

Reduksi Noise Pada Sinyal Wicara Dengan Pendekatan Two Step Noise Reduction Untuk Identifikasi Emosi Manusia

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ABSTRAK

Sinyal wicara termasuk komposisi dari rangkaian bunyi yang berperan sebagai representasi secara simbolis dari pikiran pembicara yang akan disampaikan kepada pendengar. Setiap melakukan pembicaraan akan terkontaminasi noise besar sehingga membuat apa yang dibicarakan menimbulkan ketidaknyamanan dan membuat komunikasi terganggu. Metode yang digunakan adalah *Two Step Noise Reduction* reduksi noise pada sinyal wicara dilakukan dengan dua langkah supaya suara yang diterima pendengar diharapkan tidak banyak mengalami interferensi. Berdasarkan hasil reduksi noise pada sinyal campuran laki-laki dan perempuan dari 3 variasi noise (Traffic Noise, white noise, wind noise) dengan 3 variasi maximal volume speaker 1 yang memodelkan 3 variasi emosi menggunakan metode Two Step Noise Reduction memiliki rata-rata Mean Opinion Score sebesar 3,59 artinya sinyal hasil reduksi noise ada sedikit noise tetapi masih bias di dengar dan tidak mengganggu. Pada sinyal hasil pemrosesan yang menggunakan metode Two Step Noise Reduction dapat diidentifikasi emosinya berdasarkan nilai pitchnya. Penilaiannya menggunakan perbandingan antara pitch baseline dengan pitch setelah dilakukannya pemrosesan. Pada kondisi dimana nilai pitch sinyal setelah dilakukan pemrosesan dibandingkan dan tidak melebihi range minimum hingga maximum dari pitch sinyal baseline dalam penelitian terdahulu.

Kata Kunci: *Emosi Manusia, Sinyal Wicara, Reduksi Noise, Two Step Noise Reduction*

Reduction Of Noise On The Speech Signal By Approaching The Two Step Noise Reduction For Human Emotions Identification

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ABSTRACT

Speech signals include the composition of the sequence a series of sounds that participate as a representation of the speaker's mind who wants to be presented to the audience. Any long speech will be contaminated with large noise so that making what is spoken may cause inconvenience and disturb communication, So on this research is to reduce the noise in speech signals. Recording the current signal, when talking in a closed room. The method used is Two-Step Noise Reduction. Noise reduction in the signal which is carried out in two steps of the sound received by the listener. It is hoped that it will not experience much interference. Parameters used to measure the quality of the speech signal are the Mean Opinion Score (MOS), the result signal which is also used to identify human emotions. Based on the result of reduction noise on the signal mixture of men and women from 3 variations noise (traffic noise, white noise, wind noise) in each category maximal volume from speaker 1 using two-step noise reduction method has an average of 3,59 means that reduction score is simple, but not distracting. On the processing signal that uses the Two Step Noise Reduction method can be identified emotions based on the pitch value. The assessment uses a comparison between the baseline pitch and the pitch after processing. In conditions where the signal pitch value after processing is compared and does not exceed the minimum range to the maximum of the baseline signal pitch in previous studies.

Keyword: *Human emotion, Reduction of noise, Speech signals, Two Step Noise Reduction*