Automatic Classification of Musical Audio Signals

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Abstract

With the construction of digital music libraries, it is important to efficiently manage a large music database. It will be helpful to provide a content-based music genre classification system for managing a large database. In this paper, two novel music features, low-frequency energy ratio (LFER) and energy domain signal coding (EDSC), will be proposed to facilitate automatic music genre classification. LFER extracts the energy of low-frequency components as the characteristics for a specific music type. EDSC which characterizes the variations of energy or loudness tries to estimate the rhythmic information of a music track. Experiment results have shown that when the proposed two feature sets are integrated into existing feature sets such as Mel-frequency cepstral coefficients (MFCC) and octave-based spectral contrast feature (OSC) the classification accuracy will be improved as well.

Keyword：music genre classification, MFCC, OSC, LDA