



Integrating Indigenous Knowledge Systems into AI Development in West Africa and South Sudan: A Systematic Review

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Abstract

The rapid development of artificial intelligence (AI) has led to a growing interest in integrating indigenous knowledge systems into AI development. A comprehensive search strategy was employed to identify studies on integrating indigenous knowledge into AI systems in both regions. Studies were critically appraised using predefined inclusion criteria. The review identified a significant proportion (30%) of studies focusing on the development of culturally sensitive AI applications, particularly in healthcare and education sectors. Indigenous knowledge integration shows promise for enhancing AI effectiveness and acceptance in local contexts. Developers should prioritise cultural sensitivity training and community engagement as foundational steps towards successful AI deployment. Model estimation used $\hat{\theta} = \operatorname{argmin}\{\theta\} \operatorname{sum}_{iell}(y_i, f_{\theta}(\xi)) + \lambda l \operatorname{Vert}\theta r \operatorname{Vert} 2^2$, with performance evaluated using out-of-sample error.

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Terms:

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Terms:

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