Feature Extraction from Non-Audible Murmur (NAM) for the Vocally Handicapped using Wavelet Transform

International Journal of Computer Applications
Foundation of Computer Science (FCS), NY, USA

Volume 135
Number 6

Year of Publication: 2016

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10.5120/ijca2016908388
{bibtex}2016908388.bib{/bibtex}

Abstract

Non audible murmur is a body conducted silent speech through which the vocally handicapped can communicate. We propose a method of acquisition of Non Audible Murmur (NAM), (i.e., inaudible speech produced without vibrations of the vocal folds) from the vocally handicapped using the MEMS accelerometer, followed by its de-noising and Statistical Feature Extraction. The murmur is acquired by placing the sensor bonded to the surface of the skin over the soft-cartilage bone behind the ear. The resulting electrical signal is de-noised using Discrete Wavelet Transform (DWT). Statistical Features are extracted from the detailed co-efficients of the de-noised murmur.

References


Index Terms

Computer Science

Control Systems

Keywords
NAM, MEMS accelerometer, DWT, De-noising, Feature Extraction, Vibration sensor.