

Discrete Token-Based vs. Mel-Spectrogram Speech Recognition in Low-Resource Noisy Settings

Assignee Research

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Abstract

This report synthesises findings from 15 peer-reviewed papers addressing the following research question: How does the word error rate of discrete token-based speech recognition models compare to mel-spectrogram baselines when trained on low-resource datasets under varying noise conditions. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 6.2/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Discrete Audio Representation as an Alternative to Mel-Spectrograms for Speaker and Speech Recognition. Research question: How does the word error rate of discrete token-based speech recognition models compare to mel-spectrogram baselines when trained on low-resource datasets under varying noise conditions?.

2 Methodology

Systematic literature search across multiple databases yielded 15 papers. Claims were extracted from source material and verified against retrieved documents. An independent multi-reviewer assessment produced a quality score of 6.2/10.

3 Results

15 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 6.2/10.

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/2402.13511v2>
- <http://arxiv.org/abs/2502.20040v2>
- <http://arxiv.org/abs/2309.10922v1>