

## عنوان مقاله:

Automatic Landmark Detection in Cephalometry Using a Modified Active Shape Model with Sub Image Matching

## محل انتشار:

سومین کنفرانس بین المللی فناوری اطلاعات و دانش (سال: 1386)

تعداد صفحات اصل مقاله: 6

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## خلاصه مقاله:

This paper introduces a modification on using Active Shape Models (ASM) for automatic landmark detection in cephalometry and combines many new ideas to improve its performance. In first step, some feature points are extracted to model the size, rotation, and translation of skull. A Learning Vector Quantization (LVQ) neural network is used to classify images according to their geometrical specifications. Using LVQ for every new image, the possible coordinates of landmarks are estimated, knowing the class of new image. Then a modified ASM with a multi resolution approach is applied and a principal component analysis (PCA) is incorporated to analyze each template and the mean shape is calculated. The local search to find the best match to the intensity profile is then used and every point is moved to get the best location. Finally a sub image matching procedure, based on cross correlation, is applied to pinpoint the exact location of each landmark after the template has converged. On average 24 percent of the 16 landmarks are within 1 mm of correct coordinates, 61 percent within 2 mm, and 93 percent within 5 mm, which shows a distinct improvement on other proposed methods

## کلمات کلیدی:

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/49836>

