A Comprehensive Review of the Speech Dependent Features and Classification Models used in Identification of Languages

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Abstract

Automation of spoken languages become the need of the hour, and the advances in global communication have increased the importance of Language Identification, making feasible the availability of multilingual information services, such as checking into a hotel, arranging a meeting, or making travel arrangements, which are difficult actions for non native speakers. In this paper a comprehensive review of the approaches used in identifying spoken languages and the methods used for extracting speech dependent features are presented. In addition, different modeling techniques such as SVM, GMM, and PPRLM are reviewed, and how the change in speech feature characteristics can result change in the accuracy and performance of the system is also reviewed.

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Index Terms

Computer Science Pattern Recognition

Keywords

LID-language Identification, SVM-Support vector Machine, GMM- Gaussian Mixture model, MFCC-Mel frequency cepstral co-efficient, PLP-Perceptual linear Prediction.