A Study and Design of Image Target Searching

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ABSTRACT

This paper presents a search system with the human face detection, this system is divided into the following parts： 1.Using Track face system(TFS),TFS need to be complemented by the Logitech AF quick-look webcam, this webcam with two degrees of freedom ， including up and down 50 degrees; right and left 90 degrees, like the eye can fast-track picture and autofocus. So the webcam will automatically image at the face. TFS will feature points of the face, including face shape, eye shape … act to fixed pixel and box out. 2. Image processing, let the image transferred from the full color into the grayscale image by Photo Impact and let image elements varying simplistic, posed by the image matrix significantly reduced. 3.Feature extraction, using principal component analysis(PCA), use of PCA characteristics out of the main characteristics to be compared, to reduce data complexity and time to effectively improve TFS to search for efficiency. And then use the support vector machine to classification identify of the face sample. 4.Using the region adjacent graph (RAG), let the image color quantization, image segmentation, features exaction and image similarity matching. TFS can be applied to security system as well as criminal cases, in view of the average increase of criminality, as this system be slight change, able to meet the various different cases and more, someone has generally traceable webcam and supported by this system and image processing software can easily get started.

Keywords : Principal Component Analysis、Track Face System、Support Vector Machine、Region Adjacent Graph

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