

AFRICAN LOGICAL FRAMEWORKS FOR ARTIFICIAL INTELLIGENCE

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Abstract

The current artificial intelligence (AI) systems are designed through the use of an array of logical frameworks from Western philosophical traditions, ranging from Aristotelian classical logic to Bayesian logic and John McCarthy commonsense logic, which informs various logical approaches to developing AI systems such as neural symbolic AI, analogical reasoning, probabilistic reasoning, causal reasoning, commonsense reasoning, and inductive logic programming. To this end, the predominance of Western epistemologies in the development of Artificial Intelligence (AI) has resulted in systems that may not adequately address the needs of diverse cultural contexts. This paper proposed an alternative approach, leveraging African logic inherent in indigenous epistemology, such as Ifa in the Yoruba tradition, Iha in the Edo tradition, and Afa of the Igbo people, to inform AI design. By integrating holistic reasoning, probabilistic understanding, and ethical responsibility rooted in different epistemological traditions, AI systems can be developed to provide culturally relevant advice and solutions. AI can be trained on vast repositories of transcribed oral traditions, incorporating ancestral wisdom, traditional healing practices, and community knowledge. This approach requires designing AI that not only identifies problems but also suggests moral and socially responsible solutions. Through a comparative analytic method, the paper interrogates Eurocentric AI frameworks and upholds the validity of African epistemic and logical functionality. This framework emphasizes the significance of historical and ancestral knowledge, promoting a more nuanced understanding of human experience. This is to aid AI evolvement from a purely technological endeavor into a more culturally intelligent, ethically sound, and globally equitable force.

Keywords: *Afa, African Logic, Artificial Intelligence, Indigenous Epistemology, Ifa, Iha.*

Introduction

The advent of Artificial Intelligence (AI) has shaped the landscape of knowledge and redirected the scope and methodologies of mainstream approaches to knowledge. In this way, every field of study strives to catch up with the approach and methodology of AI in the bid to align its contents and approaches to those of AI systems, or mimicking its logic. This is irrespective of the fact that every field of knowledge has its unique logic and peculiar mode of reasoning. These logics were side-tracked or neglected in the development of AI. The fields of study particularly affected by this negligence are those that operate unique forms of logic that are perceived and considered not to be in consonance with the scientific approach to knowledge. *Ipsa facto*, all forms of indigenous knowledge systems suffered this exclusion because they are not considered as non-scientific and outright incapable of any form of logic.

This exclusion, which is not incidental but the result of a historical bias wherein African knowledge systems and logic have been dismissed as prelogical, mythical, or irrational,⁷² results in the development of a technological advancement that remains deeply embedded in Eurocentric epistemic assumptions while claiming objectivity and neutrality. Such a mindset inevitably produces AI systems that are not only culturally prejudiced but also ethically insufficient when applied to societies whose worldviews differ from those that produced them. Thus, this work contends that African logic, inherent in indigenous epistemologies such as *Ifa* among the Yoruba, *Afa* among the Igbo, and *Iha Ominigbon* among the Edo, offers a valid and coherent logic capable of informing the development of AI systems in meaningful ways.

The rationale for engaging African logic is therefore twofold: firstly, to challenge the hegemony of Western logic and reassert the philosophical legitimacy of indigenous African epistemologies; and secondly, to demonstrate how these indigenous knowledge systems can inspire the development of new models of AI systems that are more holistic, culturally diverse, attuned, and ethically responsible.

African Logic

The concept of African Logic represents a significant intervention in philosophical discourse, challenging the presumed universality of Western logical paradigms and positing the existence of distinct modes of reasoning rooted in African cultural contexts. This notion emerged, in part, as a decolonial project aimed at reclaiming intellectual sovereignty and countering historical narratives that denigrated African thought as “pre-logical.” Proponents of African logic argue that cultural worldviews, ontologies,

⁷² Nnamdi Azikiwe, “The Ethics of Colonial Imperialism”, *The Journal of Negro History*, 16(3), 1931: 302

epistemologies, and social practices can fundamentally shape the principles and application of logical systems.

