KV Multimedia Search and Retrieval

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ABSTRACT

In this paper a rudimentary song-based retrieval system is being developed. Multiple different algorithms for computing the similarity between two songs are tested and compared with a random baseline. For calculating this similarity measure only text-features are used. This paper compares the cos-sim-similarity based on the tf-idf and word2vec respectively, with a combination of other similarity measures.

1 Introduction

The increasing availability of digital libraries has paved the way for a new generation of music recommender systems. Music recommendation systems play a pivotal role in helping users discover new tracks, artists, and genres and thus drive customer satisfaction in a significant way.

The purpose of this paper is to evaluate and compare 4 different approaches to music retrieval systems. Within the scope of this paper all features are going to be text-based.

Concretely, the effectiveness of cos-sim-similarity based on both tf-idf and word2vec are contrasted with a combination of similarity measures as well as a random baseline.

The resulting recommendations will be evaluated qualitatively according to the similarity to the queried song.

The data set used for testing the 4 retrieval systems is a subset of the Music4All-Onion dataset which was kindly provided by the university.

2 Methodology

2.1 The dataset

Music4All-Onion is a large-scale, multi-modal music data set, which expands the Music4All-dataset with additional features and meta-data.

2.1 Random baseline

2.2 Cos-sim based on tf-idf

2.3 Cos-sim based on word2vec

2.3 Combination

3 Qualitative Analysis

4 Results and Findings

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