Video Coding

Seminar 5

SS 2019

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Homework assignment

- **Encoder side:**
- Now we only transmit (or store) every second frame (I-frames). The in between frames are P-frames, meaning they are estimated based on their previous frames
- Compute the motion vector based on the Y component for each 8x8 block (HW4), transmit (or store) these motion vectors for the decoder, with no prediction error transmitted to simplify the program

Homework assignment

- **Encoder side:**
- we have 25 frames, for every frame we store (I-frame) - we store only lowest DCT coefficients
- for every P frame we calculate motion vectors, based on the original I-frame (not the DCT coefficients, means taking original Y component) and store only motion vectors
- In the end what you store in pickle is : I frame (DCT coeff), P frame (only motion vectors), I frame (DCT coeff) and so on.

Homework assignment

- **Decoder side:**
- On the decoder side you read it all in as usually and reconstruct the original image.
- In order to estimate if your motion compensation works, use the video with moving objects.
- How does the decoded video look like, with and without motion in it?
- How much did you improve your compression ratio?

Note: to speed up the program use 2 threads (in the encoder and decoder):
1 - for DCT computation
2 - for motion vectors calculation