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Fast Binocular Depth Inference via Bidirectional Motion Based Interpolation

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Spotlight for Poster 02



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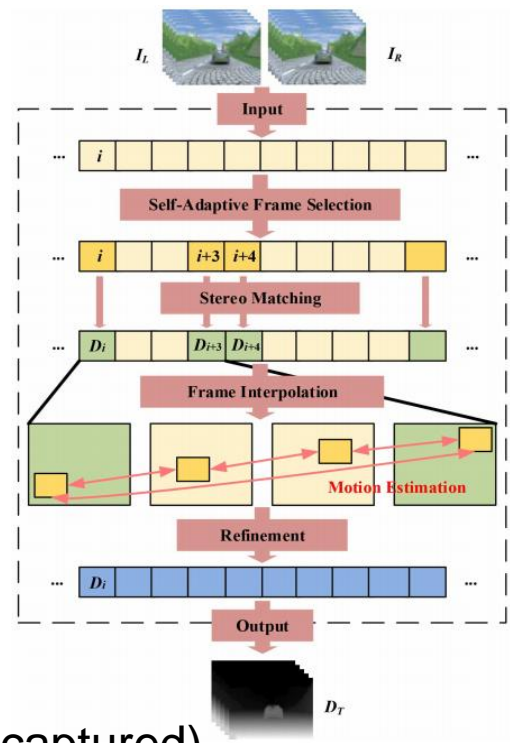
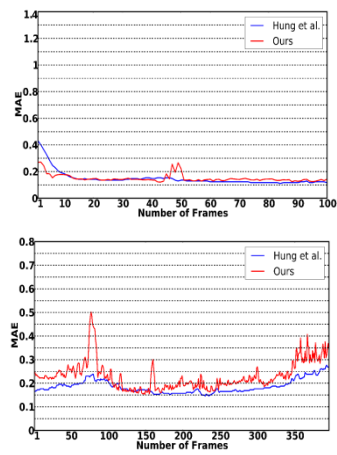
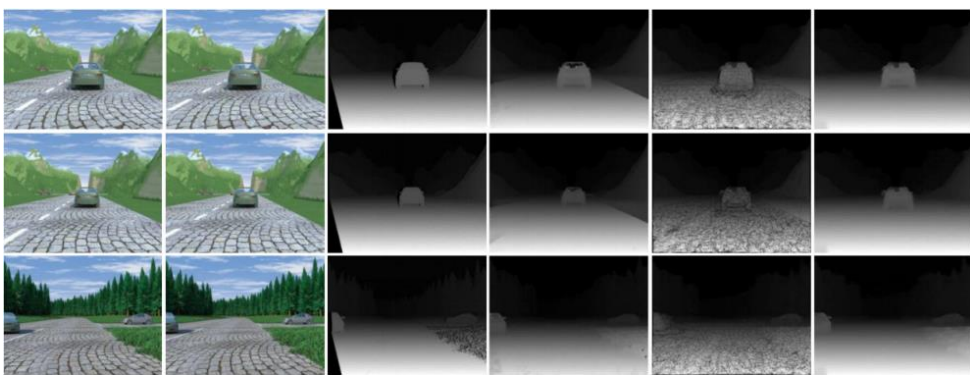
Motivation

- Fast and accurate depth calculation for stereo videos is difficult.
- Conducting stereo matching frame-by-frame is time consuming and the result is temporally inconsistent.

Goal: Given a stereo video, **fast** generate **spatial-temporal consistent depth maps**.

Solution

- A novel bidirectional motion-based interpolation framework is proposed to **leverage the inter-frame redundancy** and **preserve consistency**.



Experiments

- Two kinds of datasets (computer rendered and real world captured).
- Comparable to the global optimization method (from IJCV 2013) in accuracy while being much faster (1.4min. per frame with multi thread to 0.5min. per frame with single thread).