Abstract

In many applications in which a huge amount of data is transmitted, and the data is processed in real time, data compression is crucial. Here, a smart compression method based on the wavelet subbands arranging technique is proposed for telemedicine. The proposed method can effectively reduce the large amount of transmitted data, and provide real-time analysis. Moreover, if available bandwidth drops, the proposed method is capable of tuning the rate of compressed data, and different input channels are simultaneously compressed with different rates, as well as the quality of each compressed data is preserved. The proposed method is tested on selected records from the MIT-BIH arrhythmia database. Based on results, it is concluded that the proposed approach is an appropriate choice to intelligently and simultaneously compress large amount of multichannel data, is able to tune compressed data rate to preserve the required quality of output, and to use the bit capacity of every input channel efficiently.

References

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Index Terms

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Intelligent system Smart compression Wavelet based compression WSAT.