NII International Internship program

Segmented Fusion

Fusion & Refinement

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Advisors: Prof. A.Sugimoto

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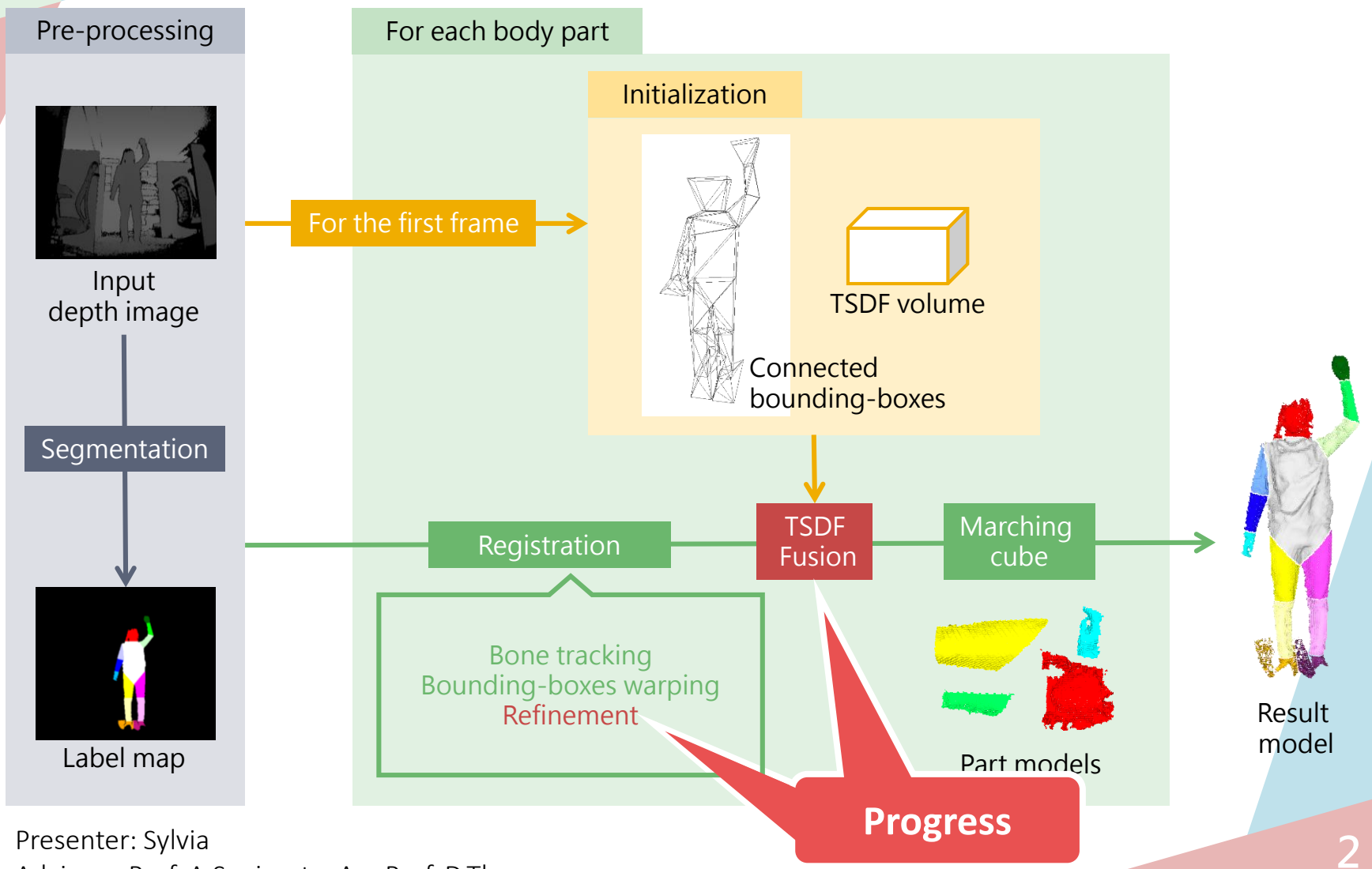
Summary



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Summary

- Previously
  - Registration: get new bounding-boxes by bone motion
  - Create ground-truth
- Progress
  - Fusion
  - Refine the transform of corners

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Fusion

- I warped each voxel by interpolating transform matrix of corners and updated the TSDF volume's weights to get new meshes.