A prominent figure in this discourse is Placide Tempels, whose seminal work, *Bantu Philosophy*, while critiqued for its essentializing tendencies, was foundational in articulating a coherent philosophical system inherent in Bantu thought. Tempels argues for a Bantu ontology centered on the concept of “vital force,” a concept that influences their understanding of causality and interactions. Placide posits that the notion of vital force could be seen as underpinning a distinct logical framework of the Bantu people.⁷³ John Mbiti, another influential scholar, further explored African conceptualizations of time, community, and personhood in works like *African Religions and Philosophy*. Mbiti's analysis of the cyclical nature of time in many African thought systems, contrasting with linear Western notions, suggests a different framework for understanding sequence, consequence, and logical progression.⁷⁴ Furthermore, his emphasis on communalism, marked by the popular dictum “I am because we are,” also implies a logic that prioritizes relationality and interdependence over individualistic or atomistic reasoning.

The sense of African logic is also evident in Molefi Kete Asante, who advocates that logic should be studied from an African-centered perspective. Asante critiques the dominance of Eurocentric logic and calls for the recognition of African rhetorical and logical traditions that are embedded in oral narratives, proverbs, and cultural practices.⁷⁵ His work emphasizes the need to understand African thought on its own terms, without imposing Western analytical frameworks. Furthermore, the work of scholars engaging with *ethnophilosophy* and the analysis of African proverbs and wisdom traditions has contributed to the understanding of African logic. While *ethnophilosophy* has faced criticism for its descriptive and sometimes uncritical approach, it has highlighted the existence of sophisticated reasoning and problem-solving strategies embedded within African cultural expressions. For instance, the interpretation of proverbs often reveals intricate logical connections and inferential patterns used in everyday life. Having pointed out the arguments for the existence of African logic, the discussion now analyses a specific instance of African logic.

ÀFÀ

Àfà, also known as *Ígbà àfà* or *Afa Ugiri*⁷⁶, is a sophisticated divination system practiced by the Igbo people of Eastern Nigeria. It serves as a means of exploring the unknown, diagnosing problems, prescribing solutions, and understanding the will of the spiritual forces that shape human existence. *Afa*

⁷³ Placide Tempels, *Bantu Philosophy*, Paris: Présence Africaine, 1959: 50-51

⁷⁴ John S. Mbiti, *African Religions and Philosophy*, 2nd Rev. Ed. London: Heinemann, 1990: 21-22.

⁷⁵ Molefi Kete Asante, *The Afrocentric Idea*, Philadelphia: Temple University Press, 1987: 71

⁷⁶ “Afa Divination,” Iroko Daily (blog), accessed May 23, 2025, <https://irokodaily.wordpress.com/afa-divination/>.

is a complex art and science that requires in-depth study and knowledge. The *Dibia Afa* (diviner) are specially trained to effectively serve as an intermediaries between the human and diverse elements in the spiritual realms.⁷⁷ Divination in *Àfà* is a process that typically involves the use of specific paraphernalia, most commonly four strings of beads or seeds (often *ugiri* - *Pterocarpus osum*, or bush mango - *Irvingia gabonensis*), each containing four half-shells. The diviner casts these strings, and the patterns formed by the open and closed surfaces of the shells are interpreted. These patterns correspond to a vast corpus of verses, proverbs, and symbolic meanings – the *Odu Afa* – which the *Dibia* draws upon to provide insight relevant to the client's query.

Afa is believed to be under the purview of *Agwu*, the Igbo deity of divination, inspiration, and esoteric knowledge.⁷⁸ *Afa* divination in Igbo culture is far more than a superstitious practice. It emerges as a sophisticated and coherent system of knowledge, inquiry, and problem-solving. Its holistic approach, its embrace of complementary dualities, its contextual sensitivity, and its integration of the spiritual and material realms are all hallmarks of a distinct and valid logical framework. *Afa* provides a structured means for the Igbo to navigate the complexities of life, maintain cosmic and social harmony, and access wisdom that transcends the purely empirical.⁷⁹

Afa is not only a spiritually based divination, but it also involves intricate mathematical principles employed as aid and guide for its activities. These principles are foundational for the logical and symbolic understanding and interpretation of the strings of *afa ugiri* seeds. Ignatius Nnaemeka Onwuatuegwu remarks that due to the complex mathematics involving permutations of 16 words (*mkpulu afa ili na isi*) in *Afa Ugiri*, it involves a rigorous training and skill. The knowledge is so deep that an ordinary mind cannot comprehend it. It requires been specially and specifically trained in the art. The skill is what guides the diviner in his interpretation of the *afa* seed words and in the establishment of patterns. This is done by rigorous examination of the relationships between “open” and “closed” shells in the *afa ugiri* strings.⁸⁰

