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あらまし

キーワード

HOG SVM ITS

## A preliminary study on a pedestrian detector adaptive to the driving environment using an in-vehicle camera

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**Abstract** Recently, pedestrian detection from in-vehicle camera images is being focused. However, it is difficult to detect pedestrians accurately due to the variety of their appearances caused by various environmental factors such as time, weather, season, and location. To deal with changes of pedestrians' pose and environment, most existing methods that makes use of their appearances require the preparation of a lot of pedestrian images manually. However, it is difficult to provide training images considering all possible environmental factors. To tackle this problem, we propose a method to make a pedestrian detector adaptive to a driving environment by collecting training images from in-vehicle camera images. We focused on the variety of the appearance per location that primarily affects the accuracy of pedestrian detection, and built an environment adaptive pedestrian detector by collecting pedestrians images and non-pedestrian images in each driving location. In evaluation experiments assuming ideal adaptation to the environment, we confirmed the effectiveness of the method compared to existing methods.

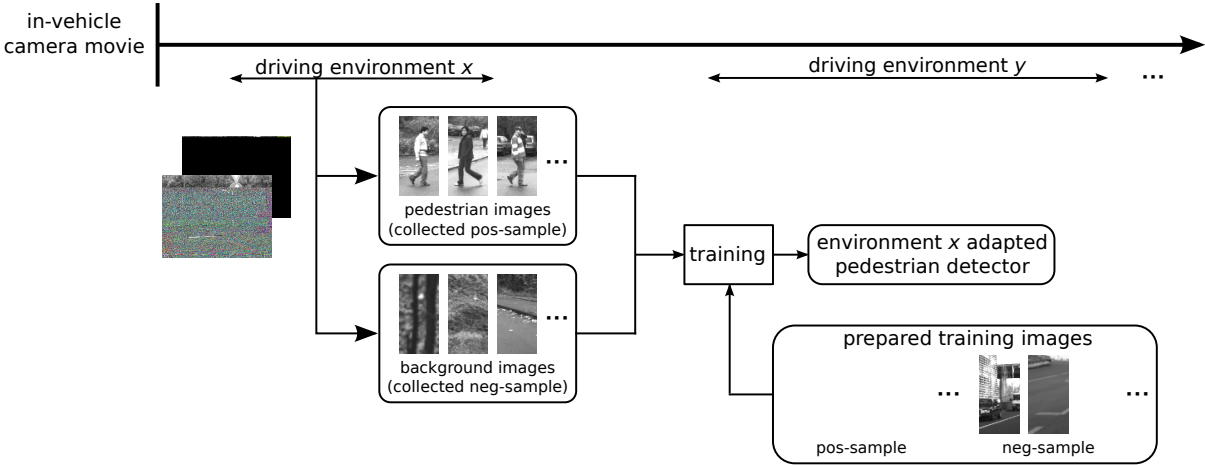
**Key words** Pedestrian detection, Adaptive detector, HOG, SVM, ITS



Pedestrian detector for "rural area"



2



3

3.1.3

2

3

3.1.1

3.1.1

2

3.2 走行場所に適応した歩行者検出器による歩行者検出

2

3.1.2

4. 実 験





