Sequential interpolation approach

In the experimental part of the paper, we compared our interpolation method to a sequential approach, for which we provide the details here. First optical flow is separately compressed and decompressed, then the accordingly warped reference frames are provided to an interpolation network. Figure 1 illustrates this sequential strategy. We use PWC-NET [3] to compute optical flow. The autoencoder used to compress motion fields has the same architecture as the compression autoencoders used in the paper. After decoding, the warped reference frames are provided as input to an interpolation network that is based on the GridNet [1].

Figure 1: Sequential interpolation approach. In the sequential approach to interpolation, optical flow is computed w.r.t the reference frames $x_1$ and $x_2$. The motion fields are compressed using an autoencoder. On the decoding side, the decoded motion field is used to warp the reference frames and then an additional interpolation network is used to estimate $x_{intrp}$.

Compression commands used for comparisons

For our comparisons with H.265 [2] and H.264 [4] we used ffmpeg to compress the frame sequences as follows:

```bash
$ ffmpeg -i %06d.png -c:v libx265 -pix_fmt yuv420p -x265-params crf=xx:keyint=12 seq.mp4
```

```bash
$ ffmpeg -i %06d.png -c:v libx264 -pix_fmt yuv420p -crf xx -g 12 -bf 2 -b_strategy 0 -sc_threshold 0 seq.mp4
```

To obtain the fast and medium modes, we used the following options:

... -preset veryfast -tune zerolatency ...
... -preset medium ...
References