There are stages of *Afa* rituals- the basic and the apex. Onwuatuegwu explains that the basic level involves four strings of *afa ugiri* seeds, each consisting of four *afa* seeds. There is a specific word for each *afa*. This name is determined

⁷⁷ Umoh Emmanuel, *Afa: The Igbo System of Divination*, Kraft Books Limited, 2018: 27

⁷⁸ Jude Aguwa, *Agwu Deity in Igbo Religion: A Study of the Patron Spirit of Divination and Medicine in an African Society*, Enugu: Fourth Dimension Publishing Company, 1995: 15.

⁷⁹ Sloane Angelou, “The Role of Dibia Afa (Diviners) in Igbo Culture,” Sloane Angelou (blog), accessed May 23, 2025, <https://sloaneangelou.blog/journal/the-role-of-dibia-afa-diviners-in-igbo-culture>.

⁸⁰ Ignatius Nnaemeka Onwuatuegwu, “The Confluence of Curiosity: Afa Ugiri Divination and the Human Pursuit of Knowledge”, *Global Journal of Arts Humanity and Social Sciences*, 5(4), 2025: 379 <https://gsarpublishers.com/journal-gjahss-home>,

by the arrangement of open and closed shells when a string is cast. The words are *Akwu*, *Ogali*, *Obara*, *Ose*, *Oha*, and *Otune*. For instance, a string that goes from top to bottom with the first, second, and third shells closed, and the fourth shell open is known as *Obara*, specifying that it must be read vertically.⁸¹ While this is simple and direct, the apex layer shows higher mathematical calculation. The apex level consists of 16 *afa* seeds made up of 7×7 words known as *Asaa okwu na asaa*. Each of the 16 seed words can have seven meanings in seven place, that is, seven multiplied by seven in seven places ($7 \times 7 \times 7 \times 7 \times 7 \times 7 \times 7$). This implies the possibility of 823,543 permutations or meanings according to each seed word. This shows that an *afa dibia*, i.e., required to have a comprehensive understanding of 64 interpretations at the basic level and 13,176,688 interpretations at the apex level. These interpretations must follow certain codes and a series of rules to arrive at proper interpretations of the symbols. Hence, the *Dibia Afa*, as the custodian of this tradition, employs a 'ritual of logic' that continues to hold profound meaning and relevance for those who seek its guidance, demonstrating the enduring power of indigenous epistemologies.

Josiah Umezurike argues that the *Afa* oracle is a form of ancient computing systems that possesses a lexicon that is comparable to a Turing machine. He further opines that *Afa*, the 'black-box machine' of knowledge, had the ability to solve both decision and function problems, and has the ability to carry on many other strings (aligned and unaligned) in a meaningful cooperative process. In Umezurike's view, there is a need for collaboration and harnessing the rich linguistic diversity of ethnic languages because of their capacity to contribute to the advancement of AI.⁸²

The Case of Persistent Barrenness and Afa's Logical Resolution

In Umuahia, Nneka and Chike faced persistent barrenness, a problem modern medicine couldn't solve. They consulted *Dibia Afa Okoro*, a renowned diviner. His approach showcased *Afa's* sophisticated logical system. Initially, *Dibia Okoro* engaged them in conversation, gathering contextual data – a crucial first step in *Afa's* holistic inquiry.

Using four strings of *afa ugiri* seeds, the patterns formed consistently pointed to ancestral displeasure and a breach of communal harmony. This demonstrated *Afa's* deductive and inductive reasoning, connecting spiritual issues to physical manifestations, characteristic of its holistic approach. Moving to the more complex "*Asaa okwu na asaa*" with 16 seeds, the *Dibia* navigated a vast number of permutations (over 13 million possible interpretations). This intricate process unveiled the root cause: an unacknowledged ancestral injustice involving land. This stage highlighted the

⁸¹ Onwuatuegwu, "The Confluence of Curiosity", 381.

