Street crossing pedestrian detection based on edge curves motion

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Abstract
This paper presents a real-time method for detecting pedestrians using vertical motion form two consecutives frames. We used association approach to match edge curves between consecutive images. Significant motions can be found using horizontal-vertical projection histogram. Then the pedestrian detection process is achieved in two steps. The first one searches the region of interest by using the intersection of vertical and horizontal projection of significant motion. The second step applies the Adaboost classifier on the region of interest provided by the first step. The proposed approach has been tested on different city traffic image sequences acquired by a camera mounted in a moving car. The results demonstrate the effectiveness of the proposed method.

References
- Bernd Kitt and Andreas Geiger and Henning Lategahn, &quot;Visual Odometry based on Stereo Image Sequences with RANSAC-based Outlier Rejection Scheme&quot;. IEEE Intelligent Vehicles Symposium, 2010 June, San Diego, USA.
- P. Viola and M. Jones, &quot;Rapid object detection using a boosted cascade of simple features&quot;. In CVPR, 2001.

**Index Terms**

Computer Science  
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**Keywords**

Pedestrian Detection  
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Correspondence Edge Curves  
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