Abstract

Packet losses decrease the quality of an image or video for multimedia applications. Robust image coding is crucial to combat packet losses, for transmission of images over non feedback networks. New CS based image coding schemes are robust against packet losses and carries CS samples of nearly equal importance. CS based coding also ensures low costs and complexity for image sensing. Hence CS based image coding techniques have some distinct advantages over traditional Forward Error Correction (FEC) techniques and Multiple Description Coding (MDC) based methods. Forward error Correction techniques are generally employed along with some transform based coding, but provides a limited error resilience. MDC methods are considered to be one of the widely used mechanisms for packet losses. Compressive sensing based methods are an alternate to MDC and are able to provide robust image coding against packet losses with large number of descriptions. Recent work takes CS as a framework and Multiple Description Coding is done to get robust image coding against packet losses. The aim of the paper is to give a brief introduction to all the above techniques and survey four different CS based image coding techniques.
A Survey on Robust Image Coding Techniques

References

- Lu T. L., Shi Y. H., Kong D. H. and Yin B. C., "A wavelet-based multiple description coding combing pairwise correlating transform with quincunx sub-sampling," in
A Survey on Robust Image Coding Techniques

Index Terms

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Keywords

survey  Compressive sensing  Bayesian  multi scale DWT  Inter and intra scale dependencies