⁸² Josiah Umezurike, Low-Resource Language Model with Cyber Defense, January 2025, <https://www.researchgate.net/publication/387669250>, DOI: 10.13140/RG.2.2.22096.42245

complex mathematical principles and rigorous training required of a *Dibia*, akin to interpreting complex code in an ancient computing system.

Dibia Okoro prescribed some solutions: Rectification (A ceremony involving both families to acknowledge the past injustice, offer forgiveness, and make symbolic restitution), Cleansing (A spiritual cleansing ritual for Nneka), and Reaffirmation (Active participation in a communal project to restore harmony)

Following *Dibia's* guidance, Nneka conceived and gave birth. This case demonstrates *Afa* as a "ritual of logic": It employed a structured methodology (castings, *Odu Afa*), It utilized complex mathematical principles for pattern interpretation, it involved deductive and inductive reasoning to connect symbols to real-world issues, it showed contextual sensitivity, integrating social, spiritual, and historical elements, it provided actionable solutions that addressed the root cause holistically, underscoring *Afa's* capacity to solve decision and function problems as an ancient computing system.

Through *Afa*, the *Dibia* provided a pathway to understanding and resolution where empirical science had limitations, affirming the power of indigenous epistemologies.

IFÁ

Ifá, the ancient and deeply revered divination system of the Yoruba people, stands as a monumental intellectual and spiritual edifice. More than a fortune-telling mechanism, *Ifá* is a vast corpus of knowledge, an ethical guide, and a cosmological framework. Its intricate structures and operational principles reveal a profound coherence and a sophisticated system of reasoning that challenges Eurocentric definitions of logic itself. *Ifá* divination is orchestrated by *Òrúnmìlà*, the *Òrìṣà* (divinity) of wisdom, knowledge, and destiny, who acts as the intermediary between *Olódùmarè* (the Supreme Being) and humanity. The *Babaláwo* (Father of Secrets), or *Ìyánífá* (female *Ifá* priest), interprets the sacred oral texts, the *Odù Ifá*, to guide individuals and communities.⁸³

Ifa demonstrates an alternative yet equally rigorous form of rationality. It is not based on empirical observation in the Western scientific sense, but on a deep understanding of interconnectedness, causality, and the intricate web of forces governing the cosmos. The core of *Ifa* is the *Odu Ifa*, a corpus of 256 principal figures, each comprising a vast body of poetic verses (*ese Ifa*), proverbs (*owe*), historical narratives (*itan*), and ritual prescriptions.⁸⁴ When a diviner (*Babalawo*) casts the sixteen palm nuts (*ikin*), or the divining chain (*opele*), a specific *Odu* is revealed. The interpretation of this *Odu* is not arbitrary; it follows strict rules of association, analogy, and symbolic

⁸³ Ile Ifa International, "Babalawos", accessed May 23, 2025, <https://ileifa.org/babalawos/>.

⁸⁴ Wande Abimbola, "Ifa Divination System", <https://ich.unesco.org/en/RI/Ifa-Divination-System-00146>

reasoning. This process reflects a systematic approach to problem-solving and knowledge acquisition, demonstrating a form of “situational logic” that is highly adaptive and context-sensitive.

Ifá in Yoruba culture emerges not as a set of arcane rituals but as a deeply rational and coherent system for navigating the complexities of existence. Its holistic approach to understanding, its embrace of complementary dualities, its contextual and pragmatic application of wisdom, its foundational belief in the interconnectedness of all things, and its communal preservation of knowledge all portray the intrinsic character of African logical thought. *Ifá* provides an “algorithm” for life, one that is dynamic, ethically grounded, and spiritually attuned, offering enduring wisdom for the Yoruba people and, increasingly, for a global community seeking diverse ways of knowing and being.

Ifá's Logical Resolution of a Family Feud

In *Ọyọ*, a bitter land dispute between the Balogun and Ashipa lineages caused significant community discord. Modern arbitration failed, leading elders to consult *Babalawo Ifagbemi*, an *Ifá* priest.

Babalawo Ifagbemi began the divination by casting the sixteen sacred palm nuts (*ikin*) onto the *opon Ifá* (divination tray). With each cast, he carefully observed the patterns formed by the fallen nuts, which corresponded to a specific *Odù Ifá*. This was not a random act; it was a precise engagement with a systematic approach to knowledge acquisition.

