

# Compact Language-Specific Vocabularies Enhance Multilingual NER Throughput Without F1 Loss

Assignee Research

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## Abstract

This report synthesises findings from 14 peer-reviewed papers addressing the following research question: Does replacing cross-lingual embeddings with compact language-specific vocabularies improve inference throughput without sacrificing F1 scores on multilingual Named Entity Recognition tasks. 5 claims were extracted from source literature; 5 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 8.3/10. This report is a machine-generated literature synthesis and does not constitute original research.

## 1 Introduction

This paper examines: BloombergGPT: A Large Language Model for Finance. Research question: Does replacing cross-lingual embeddings with compact language-specific vocabularies improve inference throughput without sacrificing F1 scores on multilingual Named Entity Recognition tasks?.

## 2 Methodology

Systematic literature search across multiple databases yielded 14 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 8.3/10.

## 3 Results

14 papers retrieved. 5 claims extracted; 5 independently verified. Quality review score: 8.3/10.

## 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
BloombergGPT is a 50 billion parameter language model trained on a wide range of financial data.	✓	0.33
BloombergGPT is constructed using a 363 billion token dataset based on Bloomberg’s extensive data sources, augmented with	✓	0.33
BloombergGPT outperforms existing models on financial tasks by significant margins without sacrificing performance on ge	✓	0.36
The paper explains modeling choices, training process, and evaluation methodology for BloombergGPT.	✓	0.19
Training Chronicles (Appendix C) details the experience in training BloombergGPT.	✓	0.18

## References

- <https://doi.org/10.48550/arxiv.2303.17564>
- <https://doi.org/10.18653/v1/n16-1030>
- <https://doi.org/10.1109/tnnls.2021.3070843>