African Communication Policy (Media/Policy/Social)

AI Diagnostics in Resource-Limited Settings: Malawi's Perspective on Disease Diagnosis

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Abstract

AI diagnostics are increasingly being explored as a solution to enhance disease diagnosis in resource-limited healthcare settings, particularly in underdeveloped regions such as Malawi. A mixed-methods approach was employed, combining quantitative analysis with qualitative interviews to gather data from both technical experts and end-users in healthcare settings. AI models showed a 15% improvement in disease diagnosis accuracy compared to traditional methods, particularly in diagnosing malaria and tuberculosis. Interviews revealed that stakeholders were generally supportive but highlighted the need for further training on AI-based tools. The integration of AI into Malawi's healthcare system has shown promise in enhancing diagnostic capabilities, although challenges related to user adoption remain. Further research should focus on developing culturally sensitive AI models and ensuring that end-users are adequately trained and supported. Policy recommendations include allocating resources for AI infrastructure development and training programmes. Model estimation used $\hat{\{\theta\}}=argmin\{\theta\}sumiell(yi,f\theta(\xi))+\lambda lVert\theta rVert2^{2}$, with performance evaluated using out-of-sample error.

Keywords: *Sub-Saharan, African, AI, machine-learning, socioeconomic, contextualization, ethnography*

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