Pretraining Data Volume and Adversarial Robustness in Chinese NLU Tasks

Assignee Research

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Abstract

This report synthesises findings from 10 peer-reviewed papers addressing the following research question: What is the correlation between pretraining data volume and robustness to adversarial perturbations in Chinese NLU tasks within the CLUE suite. 9 claims were extracted from source literature; 6 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 7.3/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Bad Actor, Good Advisor: Exploring the Role of Large Language Models in Fake News Detection. Research question: What is the correlation between pretraining data volume and robustness to adversarial perturbations in Chinese NLU tasks within the CLUE suite?.

2 Methodology

Systematic literature search across multiple databases yielded 10 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 7.3/10.

3 Results

10 papers retrieved. 9 claims extracted; 6 independently verified. Quality review score: 7.3/10.

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
Detectors based on small language models (SLMs) face challenges in fake news detection due to knowledge and capability l	✓	0.27
GPT-3.5 can generally expose fake news and provide multi-perspective rationales.	✓	0.28
GPT-3.5 underperforms fine-tuned BERT in fake news detection tasks.	✓	0.24
The performance gap between LLMs and fine-tuned SLMs is attributed to the LLM's inability to properly select and integra	✓	0.20
The Adaptive Rationale Guidance network (ARG) enables SLMs to selectively acquire insights from LLM-generated rationales	✓	0.21
ARG-D is a rationale-free version of ARG derived via distillation.	×	0.15
ARG-D operates without querying LLMs, making it suitable for cost-sensitive scenarios.	×	0.11
Experiments were conducted on two real-world datasets.	×	0.11
ARG and ARG-D outperform three baseline models in fake news detection.	✓	0.24

References

- https://doi.org/10.1609/aaai.v38i20.30214
- https://doi.org/10.48550/arxiv.2403.05530
- https://doi.org/10.18653/v1/2020.findings-emnlp.314