

عنوان مقاله:

Implementation and Optimization of a Speech Recognition System Based on Hidden Markov Model Using Genetic Algorithm

محل انتشار:

دوازدهمین کنفرانس ملی سیستم های هوشمند ایران (سال: 1392)

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خلاصه مقاله:

In this paper, a speech recognition system with isolated words is implemented. Discrete hidden Markov model is used to recognize words. Feature vector consists of cepstral and deltacepstrum coefficients which are extracted from speech signal frames. Since the discrete Markov model is used, the feature vector is mapped to a discrete element by a vector quantizer. One of the problems we face in training of Markov model is that the classical training method could obtain locally optimal solution. To overcome this problem we have used genetic algorithm to get globally optimal solution. Experimental results show that this hybrid speech recognition obtains better performance than traditional method.

کلمات کلیدی:

speech recognition; hidden Markov model; feature vector; vector quantization; genetic algorithm

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