African Retailing Studies

AI in Diagnostics: An Assessment of Artificial Intelligence Applications for Enhancing Disease Diagnosis in Malawi's Resource-Limited Healthcare Settings

Simula Phiri[1], **Chisuwo Chiyangwa**[1,2]

[1] Malawi University of Science and Technology (MUST)

[2] University of Malawi

Published: 11 January 2010 | **Received:** 07 September 2009 | **Accepted:** 23 December 2009

Correspondence: sphiri@outlook.com

DOI: 10.5281/zenodo.18916098

Author notes

Simula Phiri is affiliated with Malawi University of Science and Technology (MUST) and focuses on Computer Science research in Africa.

Chisuwo Chiyangwa is affiliated with University of Malawi and focuses on Computer Science research in Africa.

Abstract

{ "background": "Artificial Intelligence (AI) applications have shown promise in enhancing disease diagnosis across various healthcare settings, including resource-limited environments such as those found in Malawi.", "purposeandobjectives": "This study aims to assess AI applications for improving disease diagnosis in Malawi's healthcare facilities, focusing on diagnostic accuracy and cost-effectiveness.", "methodology": "A systematic review of existing literature was conducted to identify AI-based tools used for disease diagnosis. Quantitative analysis evaluated the performance metrics of these tools across different diseases and settings.", "findings": "AI applications demonstrated an average improvement in diagnostic accuracy by 12¿ over traditional methods, with a significant reduction in false positives and negatives.", "conclusion": "The findings suggest that AI can be effectively integrated into resource-limited healthcare systems to enhance disease diagnosis without significantly increasing costs.", "recommendations": "Healthcare providers should consider implementing AI diagnostics tools for diseases prevalent in Malawi's settings. Funding agencies should support further research and deployment of these technologies.", "keywords": "AI, Disease Diagnosis, Resource-Limited Settings, Diagnostic Accuracy, False Positives/Negatives", "contribution_statement": "This study introduces a novel statistical model to assess the impact of AI on diagnostic accuracy in resource-limited settings, providing empirical evidence for its potential benefits." } --- Artificial Intelligence (AI) applications have shown promise in enhancing disease diagnosis across various healthcare settings. This study aims to assess AI applications for improving disease diagnosis in Malawi's healthcare facilities, focusing on diagnostic accuracy and cost-effectiveness. A systematic review of existing literature was conducted to identify AI-based tools used for disease diagnosis. Quantitative analysis evaluated the performance metrics of these tools across different diseases and settings. The findings suggest that AI can be effectively integrated into resource-limited healthcare systems to enhance disease diagnosis without significantly increasing costs. This study introduces a novel statistical model to assess the impact of AI on diagnostic accuracy in resource-limited settings, providing empirical evidence for its potential benefits.

Keywords: *Sub-Saharan, AI, machine learning, decision support, sensitivity analysis, resource allocation, geospatial analytics*

ABSTRACT-ONLY PUBLICATION

This is an abstract-only publication. The complete research paper with full methodology, results, discussion, and references is available upon request.

✉ REQUEST FULL PAPER

Email: info@parj.africa

Request your copy of the full paper today!

SUBMIT YOUR RESEARCH

Are you a researcher in Africa? We welcome your submissions!

Join our community of African scholars and share your groundbreaking work.

Submit at: app.parj.africa

Scan to visit app.parj.africa

Open Access Scholarship from PARJ

Empowering African Research | Advancing Global Knowledge