Abstract

In this paper we present an image data-set of different omnidirectional systems. The images include full information of colour, depth, instance segmentation and room layout. This dataset aims to help in the training and test of different neural networks and development of computer vision algorithms.

Image information

From the tool OmniSCV [1], different information can be obtained from Virtual Environments generated with the Unreal Engine 4. The direct information is: RGB, instance segmentation, depth.

Omnidirectional systems

Different omnidirectional systems are available. Central images come from the same cube-maps. The most used omnidirectional systems are the fish-eye images, catadioptric systems and panoramas as the equirectangular.

Applications

From the images that can be obtained with OmniSCV, a data-set of omnidirectional images has been generated. Also, different labelling have been implemented for different applications. Examples are:

- Layout recovery [2,3]
- Instance segmentation
- SLAM[4]

Other systems are also implemented. Non-central systems are not obtained from a unique cube-map, so the acquisition is unique for each image. The implemented systems are the circular panorama and catadioptric systems.

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