After several casts, a complex *Odù* emerged – a rare and profound one, perhaps hinting at deep-seated ancestral issues. Let's imagine it was the *Odù Ọfún Méjì*, known for themes of transformation, deep secrets, ancestral justice, and the need for truth to emerge for purification.

Babalawo Ifagbemi then meticulously recited the associated *ese Ifá* (poetic verses), proverbs (*owe*), and historical narratives (*itan*) linked to *Ọfún Méjì*. His interpretation was not arbitrary but followed strict rules of association, analogy, and symbolic reasoning, showcasing *Ifá's* rigorous rationality. The verses spoke of an ancient error in land demarcation, compounded by a forgotten promise between founding ancestors, creating a "causal chain" of misfortune across generations. They also hinted at an opportunity for profound healing if truth and restitution were embraced.

This process highlighted *Ifá's* core principle: understanding interconnectedness and causality. The current dispute wasn't isolated; it was a manifestation of deeper, historical imbalances. This demonstrated *Ifá's* "situational logic," highly adaptive and context-sensitive, revealing an alternative yet rigorous form of rationality beyond purely empirical observation.

Based on the revealed *Odù* and its intricate interpretations, *Babalawo* Ifagbemi prescribed a solution, an algorithm for life designed to restore balance and harmony: Both families were to participate in a public assembly where the historical error, as revealed by *Ifá*, would be openly acknowledged and a formal apology offered to the wronged lineage. This emphasized the ethical grounding of *Ifá*. Secondly, a specific ritual involving the planting of sacred trees at the original, disputed boundary point was prescribed, symbolizing renewed growth and reconciliation, and an offering to the ancestors. Lastly, a large communal feast would be held, where both families would share food and collectively take a new oath of unity and mutual respect, witnessed by the entire community. This reinforced the communal preservation of knowledge and social cohesion central to *Ifá*.

This case exemplifies *Ifá* not as an arcane ritual, but as a deeply rational and coherent system for navigating complex existence. It demonstrated: Its systematic approach to problem-solving through rigorous interpretation, Its holistic understanding of interconnected spiritual, historical, and social forces, Its contextual and pragmatic application of wisdom to a real-world dilemma, and Its ability to provide an ethically grounded and spiritually attuned "algorithm" for life, reaffirming the intrinsic character of African logical thought.

IHA OMINIGBON

The logic of *Iha Ominigbon* is a combination of symbolic reasoning, historical knowledge, and a belief in the interconnectedness of the physical and spiritual realms. *Iha Ominigbon* is the indigenous divination system of the Edo people of Benin, Nigeria, and it stands as a profound testament to the sophisticated intellectual and spiritual heritage of the people. Far more than a mere prognosticative tool, *Iha* functions as a comprehensive epistemological framework, a repository of historical memory, and a vital mechanism for maintaining socio-religious equilibrium within Benin culture.⁸⁵ Its complexity and enduring relevance have drawn scholarly attention, revealing its pivotal role in shaping the Edo worldview. At the heart of *Iha Ominigbon* lies a sophisticated system of casting and interpretation.

The primary apparatus consists of four spiritually charged strings, each bearing four *Oguega* seeds, totaling sixteen seeds. When cast by a diviner, known as an *Ob'oguega* or *Ohen*, these sixteen seeds fall into specific configurations, generating a sacred coded message or figure.⁸⁶ The interpretation of these figures constitutes the core of the *Iha* process. The figures themselves are abstract representations that unlock a vast corpus of knowledge. This knowledge is transmitted through a rich tapestry of proverbs

⁸⁵ Edo People: Africa's Most Popular And Artistic People From Nigeria That Built The Pre-Colonial Ancient And Powerful Benin Kingdom June 22, 2013 <https://Kwekudee-Tripdownmemorylane.Blogspot.Com/2013/06/Edo-People-Africas-Most-Popular-And.Html>

⁸⁶ Oguega Oracle, Great Benin Divination March 14, 2010, <https://Chiefdrdaryl.Wordpress.Com/2010/03/14/Great-Benin-Divination/>

(*Uhe*) and folktales (*Itan Iha Ominigbon*) associated with each figure. As Jacob Egharevba, the esteemed Benin historian, frequently documented, these proverbs and tales are not merely anecdotal but encapsulate profound philosophical truths, historical narratives, and ethical guidelines that inform nearly every facet of Edo life.⁸⁷

They are mnemonic devices that transmit historical events, genealogical lineages, and the evolution of societal norms. They often recount the deeds of ancient kings (*Ogiso* and *Oba*), the establishment of institutions, and the origins of customs. This oral tradition, interpreted through *Iha*, provides a dynamic and living history that continually informs contemporary understanding of the past.

