

PROJECT / Robust Video Coding for Peer-to-Peer Media Streaming

ROCOP2P

Main Objective:

The main objectives of this project, are:

- Study the use of MAP-decoding of MVs when applied to packet networks. Analysis of complexity constraints related with MAP decoding. Analysis of performance when compared to previous central decoding presented in [24], in the context of P2P transmissions. MAP decoding present excellent robustness but with some complexity, so we must study his feasibility and found the best trade of between robustness and complexity.
- Specification of a bit allocation model based on multi-resolution analysis (wavelets) that effectively enables highly scalable video coding. In this case the bit-allocation should consider simultaneously temporal and spatial decomposition.
- Optimization of the number of descriptions and bit allocation of video information based on contextual peer information such as number of available peers, rarity/abundance of a determined bitstream-chunk, etc..
- With these contributions we also aim to improve the video quality of state-of-the-art applications demanding video transmission using low-complexity.

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