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Signal modelling in speaker recognition

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Abstract

This paper introduces recent advancements in speaker recognition system. It incorporates the background concepts and emphasizes the signal model design technique most commonly used in the state-of-the-art of speaker recognition system. An analytical description is provided of procedures applied in speaker recognition system, covering several methods that are utilized to investigate the autoregressive spectral estimation of the Automatic Speaker Verification (ASV) system. Recent additions in the signal processing area are illustrated that tremendously improve the efficiency of the spectral properties of a speech frame. This paper is meant to explain the concepts of recognition system pragmatically. Also, it envelops some portions of speech recognition system, which is the further enhancement of speaker recognition system. The problems that have been recently invoked when the system is implemented in a large scale through networks have been forwarded. Realization of the ASR system is established in TMS320C30 EVM floating-point processor. Conclusion is presented highlighting the signal modelling techniques in speaker recognition and discussing some current problems which need to be resolved to implement the system ubiquitously.

Keywords: speaker recognition system, signal modeling, autoregressive spectral estimation, speech frame

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