

ABSTRACT

In the field of telecommunication, especially in terms of voice, we recognize the term Voice Activity Detection (VAD). In general, Voice Activity Detection (VAD) is defined as a process of identifying the circumstances in a voice or silent sound signals. VAD is commonly used in speech recognition and speech coding. In speech recognition, VAD is used as an indicator of a silent state or a voice state of a voice signal, while in the speech coding / compression, VAD is used to facilitate the Discontinuous Transmission (DTX) scheme. Discontinuous Transmission (DTX) is a transmission method which will work only transmit a few bits of silent or noise background condition in order of coding efficiency. The more accurate the VAD method the better will be the performance and will make the data streamline more efficient. Linear Discriminant Analysis (LDA) is used to VAD method of this final project.

VAD accuracy of identification voice or silent condition is depend on the algorithm. Linear Discriminant Analysis (LDA) is used to VAD method of this final project. System will make two extractions from mixed between speech and noise of signal which have different SNR. Two of extractions are Zero Crossing and bit energy. This parameter will be input of LDA method and it hopes can give a good SDER, NDER, and OVER performance from the output.

VAD using LDA method simulation has 12 % SDER, NDER, and OVER performance and it can conclude that LDA can be use as one of VAD method because it has a good performance with more than 88%.

Keyword : DTX, Voice Activity Detection, real time, Linear Discriminant Analysis (LDA), SDER, NDER, OVER.