World Academy of Science, Engineering and Technology
International Journal of Electrical and Computer Engineering
Vol:9, No:02, 2015

Analysis of Nonlinear and Non-Stationary Signal to Extract the Features Using Hilbert Huang Transform

Authors : A. N. Paithane, D. S. Bormane, S. D. Shirbahadurkar

Abstract : It has been seen that emotion recognition is an important research topic in the field of Human and computer interface. A novel technique for Feature Extraction (FE) has been presented here, further a new method has been used for human emotion recognition which is based on HHT method. This method is feasible for analyzing the nonlinear and non-stationary signals. Each signal has been decomposed into the IMF using the EMD. These functions are used to extract the features using fission and fusion process. The decomposition technique which we adopt is a new technique for adaptively decomposing signals. In this perspective, we have reported here potential usefulness of EMD based techniques.We evaluated the algorithm on Augsburg University Database; the manually annotated database.

Keywords : intrinsic mode function (IMF), Hilbert-Huang transform (HHT), empirical mode decomposition (EMD), emotion detection, electrocardiogram (ECG)
Conference Title : ICCDS 2015 : International Conference on Circuits, Devices and Systems
Conference Location : Kuala Lumpur, Malaysia
Conference Dates : February 12-13, 2015