

Discriminating Sound Textures

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Abstract

We show sound textures are cool stuff.

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1 Introduction

Stuff [Cite McDermott’s papers [MS11, MSS13] and why we care about these features/classification] xxx
[Cite some other audio/sound texture classification work.] xxx

2 Definitions

[Give formal and informal definitions of the features we used] xxx

3 Methods

[Describe how we set up our feature extraction. How we set up our learning. What our dataset is. Any other important process things.] xxx

4 Results

[What correlated and what didn’t? What feature (ensemble) lead to a good classifier?] xxx

5 Conclusion

[Speculate if these could be useful features in audio classification. Speculate about the implication to human audition. Give future directions.] xxx

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References

- [MS11] Josh H. McDermott and Eero P. Simoncelli. Sound texture perception via statistics of the auditory periphery: Evidence from sound synthesis. *Neuron*, 71(5):926 – 940, 2011.
- [MSS13] Josh H McDermott, Michael Schemitsch, and Eero P Simoncelli. Summary statistics in auditory perception. *Nature neuroscience*, 16(4):493–498, 2013.