Abstract

Recently, Template matching approach has been widely used for face localization problem. Normalized Cross-correlation (NCC) is a measurement method normally utilized to compute the similarity matching between the stored faces templates and the rectangular blocks of the input image to locate the face position. However, there is always an error on locating the face due to
some non-face blocks seem more to be the face position than correct blocks because of variation either in illumination or image with clutter background. In this paper we proposed a fast template matching technique based Optimized Sum of Absolute Difference (OSAD) instead of using NCC to reduce the effects of such variation problems. During the experiments a number of similarity measurements tested to prove the high performance of OSAD compared with other measurements. Two sets of faces namely Yale Dataset and MIT-CBCL Dataset were used to evaluate our technique with success localization accuracy up to 100%.

Reference

- Zhao Fei and Qiao Qiang, "Face detection based on rectangular knowledge rule and face structure," in Information Science and Engineering (ICISE), 2009 1st International Conference on, 2009, pp. 1235-1239.
- "Yale Face Database " vol. 2010,
- "CBCL FACE RECOGNITION DATABASE " vol. 2010,

Index Terms

Computer Science Pattern Recognition
Key words

Similarity measurements

Sum of Absolute Difference