

VIDEO STABILIZATION FOR A HAND-HELD CAMERA BASED ON 3D MOTION MODEL

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Abstract

In this paper, a video stabilization technique is presented. There are four steps in the proposed approach. We begin with extracting feature points from the input image using the Lowe SIFT (Scale Invariant Feature Transform) point detection technique. This set of feature points is then matched against the set of feature points detected in the previous image using the Wyk et al. RKHS (Reproducing Kernel Hilbert Space) graph matching technique. We can calculate the camera motion between the two images with the aid of a 3D motion model. Expected and unexpected components are separated using a motion taxonomy method. Finally, a full-frame technique to fill up blank image areas is applied to the transformed image.

Keyword : SIFT detection, RKHS graph matching,