

# User-driven Saliency Maps for Evaluating Region-of-Interest Detection

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## Abstract

*Detection of Region of Interest (ROI) in a video leads to more efficient utilization of bandwidth. This is because any ROIs in a given frame can be encoded in higher quality than the rest of that frame, with little or no degradation of quality from the perception of the viewers. Consequently, it is not necessary to uniformly encode the whole video in high quality. One approach to determine ROIs is to use saliency detectors to locate salient regions. This paper proposes a methodology for obtaining ground truth saliency maps to measure the effectiveness of ROI detection by considering the role of user experience during the labelling process of such maps. User perceptions can be captured and incorporated into the definition of saliency in a particular video, taking advantage of human visual recall within a given context. Experiments with two state-of-the-art saliency detectors validate the effectiveness of this approach to validating visual saliency in video. This paper will provide the relevant datasets associated with the experiments.*