

SHAP-Explained Machine-Learning Models Predict Child Dropout Risk from Malawi's National Household Panel Survey

AI in Education · Good practice · Malawi

Quality score: 33/100

Evidence strength: Cautionary / limited

Summary

Tilburg University used Malawi's Integrated Household Panel Survey with SHAP-explained ML models, finding sample-weighted LASSO and neural-network models reached 80.6% and 78.8% recall for dropout prediction, with father's education and child farm labour as top predictors.

Key dimensions

Dimension	Score
Evidence of learning impact	0/3
Equity & inclusion	2/3
Transparency, ethics & data protection	2/3
Teacher capability & pedagogy	0/3
Scalability & sustainability	1/3

Evaluated by C-NAPSE

Data sources

[C-NAPSE web research](#) — accessed 2026-09-24

[Tilburg University](#) — accessed 2026-09-24

[Journal of Computational Social Science \(Springer\) article](#) — accessed 2026-09-24

[Tilburg University Research Portal listing](#) — accessed 2026-09-24

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