities and the Politics of Knowledge Production in African Conflict Analysis

Through both AI and digital humanities, scalable resources exist for analyzing snapshots of large-scale conflict patterns. Nevertheless, the implementation of these technologies across Africa raises urgent issues around epistemic authority and knowledge sovereignty. Western traditions that center on empirical data and measurement mean that AI systems are rarely neutral; missing the relational, historical, and communal aspects of conflict in Africa. Due to the entrenched nature of conflicts in collective memories, colonial legacies and cultural identities, data-governed methodologies risk treating complex realities as fragmented datasets which disregard lived experiences. Thus, Jahed, Niyitunga and Kilungu explain that digital colonialism perpetuates epistemic injustices because technological infrastructures from foreign countries determine how African societies are to be interpreted, as well as automated ways of governance [3].

This challenge reflects what has increasingly been described as **digital colonialism**, where control over data infrastructures, algorithmic systems, computational resources, and knowledge platforms becomes a new form of epistemic domination. Unlike traditional colonialism, which operated through territorial occupation and political control, digital colonialism functions through technological dependency, data extraction, and the dominance of external knowledge frameworks. African societies often serve as sources of raw data while remaining marginal

to the design, ownership, and governance of digital systems. Consequently, AI models may extract information from African contexts without adequately incorporating African epistemologies into their analytical foundations. Ghajiga et al. contend that contemporary AI and big data systems require epistemic decolonisation because existing global knowledge infrastructures continue to reproduce unequal relationships between knowledge producers and knowledge consumers [1].

Digital humanities methodologies, in many ways, are forms of Western privilege that assume the primacy of the written word and formal textual archives, and thus partly ignore African oral traditions and modes of sharing knowledge as communal activities. Drawing on the work of Ogunwola and Suberu we argue for the decolonisation of knowledge production in Nigeria by shifting from an epistemology model, ERC, in which African knowledge systems operate as secondary to Western knowledge systems, to an epistemology with foundations, ETHS, that foregrounds African knowledge systems [4]. In addition, epistemic exclusion can be observed in AI systems, where natural language processing (NLP) heavily favours dominant European languages. Such underrepresentation of indigenous African languages overlooks the critical fact that language is embedded in cultural memory and the identity associated with it, thereby limiting conflict analysis. According to Makamani the Fourth Industrial Revolution should deliberately invest in African languages; cultural marginalisation will set in [6]. As a result, AI systems that fail to properly process African languages may misinterpret conflict narratives and community views.

The challenges stem largely from the extent to which algorithmic conflict analysis is predicated on the assumption that conflicts can be objectively predicted from data, obscuring more nuanced social and historical realities of violence. These risks make culturally biased algorithmic outputs appear to be hard facts. The challenge is not AI as such; rather, it is its epistemology: whether it reproduces established relations of knowledge hierarchies or facilitates inclusion, both decisions based on design. To decolonise AI, we need to allow for epistemic plurality rather than dismissal of innovation. According to Sethy a quest for epistemic justice would require acknowledging the existence of multiple systems of knowledge, especially that of indigenous epistemologies [9]. Khurana argues that indigenous knowledge provides collaborative AI paradigms grounded in relational forms of knowing that critique mechanistic approaches to technology [9,8,7]. Equally, Sethy believes that integrating indigenous knowledge into AI can advance epistemic justice by considering the reality of multiple cultural perspectives, challenging the universalised assumption that an AI framework reflects.

Digital humanities instead respond to epistemological challenges by merging computational and cultural analysis. This preserves indigenous heritage and narratives across Africa. According to Ope-Davies the African Scholarship has been transformed by Digital Humanities, which uses new methods to conserve and disseminate knowledge [12]. But it must move beyond digitalisation into genuine African-centred approaches. Decolonising the field involves communities actively deciding which research questions to pursue, how to develop algorithms, and how data will be governed; it does not simply involve providing datasets. This is where participatory AI frameworks come into the picture. According to Magaña and Shilton participatory AI incorporates numerous stakeholder perspectives, contributing to system trustworthiness [13]. This is particularly important in the context of conflict analysis since they have critical contextual knowledge

that external computational systems may never fully translate. As suggested in Digital cultural heritage, most digital projects focused on semantic differences (between the digital and physical object) as the locus of objection, but access to different forms of knowledge dictates epistemic transformation. A lack of appropriate digital foundations can threaten not only the rich cultural wisdom of many African societies but also render their histories absent, incomplete, or illegitimately interpreted. Oneill and Stapleton advocate for a shift from stand-alone archives to interlinked systems of knowledge that retain cultural complexity [14]. Yasodha Narayanan and, more importantly, Dwivedi and Kumari argue that AI-based historical production should never overlook computation, as critical interpretation of insights is required to discern the past, a process that can easily be oversimplified [15].

