

# Video Interpolation: Warping Towards Middle Frames in Pyramids

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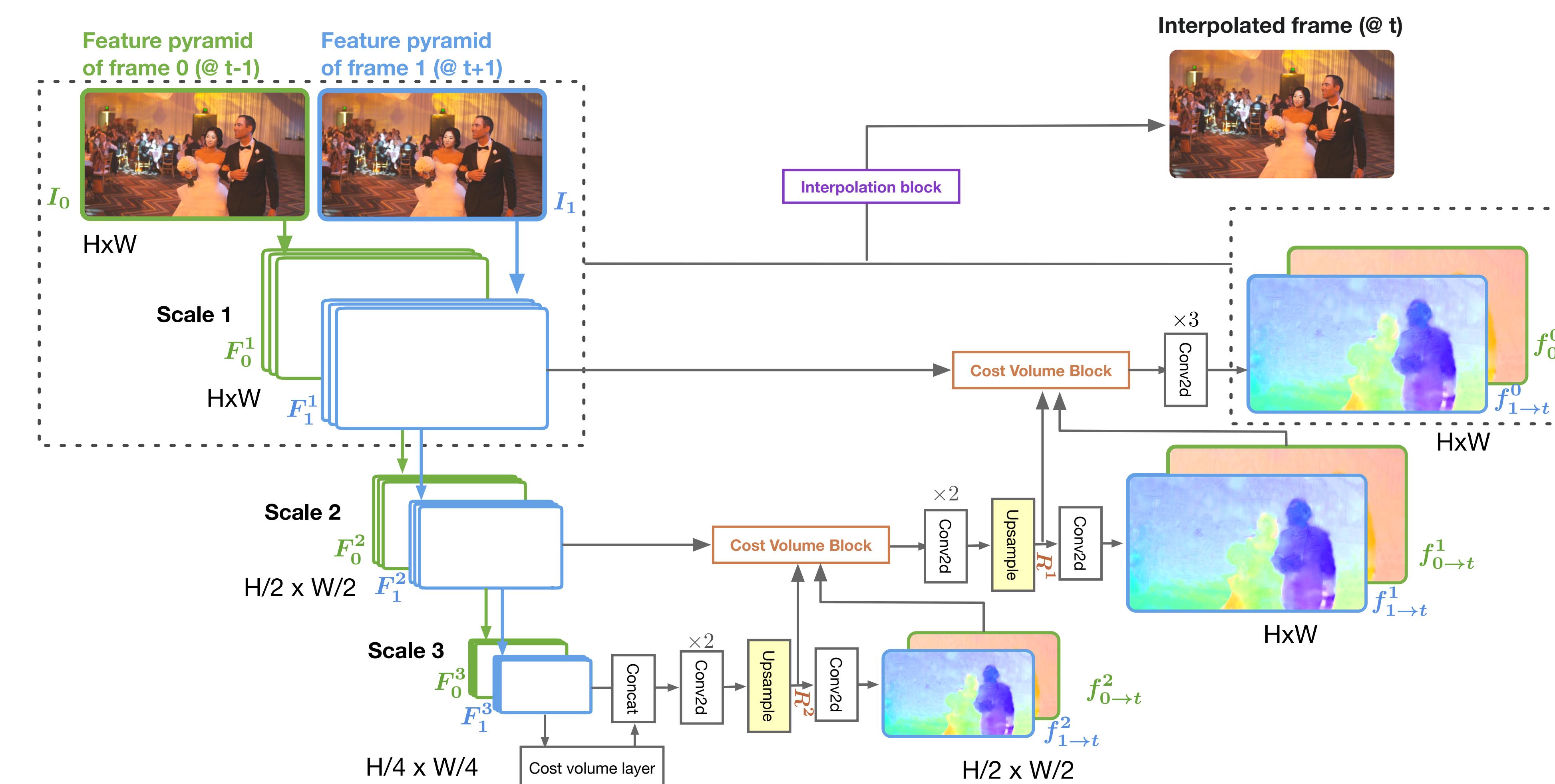
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## Background

