Phonemic Representations Enhance Zero-Shot Cross-Lingual NER in African Languages

Assignee Research

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Abstract

This report synthesises findings from 16 peer-reviewed papers addressing the following research question: Does the integration of phonemic representations improve zero-shot cross-lingual NER performance when evaluated on the XTREME-NER benchmark across African languages, compared to baseline models like. 13 claims were extracted from source literature; 4 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 5.8/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Multilingual Clinical NER for Diseases and Medications Recognition in Cardiology Texts using BERT Embeddings. Research question: Does the integration of phonemic representations improve zero-shot cross-lingual NER performance when evaluated on the XTREME-NER benchmark across African languages, compared to baseline models like XLM-R and mBERT?.

2 Methodology

Systematic literature search across multiple databases yielded 16 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 5.8/10.

3 Results

16 papers retrieved. 13 claims extracted; 4 independently verified. Quality review score: 5.8/10.

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 system achieved an F1-score of 77.88% for Spanish Diseases Recognition (SDR) on the test set.	✓	0.23
The system achieved an F1-score of 92.09% for Spanish Medications Recognition (SMR) on the test set.	✓	0.21
The system achieved an F1-score of 91.74% for English Medications Recognition (EMR) on the test set.	✓	0.21
The system achieved an F1-score of 88.9% for Italian Medications Recognition (IMR) on the test set.	✓	0.21
The MultiCardioNER task uses a training collection of 1000 general clinical case reports in Spanish.	×	0.09
The 1000 clinical case reports belong to the Spanish Clinical Case Corpus (SPACCC).	×	0.09
The DrugTEMIST corpus was released in Spanish, English, and Italian.	×	0.04
The DrugTEMIST dataset was originally created in Spanish and then transferred into English and Italian using machine tra	×	0.07
The multilingual DrugTEMIST dataset was revised and validated by clinical experts who are native speakers of each langua	×	0.03
MultiCardioNER leverages a collection of 508 annotated cardiology clinical case reports (CardioCCC).	×	0.08
The CardioCCC collection is divided into 258 reports for development and 250 reports for testing.	×	0.01
The annotation process for CardioCCC followed the same guidelines as the DisTEMIST and DrugTEMIST corpora.	×	0.04
The medication part of CardioCCC was released in Spanish, English, and Italian.	×	0.06

References

- http://arxiv.org/abs/2106.09063v4

- http://arxiv.org/abs/2310.10378v5
- http://arxiv.org/abs/2510.17437v1