3D Scene reconstruction and depth map / wireframe/Point-Cloud from single RGB panorama(Two views)

Computer Vision (CS6350)
TPA - 4

1. Problem Statement

The purpose of this project is to develop algorithms capable of three-dimensional Scene Reconstruction from a video or Stereo Images. The basic steps in the reconstruction process are : predicting the depth map (disparity map), estimating depth of (visually) salient landmarks, tessellation to create a wireframe representation and finally rendering (preferably use OpenGL) with pseudo-color or pixels from an image. Depending on the model used, alternative methods can be adopted.

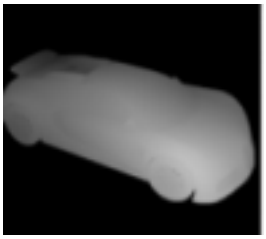
2. Input

- **A pair of stereo Images / Sequences of Images from Pan Video**



3. Output

- **Depth Map ,Wireframe ,Rendered 3D scene with novel views**



Depth Wireframe Rendered 3-d object -Map

4. Datasets

• KITTI Dataset

link -http://www.cvlibs.net/datasets/kitti/eval_object.php?obj_benchmark=3d • NYU

Depth v2 Dataset link - https://cs.nyu.edu/~silberman/datasets/nyu_depth_v2.html •

SapeNet Dataset link - https://www.shapenet.org/

Caution/Warning: Reconstruction from pan-video may be considered more challenging than from arbitrary (not perfect) stereo ; the former may get you more marks**.**

5. References

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