LoRA Adapter Depth and Noise Robustness in Low-Resource African Languages on XTREME-R

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Abstract

This report synthesises findings from 13 peer-reviewed papers addressing the following research question: What is the correlation between LoRA adapter depth and robustness to noise in low-resource African language tasks within the XTREME-R benchmark. 7 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 4.5/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Adapting to the Low-Resource Double-Bind: Investigating Low-Compute Methods on Low-Resource African Languages. Research question: What is the correlation between LoRA adapter depth and robustness to noise in low-resource African language tasks within the XTREME-R benchmark?.

2 Methodology

Systematic literature search across multiple databases yielded 13 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 4.5/10.

3 Results

13 papers retrieved. 7 claims extracted; 0 independently verified. Quality review score: 4.5/10.

4 Limitations

This report is a machine-generated literature synthesis and does not constitute original research. Automated retrieval and verification may introduce errors or omissions. Review scores reflect automated assessment, not human peer review. Readers should consult primary sources for authoritative information.

5 Extracted Claims

Claim	Verified	Confidence
The average F1 score for the Baseline NER setup across 12 African languages is 0.75 on the development set and 0.72 on t	×	0.06
The average F1 score for the Adapter NER setup across 12 African languages is 0.72 on the development set and 0.69 on th	×	0.04
Language adapter training data was taken from the MAFAND dataset.	×	0.06
NER fine-tuning and evaluation data was taken from the MasakhaNER and MasakhaNER 2.0 datasets.	×	0.06
The Adapter NER setup shows comparable average performance to the Baseline NER setup.	×	0.03
Language adapters can be trained and re-trained rapidly, enabling iterative experiments.	×	0.12
Future experiments will extend to other base models like XLM-R, AfroLM, AfriBERTa, and AfroXLMR.	×	0.02

References

- http://arxiv.org/abs/2606.01947v1
- http://arxiv.org/abs/2303.16985v1
- http://arxiv.org/abs/2110.04366v3