

Robust invariant descriptors for visual object recognition

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Abstract

In the state-of-the-art visual object recognition, there are a number of descriptors that have been proposed for various visual recognition tasks. But it is still difficult to decide which descriptors have more significant impact on this task. The descriptors should be distinctive and at the same time robust to changes in viewing conditions. This paper evaluates the performance of two distinctive feature descriptors, known as SIFT and extended-SURF (e-SURF) in the context of object class recognition. Local features are computed for 11 object classes from PASCAL VOC challenge 2007 dataset and clustered using K-means method. Support Vector Machines (SVM) is used in order to analyse the performance of the descriptors in recognition. By evaluating these two descriptors it can be concluded that e-SURF slightly perform better than SIFT descriptors.

Author keywords

Codebook construction; e-SURF; Feature descriptors; Feature detectors; Object recognition; SIFT

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