

## TPA 5 : Panoramic 3-D depth view synthesis :

**Problem Statement :** Panoramic 3-D depth view synthesis from:

(i) stereoscopic video shots

or

(ii) RGB-D images from indoor shots

Input : a dataset of images from indoor/video shots.

Expected Output : Depth estimation and panorama creation.

Dataset:

**Image:** <http://pr.cs.cornell.edu/sceneunderstanding/data/data.php>

**Video :** <http://web.cecs.pdx.edu/~zhangfan/dataset.html>

### References:

Fan Zhang and Feng Liu. Casual Stereoscopic Panorama Stitching.  
IEEE CVPR 2015, Boston, MA, June 2015.

Fan Zhang and Feng Liu. Parallax-tolerant Image Stitching.  
IEEE CVPR 2014, Columbus, OH, June 2014.

Feng Liu, Yu-hen Hu and Michael Gleicher. Discovering Panoramas in Web Videos.  
ACM Multimedia 2008, Vancouver, Canada, October 2008. pp. 329-338.

Tutorial:

Richard Szeliski, Microsoft Research

Image Stitching

Computer Vision

CSE 576, Spring 2008

T. Yan, Z. Huang, R. Lau, and Y. Xu. VRST, page 251-258. ACM, (2013)  
Seamless stitching of stereo images for generating infinite panoramas.

Andreas Geiger, Julius Ziegler and Christoph Stiller  
StereoScan: Dense 3d Reconstruction in Real-time  
Department of Measurement and Control  
Karlsruhe Institute of Technology  
Link to Code

Pablo F. Alcantarilla, Chris Beall and Frank Dellaert  
Large-Scale Dense 3D Reconstruction from Stereo Imagery