## H.264 Video Privacy Protection Method Using Regions of Interest Encryption

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Abstract : Like a closed-circuit television (CCTV), video surveillance system is widely placed for gathering video from unspecified people to prevent crime, surveillance, or many other purposes. However, abuse of CCTV brings about concerns of personal privacy invasions. In this paper, we propose an encryption method to protect personal privacy system in H.264 compressed video bitstream with encrypting only regions of interest (ROI). There is no need to change the existing video surveillance system. In addition, encrypting ROI in compressed video bitstream is a challenging work due to spatial and temporal drift errors. For this reason, we propose a novel drift mitigation method when ROI is encrypted. The proposed method was implemented by using JM reference software based on the H.264 compressed videos, and experimental results show the verification of our proposed methods and its effectiveness.

1

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