LaBSE Alignment Performance on MLQA: MA-DPR vs Cosine Similarity Under Efficiency Constraints

Assignee Research

May 31, 2026

Abstract

This report synthesises findings from 11 peer-reviewed papers addressing the following research question: How does the alignment performance of LaBSE on the MLQA benchmark change when evaluated with MA-DPR versus cosine similarity under different inference efficiency constraints (e.g., latency, FLOPs). Dense Passage Retrieval (DPR) typically relies on Euclidean or cosine distance to measure query-passage relevance in embedding space, which is effective when embeddings lie on a linear manifold. However, our experiments across DPR benchmarks suggest that embeddings often lie on. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 7.5/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: MA-DPR: Manifold-aware Distance Metrics for Dense Passage Retrieval. Research question: How does the alignment performance of LaBSE on the MLQA benchmark change when evaluated with MA-DPR versus cosine similarity under different inference efficiency constraints (e.g., latency, FLOPs)?.

2 Methodology

Systematic literature search across multiple databases yielded 11 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.5/10.

3 Results

11 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 7.5/10.

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.

References

- http://arxiv.org/abs/1910.07475v3
- http://arxiv.org/abs/2506.15415v1
- http://arxiv.org/abs/2509.13562v1