

Efficient and Fast Multi-View Face Detection Based on Feature Transformation

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(Pt9)Abstract—The training time of Adaboost to obtain the strong classifier is usually time-consuming. Moreover, to deal with rotated faces, it is natural to need much more processing time for both training and execution stages. In this paper, we propose new efficient and fast multi-view face detection method based on Adaboost. From the robustness property of Harr-like feature, we first construct the strong classifier more effective to detect rotated face, and then we also propose new method that can reduce the training time. We call the method feature transformation method, which rotates and reflects entire weak classifiers of the strong classifier to construct new strong classifiers. Using our proposed feature transformation method, elapsed training time decrease significantly. We also test our face detectors on real-time HD images, and the results show the effectiveness of our proposed method.

(Pt9)Keyword—Face Detection, Multi-view Face Detection, Haar-like Features, Feature Reflection and Rotation, Cascade Classifier



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