

An Efficient Audio Fingerprint Design for MP3 Music

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Abstract

In this paper, we describe an efficient and robust MP3 fingerprinting system. Four kinds of MP3 features, i.e., MDCT, MFCC, MPEG-7, and chroma vectors are extracted from the compressed bitstream of the MP3 fragments. To efficiently search for an unknown MP3 fingerprint in the high dimensional feature space, an indexing scheme which is composed of the PCA technique and the QUC-tree structure is applied. Inverted lists of MP3 signatures are also constructed to solve the problem of subspace overlapping. Experiments are performed on the RWC music database to show the efficiency and robustness of the proposed MP3 fingerprinting system.

Keyword : MP3, audio fingerprints, MP3 signatures, QUC-trees.