

MIREX 2014 AUDIO DOWNBEAT TRACKING EVALUATION: FK2

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ABSTRACT

In this submission we present a Hidden Markov Model (HMM) based beat tracking system that simultaneously extracts downbeats, beat times, tempo, meter and rhythmic patterns.

1. MODEL DESCRIPTION

The model structure is identical to the one published in [1]. The parameters are

- $M = 1280$
- $R = 8$
- $p_n = 0.01$

In this submission the observation model of the rhythmic pattern states are not learned using the dancestyle labels as in [1], but are learned from clustering the dataset as proposed in [2].

2. DATASETS

2.1 Training data

Our training set consists of 698 audio excerpts from the Ballroom music dataset [1], and 97 excerpts of various music styles.

3. REFERENCES

- [1] F. Krebs, S. Böck, and G. Widmer. Rhythmic pattern modeling for beat and downbeat tracking in musical audio. In *Proc. of the 14th International Conference on Music Information Retrieval (ISMIR)*, Curitiba, 2013.
- [2] F. Krebs, F. Korzeniowski, M. Grachten, and G. Widmer. Unsupervised learning and refinement of rhythmic patterns for beat and downbeat tracking. In *Proc. of the 22nd European Signal Processing Conference (EUSIPCO)*, Lisbon, 2014.

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