Iha Ominigbon's Logical Resolution of a Leadership Succession Crisis

In a rural Edo community, the sudden passing of the village head left a contentious vacuum in leadership. Two prominent families, both with legitimate claims based on lineage, entered a deadlock, threatening the community's stability and ancestral traditions. Traditional council meetings proved ineffective, as each side cited its own version of historical precedence.

To break the impasse and ensure a harmonious succession, the elders sought the wisdom of Ohen Osamede, a respected *Ob'oguega* (Iha diviner).

Ohen Osamede initiated the divination using the four spiritually charged strings, each bearing four Oguega seeds. With each cast, he observed the configurations, which generated a sacred coded message or figure. A specific, complex figure emerged, signifying a critical intersection of past and present. This figure, though abstract, immediately unlocked a vast corpus of knowledge for the Ohen.

The Ohen then drew upon the *Uhe* (proverbs) and *Itan Iha Ominigbon* (folktales) associated with that figure. His interpretation, rooted in symbolic reasoning and profound historical knowledge, revealed that the current dispute mirrored an almost identical succession crisis centuries ago during the reign of an ancient *Ogiso*. The narratives detailed how that past crisis was resolved not by strict primogeniture, but by a consensual selection based on specific virtues and communal support, to prevent fragmentation. This demonstrated *Iha's* capacity as a mnemonic device and a living history, revealing a combination of symbolic reasoning and historical knowledge to illuminate the present.

Based on *Iha's* revelation, Ohen Osamede advised the elders to revisit the ancient precedent. He guided them to assess the contending candidates, not just on strict lineage, but also on their demonstrated wisdom, integrity, and proven ability to unite the community, as was done in the historical instance.

⁸⁷ Egharevba Jacob, *A Short History Of Benin*, Ibadan University Press, 1968: 26

This integrated *Iha's* philosophical truths and ethical guidelines into a practical solution.

Following this counsel, the community collectively chose a leader who embodied the virtues highlighted by the historical narrative. The crisis was averted, and a peaceful transition occurred, restoring socio-religious equilibrium. This case exemplifies *Iha Ominigbon* as a comprehensive epistemological framework. It uses a sophisticated system of casting and interpretation that combines symbolic reasoning with profound historical knowledge and a belief in interconnectedness. *Iha* thus serves as a vital mechanism for maintaining socio-religious equilibrium and providing a dynamic, historically informed logic for the Edo people.

African Logic and Artificial Intelligence: Its Implications for AI Development

The burgeoning field of Artificial Intelligence (AI) presents both unprecedented opportunities and profound ethical challenges. While much of AI development has been shaped by Western epistemologies and logical frameworks, a critical examination through the lens of African logic reveals not only the potential for more culturally relevant and inclusive AI systems but also highlights indigenous knowledge systems like *Ifa*, *Iha*, and *Afa* as rich sources of conceptual inspiration and ethical guidance.

African logic, as explored by scholars like Jonathan Chimakonam (with his *Ezumezu* logic) and Chris Ijiomah (with 'Harmonious Monism'), often embraces principles of complementarity, interconnectedness, and a recognition of multiple truths or perspectives.⁸⁸ Unlike the often binary, reductionist approach prevalent in traditional Western logic, African thought frequently integrates seemingly opposing concepts, seeking harmony and balance within a dynamic cosmos. This holistic worldview has significant implications for AI development, pushing beyond purely computational models toward systems that can grapple with ambiguity, context, and the fluid nature of reality.⁸⁹

AI systems could be designed to incorporate deep historical archives and cultural narratives, allowing them to provide solutions that are historically informed and culturally sensitive. This moves beyond mere data retrieval to understanding the evolutionary dynamics of a society. Similarly, *Iha* often identifies imbalances in the spiritual, social, or personal realm. An *Iha*-informed AI could be developed to detect systemic inequities or disharmonies