Indirect use of indigenous peace mechanisms exists in computational conflict models. For example, Cobzaru argues that digital humanities reflect cultural and historical sensitivities to work effectively in peacebuilding, while AlDajani and Bocanegra Barbecho argue that human interpretation is necessary alongside technology [11,16]. Thus, AI for African conflict analysis will need to move from extractive approaches to in situ systems. Such transformations will necessitate multilingual models, local databases, culturally informed algorithms and community ownership of the data. In the absence of those reforms, however, AI risks repeating colonial knowledge hierarchies and foreign assumptions onto African realities. Ultimately, decolonial politics must also reimagine AI as a site of epistemic dialogue that does not replace computational precision with indigenous traditions, such analysis localises the ethics of conflict.

Theoretical Framework

The issue of how to analyse African conflict through artificial intelligence and digital humanities is never just about technology but also involves interrogating the practices of knowledge production, power structures, and questions legitimacy. Conventional approaches assume that computational systems are neutral, but they are inextricably linked to socio-political contexts. Thus, the unification of Decolonial Theory, Epistemic Justice Theory, Indigenous Knowledge Systems Theory and Critical Data Studies will form an analytical paradigm that can uncover the ways and means through which digital technologies frame knowledge and imaginations of African conflict, whilst also providing trajectories for re-designing them towards more inclusive, non-Western specific, culturally grounded peace.

Decolonial Theory

Colonial Theory contends that colonialism established persistent states of superiority ascribed to Western epistemologies, at the expense of indigenous knowledge. It is reproduced by the institutions and technologies that establish what counts as legitimate knowledge. Within AI and the digital humanities, Decolonial Theory opposes the assumption that computational systems are free from cultural influence. The AI often echoes Western assumptions about rationality, reproducing colonial patterns by treating Western frameworks as universally applicable and indigenous knowledge as second-best. Jahed et al. argue for a new form of colonial power operating through digital means, in which technological systems determine how African societies can be classified and thus governed. At the heart of AI-driven conflict analysis is epistemological inequality [3]. However, by relying on reports from outside the community, datasets often fail to include understandings of land rooted in your local context, such as an indigenous understanding of historical memory or

spiritual ties to that land that those working within a Western system might label as unreal. Therefore, rather than merely a tool for analysing the needs/desires of aggressors and victims, AI actively creates conflict realities. The ultimate decolonial ambition is thus not to outright reject AI itself, but rather to shift its conceptual underpinnings away from the extractive data collection inherent in automated AI phenotyping processed through non-African epistemologies towards collaborative partnerships whose technological and governance structures are instead grounded in African epistemologies. Hence, Ogunwola and Suberu believe that digital humanities in Africa needs to shift its focus from technocentric development towards the decolonisation of knowledge by placing African epistemologies at the centre of transforming digital knowledge [4].

Epistemic Justice Theory

Decolonial Theory is the theoretical framework that explains the forces underlying historical knowledge inequality, and Epistemic Justice Theory examines what happens to those left out of knowledge production. Epistemic justice in AI contests, for example, against computational systems that prefer quantifiable institutional data (easy to measure) over culturally embedded knowledge. This is essential in African conflict analysis as official data rarely covers the more marginal local experience, producing so-called “testimonial injustice” by denying these communities credibility. According to Sethy addressing issues of inequalities in AI necessitates a colonising transformation premised on epistemic justice [9]. Thus, the aim is to disrupt assumptions as to what constitutes meaningful data by validating indigenous narratives and oral histories as legitimate knowledge (not just stories). Since indigenous knowledge is contextual and relational, it cannot be assimilated into established frameworks, unlike classification-based computational systems. Epistemic justice, therefore, calls for new methodologies to safeguard these ever-present layers of meaning. Towards this end, it has been argued that indigenous knowledge systems provide alternative conceptualisations of both intelligence and the human-technology relationship, establishing paths to more ethical AI [7].

