A collection of challenging motion segmentation benchmark datasets

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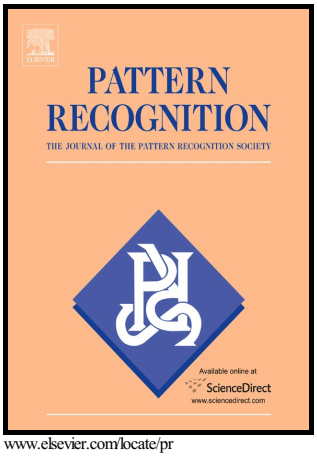

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A Collection of Challenging Motion Segmentation Benchmark Datasets

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Abstract

An in-depth analysis of computer vision methodologies is greatly dependent on the benchmarks they are tested upon. Any dataset is as good as the diversity of the true nature of the problem enclosed in it. Motion segmentation is a preprocessing step in computer vision whose publicly available datasets have certain limitations. Some databases are not up-to-date with modern requirements of frame length and number of motions, and others do not have ample ground truth in them. In this paper, we present a collection of diverse multifaceted motion segmentation benchmarks containing trajectory- and region-based ground truth. These datasets enclose real-life long and short sequences, with increased number of motions and frames per sequence, and also real distortions with missing data. The ground truth is provided on all the frames of all the sequences. A comprehensive benchmark evaluation of the state-of-the-art motion segmentation algorithms is provided to establish the difficulty of the problem and to also contribute a starting point. All the resources of the datasets have been made publicly available at `http://dixie.udg.edu/udgms/`.

Keywords: Motion segmentation, tracking, trajectory, benchmark, dataset.

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