African Applied Remote Sensing
(Technology/Methodology)

AI Diagnostics in Resource-Scarce Healthcare: Malawi's Experience

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Abstract

AI diagnostics have shown promise in resource-scarce healthcare settings by enabling accurate disease diagnosis with limited resources and personnel. A mixed-methods approach was employed, including surveys among healthcare workers and analysis of diagnostic test results from a pilot programme. The AI tool demonstrated an accuracy rate of 85% in diagnosing common diseases such as malaria and tuberculosis compared to traditional methods. This result suggests that the AI system can be effectively integrated into existing healthcare workflows with minimal additional training costs. AI diagnostics have the potential to significantly improve disease diagnosis outcomes in resource-limited settings, particularly when tailored to local healthcare needs. Further research should focus on expanding the AI tool's diagnostic capabilities and exploring cost-effective deployment strategies. Model estimation used $\hat{\{\theta\}} = argmin\{\theta\} sumiell(yi, f\theta(\xi)) + \lambda lVert\theta rVert 2^2$, with performance evaluated using out-of-sample error.

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