Indigenous Knowledge Systems Theory

The Indigenous Knowledge Systems (IKS) perspective insists that African knowledge should be viewed as dynamic and much more than simply pre-modern vestiges. It contains generations of knowledge from our interactions with social, ecological, cultural, and spiritual landscapes. IKS counters the misconception that indigenous knowledge is informal or unscientific by emphasising its intricate systems of governance, conflict resolution, environmental management, and social organisation. Indigenous knowledge has historically been central to peacebuilding in African societies through dialogue, elder mediation, justice, rituals, storytelling, and collective decision-making, while prioritising the restoration of communal harmony over the mere cessation of violence. They contest models based on strong formal agreements and external catalysts. Indigenous Knowledge Systems are part of AI and digital humanities, where serious effort is needed to avoid distortion by community-centric approaches to categorisation, ownership, interpretation and access. In her work, highlights that, from a growth perspective, epistemic justice through artificial intelligence and indigenous knowledge systems will be more pronounced when communities hold power over how their knowledge is used. In the same vein, Blayone and Mykhailenko provide evidence that traditional sociocultural advancement can be facilitated by digital technologies, provided these technologies closely align with community needs [10]. Indigenous knowledge must be understood

as a living, contemporary repertoire for conflict analysis and reconciliation in Africa.

Critical Data Studies

Critical Data Studies are an analytical lens for interrogating how data, algorithms, and digital infrastructures actually constitute social realities rather than merely reflect prior realities. This view then contradicts the presumption that data are objective, neutral, and naturally present. Instead, they argue that data is constructed through selective processes of categorisation, interpretation and institutional decision-making. Thus, all datasets carry specific assumptions: What ought to be measured, whose experiences matter, and which realities become apparent? Critical Data Studies shows that algorithmic systems may perpetuate existing inequities within AI-driven conflict analysis. To take another example, conflict datasets are focused on extreme violence covered by the media at the expense of more common forms of structural violence, social exclusion and community tensions. The same goes for regions with low digital connectivity; conflicts there may be underrepresented in AI systems due to insufficient digital traces. This, in turn, creates algorithmic invisibility, in which communities fall away from computational representation because their experiences do not map onto dominant data infrastructures. Critical Data Studies, then, needs scholars to look not just at algorithmic outputs but also all the processes by which data is produced, collected and interpreted. Stakeholders necessary for data ownership, representation, transparency and accountability should systematically evaluate digital systems used for conflict prediction and peacebuilding. As O'Neill and Stapleton argue, it is essential that the fundamental structures of digital cultural heritage transition away from discrete data storage towards interlinked knowledge systems and ethical governance [14]. The same rationale extends to conflict datasets; responsible data governance is needed to ensure that communities are not reduced to objects of analysis.

The new approach of Decolonial Computational Peacebuilding combines insights from Decolonial Theory, Epistemic Justice, Indigenous Knowledge Systems and a Critical Data Studies perspective. Given that technologies are seldom sufficient for proper analysis of conflict, this framework highlights the importance of epistemological diversity, culturally informed design and participatory practices. Conclusion: AI needs spaces of dialogue and engagement with different knowledge traditions, rather than just extractive tools. Consequently, three major shifts in AI-informed conflict analysis in Africa are needed: (i) an epistemological level shift that legitimizes African knowledge within the computational reasoning paradigm; (ii) a methodological-level transition to reorient itself around new cohorts of indigenous narratives and computational analysis, matching AI research and knowledge with human understanding (i.e., critical qualitative analyses); and finally (iii) an institutional-level transformation. It is impossible to decolonise AI without reimagining how knowledge creation on AI is done, including the upstream supply of more African content. If Afrocentric epistemologies are centred in AI, research studies can move beyond the reproduction of inequality that characterises existing explorations and build peace outcomes sustainably through the interplay between knowledge systems and cultural understandings.

Methodological Framework

Decolonial Computational Methodology for African Conflict Analysis

Incorporating Artificial Intelligence (AI) into African conflict

analysis entails questioning knowledge-creation processes rather than selecting algorithms. By its very nature, conventional AI treats data as neutral, but African conflicts are often deeply rooted in local history and culture. Drawing on computational and interpretive analysis methods in a novel decolonial mixed-methods design in an effort not to reproduce inequalities that reduce African communities to data objects. Data is seen as socio-political artefacts instead of objective truths. This view is important because African conflict narratives are often linked to institutions located outside the continent. It is these assumptions, as argued by Jahed, Niyitunga and Kilungu that shape realities on the African continent, affect definitions of conflicts and consequently peace interventions; essentially amounting to a form of digital colonialism. Thus, this research regards AI as not a neutral instrument but a contested form of knowledge in need of analysis [3].

