

Thesis Title	Off-line Handwritten Thai Characters Segmentation using Line Tracing
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Abstract

In Thai handwriting, there sometimes might be an overlapping or touching between adjacent characters which is difficult for segmentation. This thesis proposes an "Off-line Segmentation for Thai-character Handwriting". In case of character touching or overlapping, different junction patterns are created. Line Tracing is done based on different junction patterns. The idea of this technique is that the gray scale Thai-handwriting image is transformed into binary image, i.e. black & white image. Then, this binary image will be used in character segmentation process, which has 2 steps, "Coarse Segmentation" and "Detailed Segmentation". "Coarse segmentation" evaluates the segmentation points through horizontal and vertical projection. In "Detailed Segmentation", result images from coarse segmentation are thinned by thinning process, then the characters are traced. In case of character overlapping or touching, the tracing is based on the junction pattern. The traced path are regenerative to get the original distinct characters.

The technique has been tested with a number of "Thai-Handwriting" patterns such as "Chrolographic Thai Characters", the intended overlapping and touching thai characters, English-Handwritten Characters (capital letters) and printed Thai fonts. The result shows the rate of correct 91.67, 94.07, 94.9 and 83.36 percent respectively.

Keywords : Handwritten / Character / Segmentation / Thai / Off-line /
Tracing