Integrating Indigenous Knowledge Systems into AI Development in West Africa

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Abstract

The rapid advancement of artificial intelligence (AI) has significant implications for West Africa, including Seychelles, where there is a need to integrate indigenous knowledge systems into AI development. A systematic search was conducted through databases such as Scopus and Web of Science, using keywords related to AI, indigenous knowledge systems, and West Africa. Studies from onwards were included in the review. The findings indicate a growing interest but limited empirical studies on integrating IKS into AI development across the region. There is potential for enhancing AI applications in Seychelles by incorporating indigenous knowledge, which can lead to more culturally sensitive and effective solutions. Further research should focus on developing models that integrate IKS with existing AI frameworks, particularly those addressing climate change adaptation strategies. Model estimation used $\hat{\theta} = argmin_{\theta} \, sum_i \, ell(y_i, f_\theta(\xi)) + \lambda lVert \theta rVert_2^2$, with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, AI ethics, ethnography, cultural analytics, computational anthropology, epistemology, machine learning methodologies*

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