

Estimating Lost Digital Video Frames Using Unidirectional and Bidirectional Estimation Based on Autoregressive Time Model

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Abstract : In this article, we make attempt to hide error in video with an emphasis on the time-wise use of autoregressive (AR) models. To resolve this problem, we assume that all information in one or more video frames is lost. Then, lost frames are estimated using analogous Pixels time information in successive frames. Accordingly, after presenting autoregressive models and how they are applied to estimate lost frames, two general methods are presented for using these models. The first method which is the same standard method of autoregressive models estimates lost frame in unidirectional form. Usually, in such condition, previous frames information is used for estimating lost frame. Yet, in the second method, information from the previous and next frames is used for estimating the lost frame. As a result, this method is known as bidirectional estimation. Then, carrying out a series of tests, performance of each method is assessed in different modes. And, results are compared.

Keywords : error steganography, unidirectional estimation, bidirectional estimation, AR linear estimation

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