Resources: 031_fusion.avi

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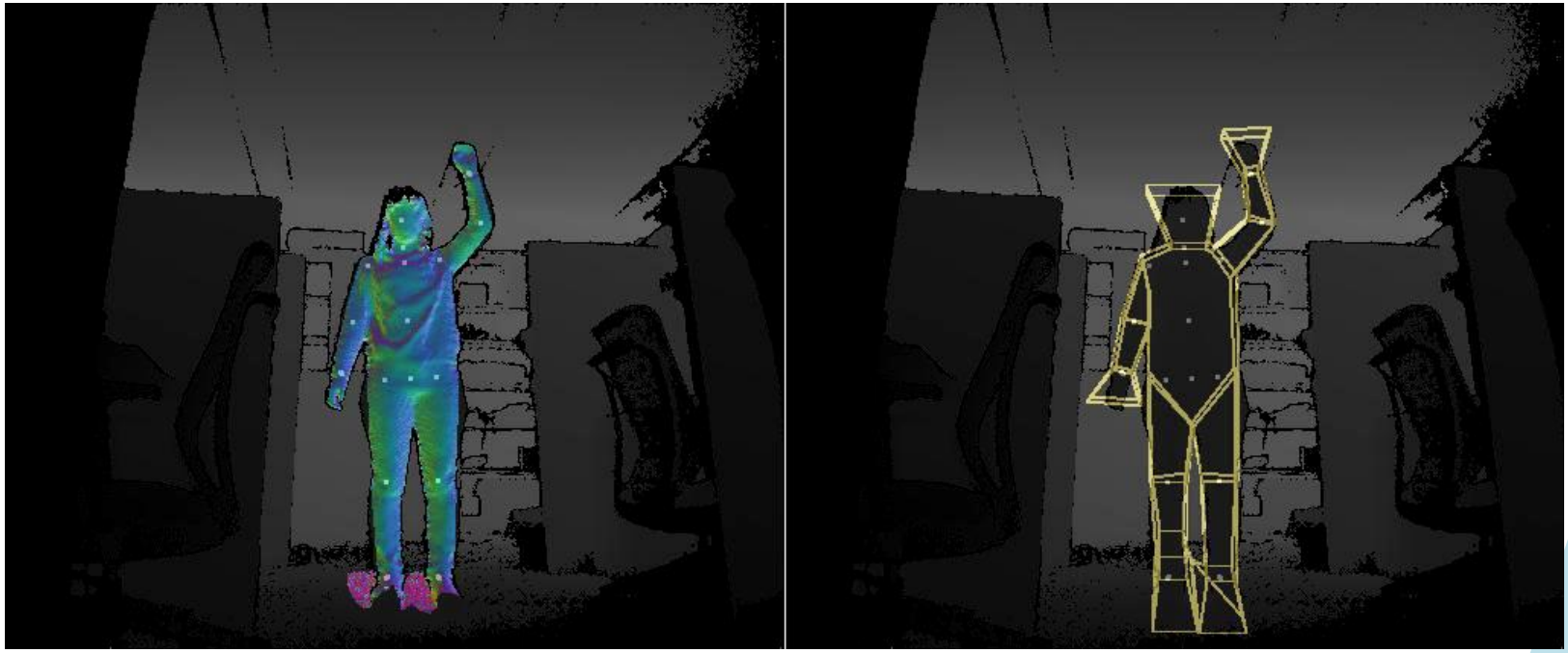
Warping

- System tracks bone motion and deforms the mesh of canonical frame, but results have artifacts when there is large motion.



Resources: 031_warping.avi

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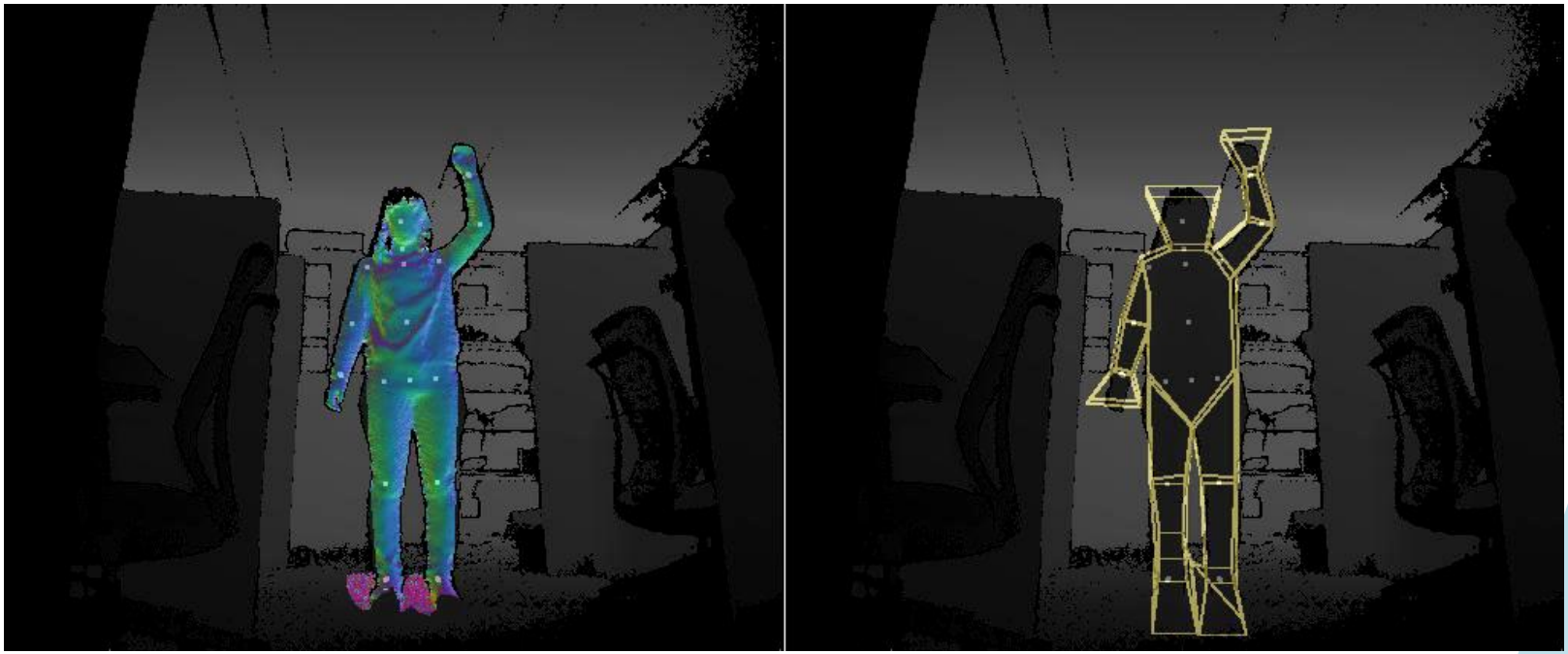
Refinement

- I used least–square to minimize the depth value between depth image and warping vertices, and refined the transform matrix of each corner.



Resources: 031_refinement.avi

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Next step

- Modified warping method
- Handle overlapping region of meshes