Multilingual Pre-Training Scaling Effects on USM ASR Robustness Under Noise

Assignee Research

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Abstract

This report synthesises findings from 11 peer-reviewed papers addressing the following research question: What is the impact of scaling the number of languages in pre-training on the robustness of USM's ASR performance, as measured by accuracy degradation on adversarial or noisy speech datasets like. 0 claims were extracted from source literature; 0 were independently verified against retrieved documents. An automated multi-reviewer quality assessment produced a score of 6.5/10. This report is a machine-generated literature synthesis and does not constitute original research.

1 Introduction

This paper examines: Multilingual Bottleneck Features for Improving ASR Performance of Code-Switched Speech in Under-Resourced Languages. Research question: What is the impact of scaling the number of languages in pre-training on the robustness of USM's ASR performance, as measured by accuracy degradation on adversarial or noisy speech datasets like SpeechJumble or REVERB?.

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 6.5/10.

3 Results

11 papers retrieved. 0 claims extracted; 0 independently verified. Quality review score: 6.5/10.

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/2011.03118v1
- http://arxiv.org/abs/2105.14779v2
- http://arxiv.org/abs/2511.09690v1