

以AdaBoost 演算法為基礎的性別辨識(An Adaboost-Based Gender Recognition)

黃雅軒, 莊順旭, 許廷嘉, 王勻駿

資訊工程學系

資訊學院

yeashuan@chu.edu.tw

摘要

In recent years, gender recognition has become a very important subject in the computer vision society, which has many applications, such as surveillance systems or advertising billboards. If we can make use of this subject in our daily life, our surrounding will become more safety and convenient. Therefore, based on this subject, we proposed a novel gender recognition system: at first, we use an Adaboost algorithm to detect the human faces from images and then locate the pupils and both mouth corners of each detected faces. According to the located pupils and mouth corners, face regions can be extracted, rotated and normalized properly. Then, we use a proposed Boosted-LBP algorithm to extract the face sub-regions which have high gender discrimination ability, and further extract the LBP feature from these sub-regions. Finally, the SVM is use for gender determination. Experiments on 1421 single-face images and 10 multiple-face images, the proposed method can achieve individually 92.05% and 78.94% system accuracy which reveal the efficiency of the proposed method in recognizing human gender.

關鍵字：Adaboost, LBP, SVM, Facial expression recognition, Feature reduction