



**RESEARCH ARTICLE**

# Perceptual Video Quality Measurement Based on Generalized Priority Model

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***Abstract— We consider factors not only in a packet, but also in its locality, to account for possible temporal and spatial masking effects. We apply our visibility model to packet priority for a video stream, when the network gets jam-packed at an in-between router; the router is able to choose which packets to drop such that visual quality of the video is minimally crashed. To show the effectiveness of our visibility model and its corresponding packet priority method, experiments are done to compare our perceptual-quality-based packet priority approach with existing Drop tail & hint track, Mean square error priority methods. The result shows that our priority method produces videos of higher perceptual quality for different network conditions. Our model was developed using data from high encoding-rate videos, and designed for high-quality video sent over a mostly reliable network; however, the experiments show the model is valid to different encoding rates.***

***Key Terms: - Packet dropping policy; packet loss; perceptual video quality; video coding; visibility model***

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