⁸⁸ John Egbonu, "Examining The Nature Of African Logic", *Journal Of African History Culture And Arts*, 2(4): 2022, 248

⁸⁹ Adetayo Akinwale, "The Relevance of African Traditional Thought in the Development of Artificial Intelligence," *African Journal of Science, Technology, Innovation and Development* 11(2), 2019: 125.

within complex datasets, offering interventions aimed at restoring equilibrium rather than merely optimizing for narrow metrics.⁹⁰

AI could be trained on vast repositories of transcribed oral traditions, including ancestral wisdom, traditional healing practices, and community knowledge, to provide culturally relevant advice and solutions. This involves building knowledge bases that prioritize indigenous epistemologies. *Afa's* focus on collective well-being and the role of the individual within the community can guide AI development towards systems that prioritize communal benefit over individualistic optimization. This aligns with African ethical frameworks like Ubuntu, where "I am because we are."⁹¹

Rather than purely deterministic outputs, an Ifa-inspired AI could provide a range of probable outcomes and suggest multiple courses of action, similar to how *ese Ifa* offers various narratives and prescriptions. The *Babalawo's* ability to tailor interpretations to individual circumstances highlights the need for AI to move beyond generalized solutions to context-specific advice, drawing from the in-depth knowledge of interconnected proverbs and historical precedents. The strong ethical framework embedded in *ese Ifa*, which emphasizes *Iwa Pele* (good character), could inform the development of AI ethical guidelines that are deeply rooted in communal well-being, reciprocity, and accountability. This would require designing AI that not only identifies problems but also suggests moral and socially responsible solutions.⁹²

Challenges of Integrating African Logic into AI Systems

While the integration of African logic into Artificial Intelligence promises a more culturally nuanced and ethically robust technological future, its implementation is beset by multifaceted challenges. The divination systems are fundamentally oral traditions, passed down through generations of initiates (*Babalawo*, *Ob'oguega*, *Bokonon*) through apprenticeship, memorization, and practical application. A significant portion of this knowledge is tacit, embodying intuitive understandings, subtle contextual cues, and performative aspects that are difficult to formalize into explicit algorithms or computable rules. The proverbs (*ese Ifa*, *Uhe*), narratives (*itan*), and interpretations are often polysemic, requiring deep cultural immersion to grasp fully.⁹³

There is also the significant risk of cultural appropriation or misuse if AI systems are developed without profound respect for the sacredness and

⁹⁰ Peavy Daryl, "The Benin Monarchy, Olokun and Iha Ominigbõn." *Umẹwaen: Journal Of Benin & Edo Studies* 1, No. 1, 2016: 110

⁹¹ Gyekye Kwame, *African Cultural Values: An Introduction*, Sankofa Publishing Company, 1996, 42

⁹² Oluwafemi Esan, *Ifa Theology And African Spirituality: Exploring The Virtues Of Life And Purpose*, <https://Aclasses.Org/Ifa-Theology/>

⁹³ Abimbola W., *Ifa: An Exposition Of Ifa Literary Corpus*, Oxford University Press Nigeria, 1976, p. 45

protocols surrounding these knowledge systems⁹⁴. Commercialization or trivialization of practices central to cultural identity could lead to alienation and erosion of traditional beliefs. The *Babalawo*, *Ob'oguega*, and *Bokonon* are not merely interpreters but trusted societal guides, counselors, and spiritual intermediaries. An AI system, no matter how advanced, cannot fully replicate the human empathy, spiritual connection, and nuanced judgment of these practitioners. The challenge is to design AI as an augmentative tool, supporting practitioners without diminishing their authority or expertise.⁹⁵

Similarly, for AI based on indigenous logic to be genuinely adopted, it must gain the trust and acceptance of the communities it aims to serve. This requires transparent development processes, active community engagement, and clear demonstrations of how the AI complements, rather than replaces, traditional practices.⁹⁶

The Future of AI Development

Integrating African logic into AI development is indeed far from a mere academic exercise; it represents a paradigm shift with profound practical, ethical, and societal implications. By consciously drawing upon indigenous African epistemologies, we can cultivate AI systems that are not only technologically advanced but also culturally intelligent, socially responsible, and genuinely inclusive.

