Thesis Title	Maximum Likelihood Classification of Spoken Sound between Normal and Depressed Persons Based on MFCC.
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Abstract

The acoustical properties of speech have been reported to relate to the mental state of speaker while speaking. This proposed work describes way to address the issue of distinguishing between female depressed patients and female remitted subjects based on the measurable change in the cepstral parameters extracted from their sound record. The cepstral coefficients corresponding to the filter response characteristics, affectively mediated by the emotionally depressive illness or even in particular case of the elevated suicidal risk into the speech production system of depressed speaker are analyzed via the speech cepstral estimation in conjunction with the GMM fitting approximation. The results of pair wise classification in combinations with Classifier, cross-validation, training and testing the cepstral coefficients provide the fairly high accuracy in class separation, when evaluating the testing datasets of coefficients extracted from speech segmentations which are highly corresponding to individual female speakers.

Keywords: Clinical Depression/ Automatic Speech/ Vocal Filter/ Cepstral Estimation/ Cross-validation