

Paper presentation : UltraStereo: Efficient Learning-based Matching for Active Stereo Systems

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Invalidation

Issues which the pixels from the final depth image won't contain any estimations :

- Occlusions
- Saturation of infrared sensors
- low signal noise ratio

How limits this errors ?

- an algorithms does an invalidation pass durint the post-processing step

Invalidation

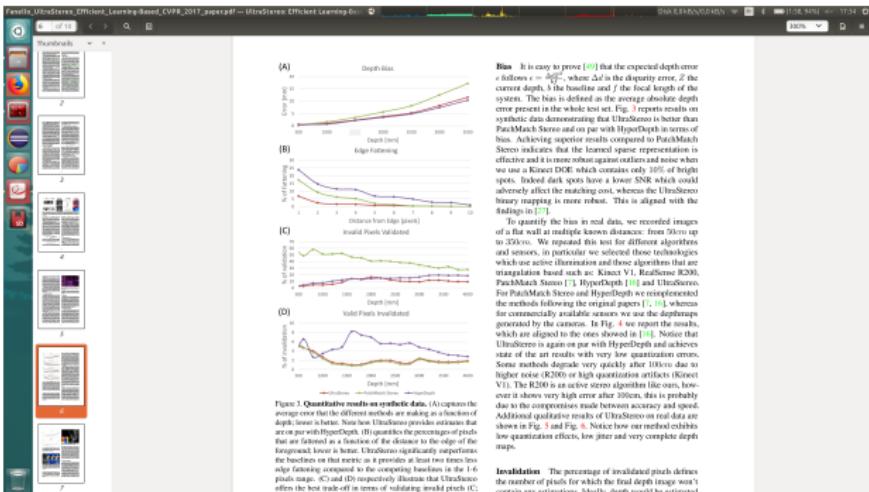


Figure: Quantitative results on syntactic data

Example of depth-map produced with UltraStereo

Look at the thin structures like plants

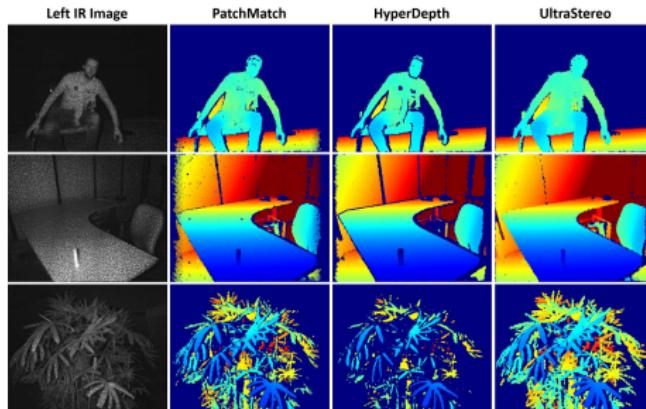


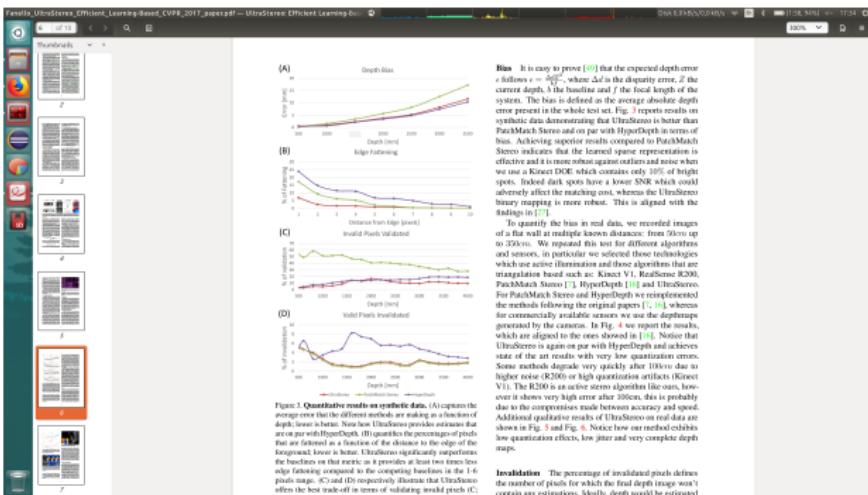
Figure: Qualitative Evaluation

Edge fattening

Other issue is the edge fattening. To measure it they :

- used a hand to test their algorithms
- put a hand at 1 m from the sensors
- defined key hand pose for each frame

Edge fattening



Edge fattening

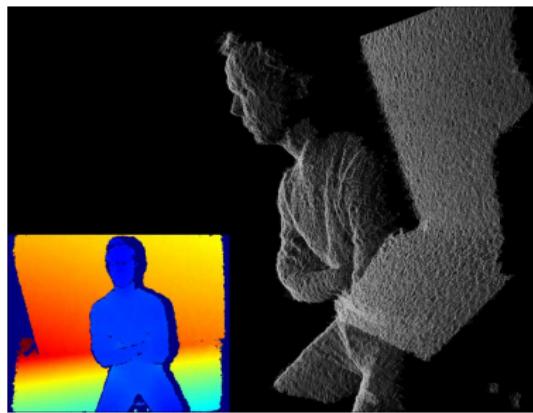


Figure: ???

Binary representation

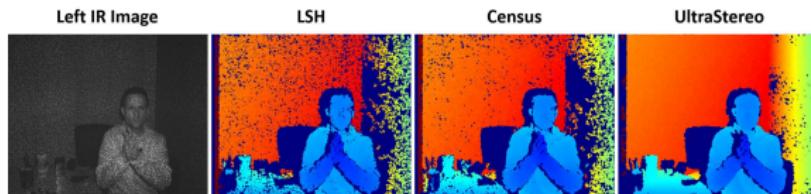


Figure: Quantitative results on syntactic data

Interference and Generalization

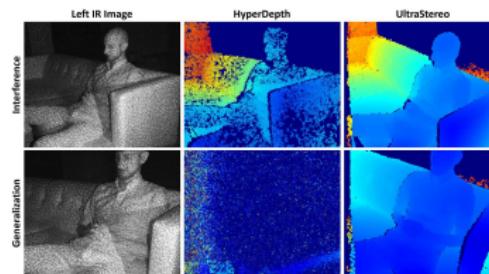


Figure: Quantitative results on syntactic data

Conclusion

Best algorithms ever made !

Questions

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Thank you for your attention !