Western-oriented AI often assumes a universal human experience and logic, leading to systems that may inadvertently perpetuate biases, misunderstand contexts, or even cause harm in non-Western settings. For example, AI designed to optimize individual productivity might overlook communal values of collaboration and social harmony prevalent in many African cultures. Decolonizing AI means questioning these implicit universalisms and acknowledging that different cultures define "intelligence," "progress," and "success" in varied ways.

African logic can significantly push the boundaries of AI's technical capabilities, making it more resilient, adaptive, and trustworthy, especially in handling complex, ambiguous, and dynamic environments. *Ifa*, *Iha*, and *Afa* thrive on interpreting subtle cues, nuanced narratives, and probabilistic outcomes. This will push AI to develop an AI system that can effectively integrate diverse forms of information: numerical data, oral narratives, symbolic representations, and even intuitive insights (as simulated through advanced learning) to arrive at more comprehensive conclusions. These

⁹⁴ Owusu J., & Mensah M., "The Ethical Implications of Artificial Intelligence" In Africa. *International Journal Of Computer Science And Technology*, 13(2), 2022: 5

⁹⁵ Acjol.Org. (2025). *Impact of Artificial Intelligence on Witchcraft Beliefs And Human Identity In Igboland*. Retrieved From <https://Acjol.Org/Index.Php/Njp/Article/Download/6329/6128>

⁹⁶ Ire Journals. (2023). *Ai Ethics in Africa: Balancing Innovation with Cultural and Social Responsibilities*. Retrieved From <https://www.Irejournals.Com/Formatedpaper/1706316.Pdf>

systems demonstrate how different forms of knowledge, empirical observation, oral tradition, spiritual insight, and historical memory, can be integrated into a coherent framework. This encourages AI to move beyond solely data-driven approaches to integrate qualitative data, expert knowledge, and traditional wisdom effectively, leading to more robust and comprehensive solutions.

In embracing diverse logical foundations, the AI community can cultivate a more inclusive and representative technological future, ensuring that AI solutions are globally relevant and resonate with a wider range of human cultures and values. A significant driver of AI bias is the lack of diverse perspectives in its design, development, and data. Integrating African logic means actively involving African epistemologies and researchers, thereby building more equitable datasets, algorithms, and applications. AI systems built on African logic could serve as bridges for cross-cultural understanding, translating complex cultural nuances into understandable forms for users from different backgrounds. This can enhance global collaboration and reduce miscommunication.

By validating and integrating indigenous knowledge, African logic inspires local innovation and fosters self-reliance in AI development across the continent. This moves away from a model of technological dependence towards one of shared global leadership in AI. Ultimately, integrating African logic pushes AI towards a more genuinely human-centered approach. It challenges AI to understand humanity not as a monolithic entity, but as a rich tapestry of cultures, beliefs, and ways of knowing, leading to AI that serves all of humanity more equitably and effectively.

Conclusion

The divination systems of *Ifa*, *Iha*, and *Afa*, when viewed through the lens of African logic, offer invaluable conceptual frameworks for the future of Artificial Intelligence. They challenge the prevailing paradigms of AI by emphasizing holistic reasoning, probabilistic understanding, ethical responsibility rooted in community wisdom, and the profound significance of historical and ancestral knowledge. By consciously drawing upon these rich indigenous knowledge systems, AI can evolve from a purely technological endeavour into a more culturally intelligent, ethically sound, and globally equitable force, truly serving humanity in all its diverse expressions. The integration of African logic into AI systems, while profoundly promising for fostering equitable and culturally relevant technology, faces a complex array of challenges. Overcoming these hurdles requires a multidisciplinary approach involving not just AI researchers and engineers, but also anthropologists, linguists, ethicists, cultural custodians, and local communities. It necessitates a commitment to decolonizing AI paradigms, fostering genuine collaboration, ensuring data sovereignty, and making strategic investments in infrastructure and human capital. Only through such a holistic and respectful approach can AI truly benefit from and contribute to the rich intellectual heritage of Africa.

By moving beyond a singular, Western view of intelligence, AI can evolve into a more adaptable, ethically sound, and culturally resonant technology. This integration promises not only to address pressing challenges within African contexts but also to enrich the global AI landscape, contributing to a truly inclusive, equitable, and human-centered technological future that values and leverages the diverse wisdom of all humanity.

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