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.

References

- C. Papageorgiou and T. Poggio. "A trainable system for object detection."
Proposed Method for Detecting Objects

- Mustafa Teke; M. Firat Vural; Alptekin Temizel; Yasemin Yardime.
  High-resolution multispectral satellite image matching using scale invariant feature
  transform and speeded up robust features. J. Appl. Remote Sens. 5(1), 053553
  September 23, 2011.
- P. Viola, M. Jones, and D. Snow. Detecting pedestrians using patterns of
  motion and appearance. In IEEE Conference on Computer Vision and Pattern
  Recognition, 2003.
- Perhaad Mistry, Chris Gregg, Norman Rubin, David Kaeli, and Kim Hazelwood.
  Analyzing program flow within a many-kernel OpenCL application. In Proceedings
  of the Fourth Workshop on General Purpose Processing on Graphics Processing Units
- Yan Ke, Rahul Sukthankar. PCA-SIFT: A More Distinctive Representation for
  Local Image Descriptors, presented at the 2004 Proc. IEEE Conference on Computer

Index Terms

- Computer Science
- Image Processing

Keywords

Object Detection and Matching; Signature; SURF; Segmentation.