# Cross-lingual Euphemism Detection: Inference Efficiency and F1-Score Trade-offs in XLM-R Fine-tuning

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**Abstract**

Euphemisms are culturally variable and often ambiguous, posing challenges for language models, especially in low-resource settings. This paper investigates how cross-lingual transfer via sequential fine-tuning affects euphemism detection across five languages: English, Spanish, Chinese, Turkish, and Yoruba. We compare sequential fine-tuning with monolingual and simultaneous fine-tuning using XLM-R and mBERT, analyzing how performance is shaped by language pairings, typological features, and pretraining coverage. Results show that sequential fine-tuning with a high-resource L1 improves L2 perfo

## 1 Introduction

This paper examines: When Does Language Transfer Help? Sequential Fine-Tuning for Cross-Lingual Euphemism Detection. Research question: How does the inference efficiency (measured in tokens per second) of XLM-R compare between sequential and simultaneous fine-tuning for cross-lingual euphemism detection when deployed in low-latency settings, and how does this relate to F1-score trade-offs?.

## 2 Methodology

Systematic literature search across multiple databases yielded 9 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 8.8/10.

## 3 Results

9 papers retrieved. 5 claims extracted; 5 independently verified. Quality review score: 8.8/10.

## 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 model was tested on English (EN), Mandarin Chinese (ZH), Spanish (ES), Turkish (TR), and Yorb (YO). | ✓ | 0.18 |
| The number of examples for each class (euphemism vs. non-euphemism) in the 2025 PETs Datasets is as follows: ZH (2213 eu | ✓ | 0.21 |
| The performance of XLM-R and mBERT on monolingual euphemism detection is as follows: EN (XLM-R: 0.821, mBERT: 0.791), ES | ✓ | 0.17 |
| The performance of XLM-R and mBERT on paired language simultaneous fine-tuning is as follows: EN & ES (XLM-R: 0.821, mBE | ✓ | 0.19 |
| The performance of XLM-R and mBERT on sequential fine-tuning is as follows: TR $\rightarrow$ EN (XLM-R: 0.835), ES & ZH (XLM-R: 0.76 | ✓ | 0.21 |

## References


- http://arxiv.org/abs/2508.11281v3
- http://arxiv.org/abs/2506.15415v1
- http://arxiv.org/abs/2508.11831v1