

Twelve anchor points detection by direct point calculation

ABSTRACT

Facial features can be categorized into three approaches; Region Approaches, Anchor Point (landmark) Approaches and Contour Approaches. Generally, anchor points approach provide more accurate and consistent representation. For this reason, anchor points approach has been chosen to utilize. Although, as the experiment data sets have become larger, algorithms have become more sophisticated even if the reported recognition rates are not as high as in some earlier works. This will cause a higher complexity and computer burden. Indirectly, it also will affect the time for real time face recognition systems. Here, it is proposed the approach of calculating the points directly from the text file to detect twelve anchor points (nose tip, mouth centre, right eye centre, left eye centre, upper nose and chin). In order to get the anchor points, points for the nose tip have to be detected first. Then the upper nose and face point is localization. Lastly, the outer and inner eyes corner is localized. An experiment has been carried out with 420 models taken from GavabDB in two positions with frontal view and variation of expressions and positions. Our results are compared with three researchers that is similar to and show that better result is obtained with a median error of the eight points is around 5.53mm.

Keyword: 3D face recognition; 3D face detection