

AN EXPANDABLE BIT METHOD OF REVERSIBLE WATERMARKING TECHNIQUE ON MEDICAL SIGNALS BASED ON PSEUDORANDOM SEQUENCE

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ABSTRACT

Now a days the information is transferred by using internet as it become easy and time saving. In this digital age the content can be easily change, copied & manipulate. In medical it become very crucial to established integrity of signal before utilization as it may cause wrong diagnosis of the patient. By using digital watermarking technique we can ensure the integrity of the signal. Reversible digital watermarking has provided a valuable solution to this problem. Digital watermarking is an act of hiding some information into signals. By using digital watermarking technique we can ensure the integrity of the signal. Once the information is embedded into the signal it will ensure the integrity but also change the signal to some extent. This embedded data will be removed after performing the integrity test. With this in mind, this work proposes techniques for hiding sensitive patient metadata within the actual medical signal, which are stored into a patient's medical record. In specific, the focus is on Electroencephalogram (EEG) Signal and how to embed numerical metadata within the data. EEG signals, common tasks are the detection of seizure or other brain related illnesses. The watermarking technique based on random sequence is one of the well-known robust digital watermarks. In this paper, we propose a new idea to restore the original signal from a watermarked signal which was embedded a random sequence. The technique is based on wavelet transform. We look into the binary representation of each wavelet coefficient and embed an extra bit to expandable wavelet coefficient.

KEYWORDS: Reversible Watermarking, LWT, PRNG, LFSR