MelodyShape at MIREX 2015 Symbolic Melodic Similarity

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ABSTRACT

This short paper describes our three submissions to the 2015 edition of the MIREX Symbolic Melodic Similarity task. They all rely on a geometric model that represents melodies as spline curves in the pitch-time plane. The similarity between two melodies is then computed with a sequence alignment algorithm between sequences of spline spans: the more similar the shape of the curves, the more similar the melodies they represent. All submissions are the same we submitted last year, so they can serve as baseline to new submissions.

1. INTRODUCTION

For the 2015 edition of the MIREX Symbolic Melodic Similarity task we submitted the same three algorithms as last year [3]. JU1-ShapeH implements the same algorithm that has consistently obtained the best or second-best results in MIREX 2010–2014. The second submission is called JU2-ShapteTime, and it contains the same algorithm as in MIREX 2012–2014. It works like ShapeH, except that the top-k retrieved results are further re-ranked using the third system, called JU3-Time (also submitted in MIREX 2012–2014). This system seemed to be especially good at ranking results, so it is used to complement ShapeH for rank-aware measures.

We submitted these algorithms again to evaluate them with a different set of queries and assessors, and to serve as strong and cross-year baselines to measure possible improvements in other submissions. These algorithms are again part of MelodyShape [1] [2], a Java tool an library implementing all our algorithms since 2010. The three submissions to MIREX 2015 are the exact implementations found in MelodyShape v1.3.

In MIREX 2010, 2011, 2012, 2013 and 2014 all our systems ranked first. In this MIREX 2015 edition the three systems ranked at the top for set-based measures and some rank-based measures [1].

[1] https://github.com/julian-urbano/MelodyShape

For details about the algorithms, please refer to the report from last year [3]. For a general description of the geometric model, please refer to [4].

2. ACKNOWLEDGMENTS

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3. REFERENCES

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