

Construction of all persian language vowels only with one word of target speaker

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Abstract

One of the most serious bottlenecks of voice conversion is the need of high number of training sentences from target speaker. Parallel voice conversion methods need 50 to 200 training sentences and nonparallel conversion methods need several times of it. In this research, a new method for construction of all Persian language vowels only with one training word of target speaker is introduced. In each word there is at least one syllable and in each syllable there is one vowel. Basic idea of research is designing direct transformations between each vowel and other vowels. Based on this idea, by offline training of sets of transformations, it is possible to construct all vowels from one arbitrary vowel. In Persian language there are 6 vowels. Because of it, 30 of such mentioned transformations must be designed. These transformations were designed with Gaussian conditional functions and trained by 10 speakers in supervised manner. With distortion distance criterion, average distance between real and artificial vowels was 0.4459.

Keywords: Vowel Conversion, Voice Conversion, Nonparallel Training

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