Noisy Speech Recognition Based on the Pre-Trained Noisy Models

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ABSTRACT

The best method to do the noisy speech recognition is to use the matched noisy models. However, in applications, it is difficult to re-train a noisy model because it requires large noisy speech data and a large amount of time. Therefore, an eclectic method is proposed in this thesis. The noisy speech models will be established off-line. While doing the noisy speech recognition, the recognizer will analyze the current background noise first, and then compare it with all the noisy models in the database to find a suitable noisy model. Finally, the noisy recognition will apply the selected noisy model. In this way, it could obtain a more precise noisy model without plenty of time. In this thesis, a database with four noisy models is established. The clean speech corrupted by noise, which is not in the database, will be recognized. The sentence correct rate can be raised from 1.25% to 48.75% in 10dB SNR.