Implementing Lossy Compression Technique for Video Codecs

Abstract

This paper provides an overview of the transform and quantization operations in H.264 lossy coding techniques. It declares the detailed simplification process for arithmetic operations included in the implementation for the 4x4 AC and the 2x2 & 4x4 DC luma and chroma blocks applying fast DCT Butterfly implementation method for the AC component and the effective Hadamard Transform implementation for the DC components, in addition to the quantization process procedure. However, this paper main aim is to provide a complete software design and implementation for the decoder process as defined in the ITU-T standard release 2011, besides, it defines a proper way for implementing the encoder process according to the defined decoder procedure defined in the ITU-T Standard.

References

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Index Terms

Computer Science

Signal Processing

Keywords

H.264, AVC, DCT, Hadamard, Butterfly, Quantization, AC, DC