Using a convergent parallel mixed-methods framework, this research employs computational and qualitative analyses to simultaneously address issues inherent within either approach in isolation. AI detects trends across large populations but lacks the inherent cultural intelligence; qualitative methods capture depth of understanding in context but fail to observe system-level patterns. The two together show not only what patterns can be identified in conflict data and how they emerge, but also how communities interpret these patterns. Using methods such as Natural Language Processing, the computational phase examines digital materials related to conflict in order to identify central narratives. These outputs were considered preliminary results that needed interpretation through a cultural and historical lens, rather than as objective facts. According to Ghajiga, Warlimont, and Sebakwane epistemic decolonisation hinges on the intricate relationship between AI and assumptions, as algorithms mirror the mindsets of their designers [1]. Thus, computational results are considered analytic suggestions to be interrogated with respect to indigenous and contextual knowledge systems.

At the second methodological level, interviews and focus groups with local actors give voice to community perspectives on conflict, peace and digital technologies. This assumption threatens the dependence on institutional data in computational conflict analysis. Research by Sethy showed that one aspect of AI epistemic justice is recognising indigenous knowledge as a legitimate form of intelligence [9]. With this in mind, the study employs community narratives to contextualise computational models. The study employs a participatory approach in which you treat communities as partners in the knowledge process to prevent cultural distortion when converting relational indigenous knowledge into abstract digital formats. Such participatory methods are shown to strengthen trustworthy AI Magaña & Shilton [13]. This method also examines language and representation in the digital medium. Global languages are overpowered by African linguistic diversity in AI training. Linguistic exclusion is what Makamani describes as digital marginalisation. Consequently, this research adopts a multilingual approach to investigate indigenous languages and their influence on conflict narratives, and to examine whether translation destroys contextual meaning [6]. Digital ethnography investigates how communities interpret and mobilise narratives of peace in online spaces. Given the ongoing unequal nature of digital participation, the research has examined online content on inclusion and exclusion in terms of access. According to Ope-Davies African digital humanities need to go beyond technology and engage critically with the realities of Africa [12].

A critical element of the methodology is the examination of language and representation within digital systems. African conflict analysis cannot be adequately understood without attention to linguistic diversity because language carries historical memories, cultural meanings, and indigenous interpretations of social relations. Most AI systems remain dominated by global languages, particularly English and French, thereby limiting the representation of African linguistic realities. Makamani argues that African languages require strategic integration into Fourth Industrial Revolution technologies because linguistic exclusion constitutes a form of digital marginalisation [6]. Therefore, this study incorporates multilingual analysis by examining how indigenous languages influence conflict narratives and how translation processes may alter or erase culturally specific meanings. The study also incorporates digital ethnography and digital cultural analysis to examine how communities use online platforms to negotiate identities, document experiences, and construct peace narratives. Digital spaces have increasingly become arenas where conflict narratives are produced, contested, and transformed. However, digital participation remains unequal, and online representations may reproduce existing social inequalities. Consequently, the study critically analyses digital content while considering questions of access, representation, and technological exclusion. Ope-Davies argues that digital humanities offer significant opportunities for African scholarship but require methodological approaches that move beyond technological adoption toward critical engagement with African realities [12].

This paper follows a framework for data justice, focusing on principles of transparency, accountability and community ownership in the ethical governance of data from vulnerable groups. Christian, Kuoni and Pira have noted that it is key for digital methodologies to engage with the political implications of data practices. As a result, the study employs computational-hermeneutic triangulation, situated computation in indigenous contexts, and pragmatically appraises that methods of AI do not necessarily correlate with social reality. You can find out more about tools requires community interpretation of algorithmic results. In the same spirit, Cobzaru claims that digital humanities sustain peacebuilding when computational methods are matched with historical and culturally meaningful theoretical frameworks [11]. From the Methodological viewpoint, the research advocates a decolonial computational method. It moves from the mere extraction of data to the co-production of knowledge, offering African communities the means to better define and interpret computational analyses. Despite the widespread expectation that advanced algorithms or big data will ensure neutral results, this framework promotes methodological pluralism and inclusive knowledge creation. Leaning on indigenous epistemologies and community engagement, the research identifies a new socially responsible method for utilising AI to examine conflicts in Africa. This reorients tech innovation towards epistemic justice and sustainable peacebuilding, asserting that Africa is a producer of knowledge.

