View Review

Paper ID
3210

Paper Title
SpeedAttack: Speed Variation-Based Adversarial Attacks on Automatic Speech Recognition Systems

REVIEW QUESTIONS

1. How confident are you in your evaluation of this paper?
Confident

2. Importance/relevance to ICME
Of sufficient interest

3. Justification for importance/relevance
By achieving speed target alignment and auditory perception optimization, SpeedAttack is able to generate effective and imperceptible adversarial examples at different playback speeds.

4. Novelty/originality
Moderate Original

5. Justification for novelty/originality
Related work mainly focuses on adversarial attacks at original speeds, ignoring the impact of variable rates on adversarial samples. Existing research fails to effectively handle the problem of attacks at multiple target speeds.

6. Technical correctness
Probably Correct

7. Justification for technical correctness
The research content of this problem includes proposing a new attack framework SpeedAttack, which can generate audio adversarial samples in variable rate scenarios. SpeedAttack includes two key components: speed target alignment and auditory perception optimization.

8. Experimental validation and reproducibility
Limited but Convincing

9. Justification for experimental validation and reproducibility
Baselines: SpeedAttack is compared with Carlini et al., KENKU, and ZQ-Attack, which are only applicable to adversarial example generation at a single playback speed.

10. Clarity of presentation
Clear Enough

11. Justification for clarity of presentation

Enough

12. Reference to prior work

References Adequate

13. Justification for references

Enough

14. Overall evaluation of the paper

Borderline

15. Justification for overall evaluation (required)

The background of this paper is that automatic speech recognition (ASR) systems are widely used in various fields, but they are vulnerable to adversarial attacks. However, current research mainly focuses on attacks at original speed and ignores attacks in variable rate scenarios.

18. Is this an award-quality paper? (Only for Definite Accept papers)

Not a candidate for award