

3.27 Fast Object Detector

Keywords

Object detection

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Software disclosure 9496

Functional description

Object detection in images is a key component of many systems able to process images automatically. This can be for semantic analysis, or as a pre-processing for identification or robotic control. In many practical situation, this operation has to be done extremely rapidly, to allow for instance the processing of video streams in real time. We have developed a novel strategy to speed up a large class of such methods, which is close to one order of magnitude faster than the best pre-existing algorithms.

Innovative aspects

- One order of magnitude speed-up with respect to pre-existing approaches
- Technique applicable to a large class of detection methods

Commercial application examples

- Pedestrian detection for surveillance in video stream
- Low-power object detection systems

More information

C. Dubout and F. Fleuret. Exact Acceleration of Linear Object Detectors. In Proceedings of the European Conference on Computer Vision (ECCV), pages 301-311, 2012.

Software & IPR status

The reference implementation is available under the GPL3 license.

- FFLD: <https://www.idiap.ch/scientific-research/resources/exact-acceleration-of-linear-object-detectors>
- The algorithm is covered by US patent (US20140089365) on “Object detection method, object detector and object detection computer program”.