Low cost 3d manual scanner with deformable registration

Rafael Muñoz Salinas

University of Cordoba, Spain

This work presents a method to do 3d people reconstruction with low cost 3d cameras considering that the human is subject to small movements. The proposed method employs a keypoint-based SLAM to obtain an initial estimation of the camera trayactory. Then, since the person might have been moved during the scanning process,we propose to process the video sequence in the following way. First, a small temporal window is employed to group frames and construct a 3d patch. In this case, it is assumed that the person can be considered static and rigid registration can be employed. From the patches obtained in the previous step, we then apply a non-rigid registration to register the patches. The proposed method can be run in moderate time without the use of a GPU and results are similar to state-of-the-art methods.