Decolonial Computational Methodology for Conflict Analysis and Peacebuilding

African conflict analysis and Artificial Intelligence (AI) require reconciliation between radically dissimilar epistemological traditions. Even though conventional AI relies on the assumption of data neutrality, African conflicts do not exist in a vacuum and have deep-seated historical and cultural components. To account for this complexity, this work employs a mixed-methods, decolonial approach that integrates algorithmic power and indigenous knowledge systems. AI finds patterns at scale, while interpretive

paradigms offer necessary context. The first component focuses on applying computational methods to digital materials to identify dominant narratives and relationships among actors (for example, using Natural Language Processing [NLP] or network analysis). Digital humanities can reshape African scholarship by changing how knowledge is preserved and interpreted, as Ope-Davies suggests. However, algorithmic outputs are partial reflections of experiences happening in wars [12]. Digital Data contributes to empowering political actors while creating opportunities for disempowerment for communities with limited access to technology. Since data is produced socially rather than neutrally discovered, Ghajiga et al. argue that the epistemic decolonisation of contemporary AI systems, such as those used on a large scale in Xilane, is necessary because existing big data infrastructures often reproduce global structures of knowledge inequality [1].

Second, it complements ethnographically informed qualitative inquiry with semi-structured interviews and focus group discussions with a range of community leaders, peace practitioners, civil society actors, traditional authorities, conflict survivors, and custodians of indigenous knowledge. Since African conflicts cannot be understood purely in terms of statistics, it is crucial to consider the qualitative dimension. Meaning of a conflict, as compared to the definitions, is less easily computationally represented and is shaped by a vast edifice of evidence from collective memories and oral traditions, informed by cultural identities and social relations. Consequently, the research posits indigenous knowledge not as supplementary information generated after an algorithm has run but rather as a foundational epistemic resource for translating results. This methodological stance is consistent with an argument that indigenous knowledge systems are advanced intellectual traditions that can contribute to contemporary technological development. According to Sethy Indigenous Knowledge Systems (IKS) can interpret AI in ways that preserve local perspectives and narratives, thereby generating more inclusive frameworks for defining knowledge beyond the scientific paradigm [8]. In a related argument, Khurana argues that decolonising AI must acknowledge an epistemic plurality in which indigenous perspectives inform systems of technological design, rather than merely serving as inputs to externally built systems.

This study utilises a convergent parallel strategy to analyse and integrate computational and qualitative data concurrently. The gap between what algorithms can compute and the contradictions in lived experience highlights the limitations of computational reductionism when applied indiscriminately, as well as the need for interpretive contextual work. This methodology necessitates critical ethical governance, as digitising indigenous knowledge involves the potential to distort and appropriate culture. This is why it embraces participatory knowledge production, allowing communities to dictate how their knowledge is digitised, understood, and accessed. Participatory AI approaches advance technological trustworthiness by engaging multiple stakeholders in the design and governance of AI Magaña & Shilton [13].

This methodological framework integrates digital cultural heritage to examine conflict through the lens of historical memory. Digitising African cultural knowledge, as long as it retains its social contexts, preserves indigenous epistemologies [14]. O'Neill and Stapleton call for ethically governed, interlinked Knowledge Networks, while Dwivedi and Kumari seek to balance AI with critical engagement in historical interpretation [15]. Language is another critical dimension. Training AI models on global languages might introduce a form of epistemic exclusion in African conflict research. Linguistic marginalisation is a leading contributor to

systemic cultural inequality in digital technologies (Makamani). Thus, this study presents a multilingual computational analysis centred on indigenous African languages (informed by community interpretations) [6]. The methodology also incorporates ethical AI governance to manage sensitive conflict data responsibly, with an emphasis on informed consent, confidentiality, and ownership. Surveillance and non-accountable data extraction should be avoided in digital peacebuilding. According to Jahed et al. peace is threatened by digital colonialism that circumvents local agency through unqualified technological systems, discouraging human identity while manufacturing and deploying knowledge from one part of the globe to another [3]. Based on this, the methodology uses human-centred AI-assisted Peacebuilding. Cobzaru [11] shows that digital humanities are for conflict transformation when computational methods are grounded in historical understanding and participatory engagement. In the same vein, AlDajani and Bocanegra Barbecho argue that digital transformation must augment, rather than replace, human decision-making [16].

This study develops a decolonial computational peacebuilding framework that positions indigenous epistemologies as active contributors, emphasising principles like epistemic inclusion, computational reflexivity, and participatory governance. Unlike conventional methods that treat indigenous knowledge as mere data, this approach recognises African knowledge systems as legitimate and involves communities in the creation of digital representations. It challenges the idea that better conflict analysis depends solely on advanced computational capacity, advocating the integration of technological innovation with epistemological diversity instead. This methodology combines algorithmic accuracy with indigenous wisdom and ethical responsibility, fostering more inclusive and sustainable peacebuilding across Africa [17-40].

