

عنوان مقاله:

Raised Cosine Dictionary for Modeling and Compressed Sensing of Multi-lead ECG Signals

محل انتشار:

اولین کنفرانس بین المللی دستاوردهای نوین پژوهشی در مهندسی برق و کامپیوتر (سال: 1395)

تعداد صفحات اصل مقاله: 6

نویسندگان:

Siavash Eftekharifar - *Department of Electrical and Computer Engineering University of Tabriz Tabriz, Iran*

Tohid Yousefi Rezaii - *Department of Electrical and Computer Engineering University of Tabriz Tabriz, Iran*

Mahdi Shamsi - *Department of Electrical and Computer Engineering University of Tabriz Tabriz, Iran*

خلاصه مقاله:

nowadays, modern technology has a very crucial role in healthcare and medical systems. An important issue in biomedical and signal processing area, is compressing biomedical signals. One of the most important signals is Electrocardiogram (ECG) which plays an important role in diagnosing heart's anomalies. In this paper, the compressed sensing (CS) theory is exploited in order to compress multi-lead ECG signals. To achieve the sparse representation of the ECG signals, a basis matrix using raised Cosine functions is constructed. Raised Cosine kernels nicely fit ECG signals and their low excess Kurtosis makes these functions a suitable choice to model ECGs. Finally, CS theory is used to achieve the compressed version of the signals. Exploiting some optimization techniques the reconstructed signals are obtained from their compressed version. Finally the proposed method is evaluated by three known performance metrics

کلمات کلیدی:

compressed sensing; raised Cosine kernel; ECG signal; sparse representation

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/496818>

