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ABSTRACT

This extended abstract describes the onset detection submission: *OnsetDetector.2016*.

1. DESCRIPTION

For technical details of the algorithm, please refer to [3] and [1]. The network structure has been modified to use three bi-directional hidden layers with 25 tanh units each. As features, logarithmically filtered and scaled magnitude spectrogram and their first order differences are used.

2. RESULTS

The algorithm achieves the second highest *F-measure* value.

3. SOURCE CODE

Code of a reference implementation of this algorithm is included in the *madmom* library [2]. It can be found online on GitHub: `http://github.com/CPJKU/madmom`.

4. REFERENCES

[1] Sebastian Böck, Andreas Arzt, Florian Krebs, and Markus Schedl. Online real-time onset detection with recurrent neural networks. In *Proceedings of the 15th International Conference on Digital Audio Effects (DAFx-12)*, pages 301–304, York, UK, 9 2012.

[2] Sebastian Böck, Filip Korzeniowski, Jan Schlüter, Florian Krebs, and Gerhard Widmer. madmom: a new Python Audio and Music Signal Processing Library. arXiv:1605.07008, 2016.

[3] Florian Eyben, Sebastian Böck, Björn Schuller, and Alex Graves. Universal onset detection with bidirectional long short-term memory neural networks. In *Proceedings of the 11th International Society for Music Information Retrieval Conference (ISMIR 2010)*, pages 589–594, Utrecht, Netherlands, 8 2010.