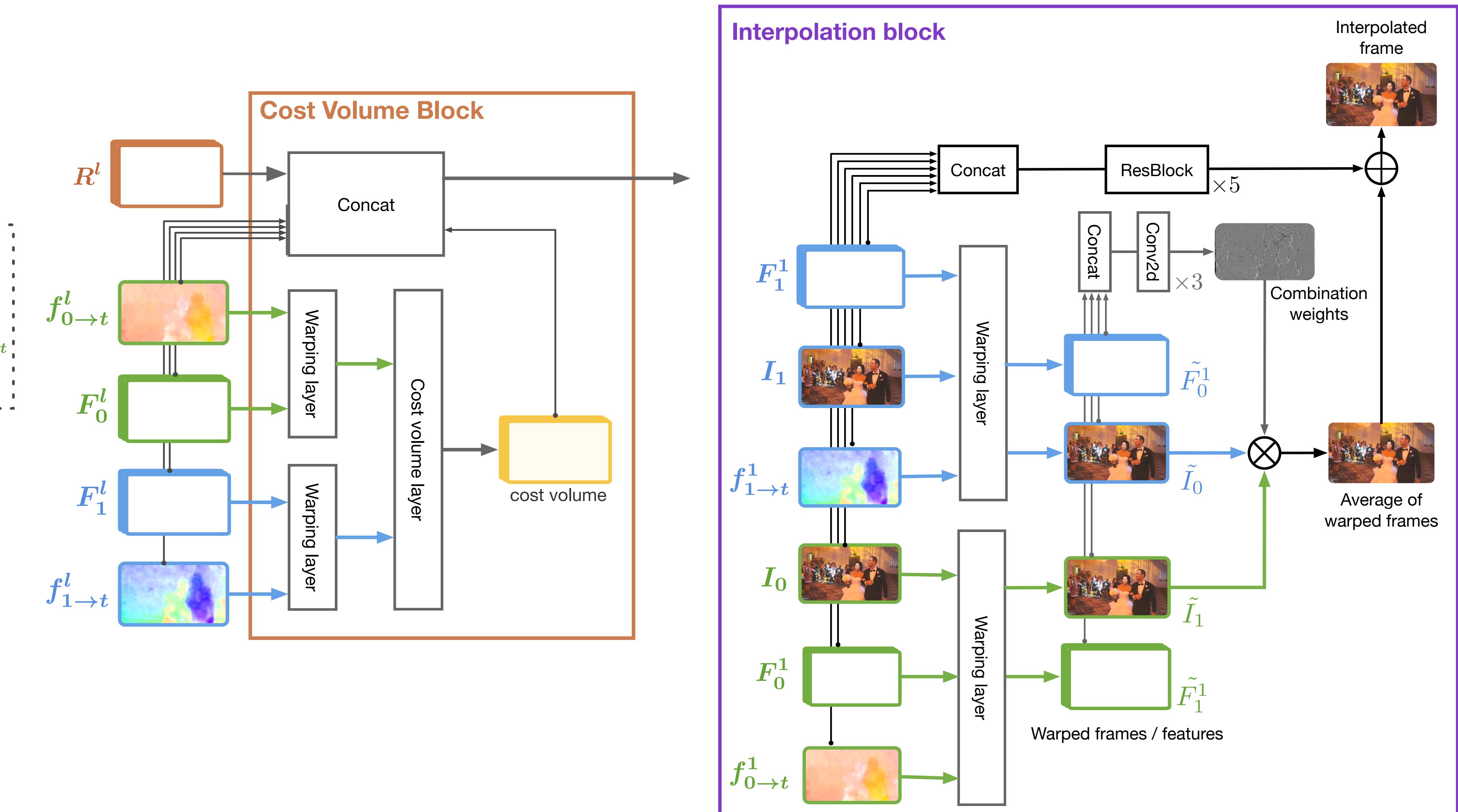
- State-of-the-art methods assumes certain motion trajectory assumptions, e. g. linear motion or quadratic motion, to infer the flow to the missing frame.
- Those assumptions often lead to inaccuracy which require additional correction and therefore increase the model size.
- We proposed a compact pyramid structure where warping operations and cost volume are exploited to accurately estimate optical flows to the middle frame from coarse to fine.

## Methods

- Shared feature extractor and flow estimator:



- Adaptive frame blending and context enhancement network:



## Experimental Results

- Quantitative results:

Vimeo-90K			
Method	PSNR	SSIM	# param.
SepConv-L1	33.80	0.956	21.6M
MEMC-Net*	34.40	0.962	70.3M
DAIN	34.71	<b>0.964</b>	24.0M
Ours (w/o context enhancement)	34.59	0.961	6.1M
Ours (w/ context enhancement)	<b>34.82</b>	0.963	<b>7.2M</b>

- Qualitative results:

