Abstract

Most of object detection and classification algorithms are only locating regions in the image, whether it is within a template-sliding mask or interested region blobs. However, such regions may be ambiguous, especially when the object of interest is very small, unclear, or anything else. This paper presents proposed algorithm for automatic object detection and matching based on its own proposed signature using morphological segmentation tools. Moreover, the algorithm tries to match the objects; neither among object's blobs nor among regions of interest; but among the constructed proposed objects' signatures. During the matching process, SURF method has presented to make a comparison of the experimental results. The performance has been tested 120 from a wide variety of unlike objects; it has been achieved 100% in the case of constructing object signatures, also it has been achieved 96% of right matching whereas SURF has achieved 85% for all test objects.

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**Index Terms**

Computer Science

Image Processing

**Keywords**

Object Detection and Matching; Signature; SURF; Segmentation.