ON IMPROVING VOICE ACTIVITY DETECTION BY FUZZY LOGIC RULES : CASE OF COHERENCE BASED FEATURES (WedAmOR6)

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Abstract:
In this paper, we investigate the use of fuzzy logic for Voice Activity Detection (VAD). The feature extraction part is based on coherence measure between the noisy speech and its prediction residue. The decision part uses fuzzy logic rules instead of classical thresholding tools. Different fuzzy logic models are developed in order to track noise characteristics. The performances of the algorithm are compared to that of ITU-T G.729B VAD and UMTS 3G TS 26.094 VAD in various conditions. The results show that the proposed algorithm has globally better performances than G.729B and presents moderate improvement when compared to UMTS 3G TS 26.094 VAD.