

## Abstract

Voice Activity Detection (VAD) is a detector that used to classify signal into two periode, active speech and non-active speech. VAD has been implemented in various speech communication system to reduce transmission rate in the speech transmission. There are a lot of algorithmsto implement VAD, but most of them fail to classify when the noise increased.

This final project will use Support Vector Machine classifier method with non-linier problem. Sequential Minimal Optimization (SMO) is adopted to solve the large training data. Performance measurement is done by calculating the error percentage like SDER, NDER, and OVER.

From the experimental result, Support Vector Machine show a good result for VAD decision in the different noise and SNR level that is less than 10 % of error percentage of SDER, NDER, and OVER in more than 0 dB SNR levels.

**Keywords:** voice activity detection, classification, support vector machine, sequential minimal optimization