

عنوان مقاله:

Class-Dependent PCA Optimization Using Genetic Programming for Robust MFCC Extraction

محل انتشار:

سومین کنفرانس بین المللی فناوری اطلاعات و دانش (سال: 1386)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

Principal component analysis (PCA) is commonly used in feature extraction. It projects the features in direction of maximum variance. This projection can be performed in a class-dependent or class-independent manner. In this paper, we propose to optimize class-dependent PCA transformation matrix for robust MFCC feature extraction using genetic programming. For this purpose, we first map logarithm of clean speech Mel filter bank energies (LMFE) in directions of maximum variability. We obtain the mapping functions using genetic programming. After this, we form class-dependent PCA transformation matrix based on mapped LMFE and use this matrix in place of DCT in MFCC feature extraction. The experimental results show that proposed method achieves to significant isolated word .recognition rate on Aurora2 database

کلمات کلیدی:

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