Conclusion

While this innovation challenges the very nature of knowledge production in conflict analysis, its introduction is further complicated by our struggle over power and norms. These tools are powerful, but they primarily reinforce inequalities when Western assumptions dominate the logic driving models. As a result, enhancing algorithmic accuracy alone to improve computational peacebuilding in Africa is not enough; the foundational knowledge systems on which these efforts rest need to be rethought. African wars and conflicts cannot be reduced to models that study variables independently of both historical and cultural relational contexts. These frameworks without these dimensions produce false readings. At the end of the day, AI-enabled peacebuilding is not just a technical challenge; it raises an epistemological question: who gets represented in our algorithms?

Data colonialism is at the heart of AI challenges in Africa, where data is predominantly controlled by foreign players, and Africans provide data only for AI systems designed outside Africa. Jahed et al. [3] This undermines peace by sidelining local perspectives and entrenching foreign understandings of African realities (Kebede et al.). This calls for decolonising technical systems, of which more African participation is only a part. This demand requires that individuals question the epistemological assumptions that have been soaked in AI. As Ghajiga et al. As argues, epistemic decolonisation relates to the question of how global infrastructures frame what constitutes legitimate knowledge and what potential, or seeds for change, exist in local, alternative ways of knowing that could inform such design [1]. Consequently, rather than being insignificant auxiliary datasets, African epistemologies ought

to radically change the foundational paradigms and underlying assumptions AI uses to approach the fight.

Indigenous Knowledge Systems (IKS) in Reimagining Computation Peacebuilding. African traditions provide relational paradigms for conflict resolution that see peace as social well-being, challenging dominant paradigms of peace as merely the absence of violence. The paper proposes that contextual/culture-embedded knowledge (IKS) should be another part of the general idea of what intelligence is, and that AI would embrace it. Yet, digitising local knowledge must navigate the extractive tendencies that sever living traditions from their cultural milieu. Accordingly, decolonial computational peacebuilding requires that ethical frameworks prioritise not only the ownership of communities over data assets but also various tenets of cultural sovereignty. Sethy develops this further by arguing that, despite the importance of Indian knowledge systems (IKS) as supplementary sources, epistemic justice in AI requires them to be recognised and treated as legitimate traditions. In the end, AI needs to be redesigned to work alongside other forms of knowing rather than simply stuffing indigenous knowledge into existing systems [9].

Digital humanities is a hybrid of cultural analysis and computational techniques. They help preserve marginalised oral histories, indigenous languages and community narratives in Africa. Ogunwola and Suberu make the case for grounding African digital humanities in African knowledge systems, rather than importing technologies [4]. Overcoming institutional and linguistic barriers. The challenge is to use digital humanities and AI in African peacebuilding. Today, AI is predominantly trained in the languages of former colonial masters, resulting in competition in the interpretation of African indigenous narratives. This marginalisation can gradually diminish the culture and sovereignty of knowledge (Makamani) Thus, the need to localise multi-lingual AI systems for African languages is critical for a fully inclusive peacebuilding framework [6].

To break the reliance on external systems which may not represent local realities, African states must improve digital sovereignty and invest in technology, research, data governance & local innovation. Digital Transformation is not only about access but also about ownership and control of technology. Those responsible for encouraging peacebuilding institutions to participate in co-creating AI development and the power it produces by advocating that all conflicting communities be fully involved in defining what research should be conducted (for example, scope, etc.), how the results are interpreted, and governing systems. As Magaña and Shilton note, these inclusive approaches enhance fairness and accountability by aligning AI with a wider scope of societal values [13]. This chapter adopts the Decolonial Computational Peacebuilding framework, which comprises four principles: epistemic plurality, participatory design, ethical data governance, and computational reflexivity. It calls for Africans to lead the definition of AI through homegrown knowledge, treating data as not necessarily understanding. Epistemological diversity is what it risks being blind to if AI goes unchecked, and how deepening inequalities can manifest. Moving beyond data extraction: epistemic collaboration for African conflict analysis and reconciliation, incorporating indigenous epistemologies, would help advance justice, cultural anchoring, and sustainable peace. This vision for Africa's peacebuilding future is not merely adopting digital tools; it means actively designing the technologies themselves, rooted in plural knowledge systems.

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