

Can fine-tuning OpenPangu-7B-MLA on EmoBank’s bi-perspectival annotations (writer vs. reader) improve its cross-domain robustness in empathetic speech understanding tasks when evaluated on DREAM and other multi-level benchmarks?

Assignee Research

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Abstract

Speech Language Models (SLMs) have made significant progress in spoken language understanding. Yet it remains unclear whether they can fully perceive non lexical vocal cues alongside spoken words, and respond with empathy that aligns with both emotional and contextual factors. Existing benchmarks typically evaluate linguistic, acoustic, reasoning, or dialogue abilities in isolation, overlooking the integration of these skills that is crucial for human-like, emotionally intelligent conversation. We present EchoMind, the first interrelated, multi-level benchmark that simulates the cognitive process of empathetic speech understanding.

1 Introduction

This paper examines: EchoMind: An Interrelated Multi-level Benchmark for Evaluating Empathetic Speech Language Models. Research question: Can fine-tuning OpenPangu-7B-MLA on EmoBank’s bi-perspectival annotations (writer vs. reader) improve its cross-domain robustness in empathetic speech understanding tasks when evaluated on DREAM and other multi-level benchmarks?

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 3.3/10.

3 Results

14 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 3.3/10.

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.

References

- <http://arxiv.org/abs/2211.07769v1>
- <http://arxiv.org/abs/2510.22758v2>
- <http://arxiv.org/abs/2504.18053v2>