







RESEARCH-ARTICLE

Two-Stage Perceptual Quality Oriented Rate Control Algorithm for HEVC

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while ignoring the perceptual quality improvement for human eyes. In this paper, we propose a two-stage rate control algorithm to optimize the perceptual quality at the frame encoding stage and the coding tree unit (CTU) encoding stage for high efficiency video coding (HEVC), respectively. Firstly, for the frame encoding stage, with inter-frame distortion dependency consideration, a frame-level rate control method is presented by adjusting the frame-level Lagrange multiplier adaptively with a preprocessing method. Secondly, for the CTU encoding stage, we propose a saliency-based CTU-level perceptual quality rate control algorithm, which employs CTU-level saliency weight to adjust the perceptual rate-distortion (R-D) model. We

performance with improved subjective visual quality.

References

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Recommendations

On Lagrange multiplier and quantizer adjustment for H.264 frame-layer video rate control

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