情報電子工学科　論文発表

題名	A Two-Stage Training Deep Neural Network For Small Pedestrian Detection
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概要	In the present paper, we propose a deep network architecture in order to improve the accuracy of pedestrian detection. The proposed method contains a proposal network and a classification network that are trained separately. We use a single shot multibox detector (SSD) as a proposal network to generate the set of pedestrian proposals. The proposal network is fine-tuned from a pre-trained network by several pedestrian data sets of large input size (512 × 512 pixels) in order to improve detection accuracy of small pedestrians. Then, we use a classification network to classify pedestrian proposals. We then combine the scores from the proposal network and the classification network to obtain better final detection scores. Experiments were evaluated using the Caltech test set, and, compared to other state-of-the-art methods of pedestrian detection task, the proposed method obtains better results for small pedestrians (30 to 50 pixels in height) with an average miss rate of 42%.