OPTIMAL BIT ALLOCATION STRATEGY BASED ON SPATIAL COMPLEXITY AND TEMPORAL CORRELATION (WedAmPO4)

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Abstract:
In this paper, we propose a bit allocation strategy for video coding algorithms, such as MPEG−4 and H.264/AVC. Considering the target bit rate and the spatial complexity of the intra frame, we determine the optimal number of target bits for the intra frame. In order to design an optimal bit allocation strategy for the inter frame, we consider that each inter frame in the group of pictures (GOP) has different importance in terms of motion estimation and motion compensation processes. We analyze the importance of each inter frame according to its position. Experimental results show that the proposed rate control algorithm has reduced the frame skipping rate significantly, while increasing the average PSNR value by up to 1dB.