A WEIGHTED PREDICTION OF SPATIAL SCALABLE VIDEO CODING WITH INTER-LAYER INFORMATION

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Abstract:
Weighted prediction (WP) is a very efficient tool to encode video scenes that contain brightness variation caused by fade. Scalable Video Coding (SVC) extension of H.264/AVC can apply the WP tool of H.264/AVC to each spatial layer. However, because the weighted parameter sets in the WP of SVC are assigned to every slice, coding efficiency is degraded if the brightness variation is non-uniform in the slice. We propose a new implicit mode WP for enhancement layers that can assign weighted parameter sets to every macroblock or macroblock partition without bit addition; the sets are derived by referring to reconstructed signals of the subordinate layer. Experiments show that the proposed implicit mode WP can achieve a significant coding gain (up to 8.22% with average of 2.23%) over white/black fade-in/out scenes versus the conventional WP of the SVC reference encoder.