Abstract

Speech processing (SP) is the latest trend in technology. An intelligent and precise human-machine interaction (HMI) is designed to engineer an automated, smart and secure application for household and commercial application. The existing methods highlight the absence of the speech processing in the under-resourced languages. The novelty of this work is that it presents a study of acoustic speech processing (ASP) using spectral components of Mel frequency cepstrum coefficient (MFCC) of Sanskrit language. A customized speech database is created as no generic database is available in Sanskrit. The processing method includes speech signal isolation, feature selection and extraction of selected features for applications. The speech is processed over a custom dataset consisting of Sanskrit speech corpus. The spectral features are calculated over 13 coefficients providing improved performance. The results obtained highlight the performance of the proposed system with the variation of the lifter parameter.

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Index Terms

Computer Science   Signal Processing
Keywords

Speech processing; Human-machine interaction; Mel frequency cepstrum coefficient; Sanskrit language;