GENERALIZED HOUGH TRANSFORM

MPA-ABO

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$P_r(x_r, y_r)$

r

$P_i(x_i, y_i)$

α

θ
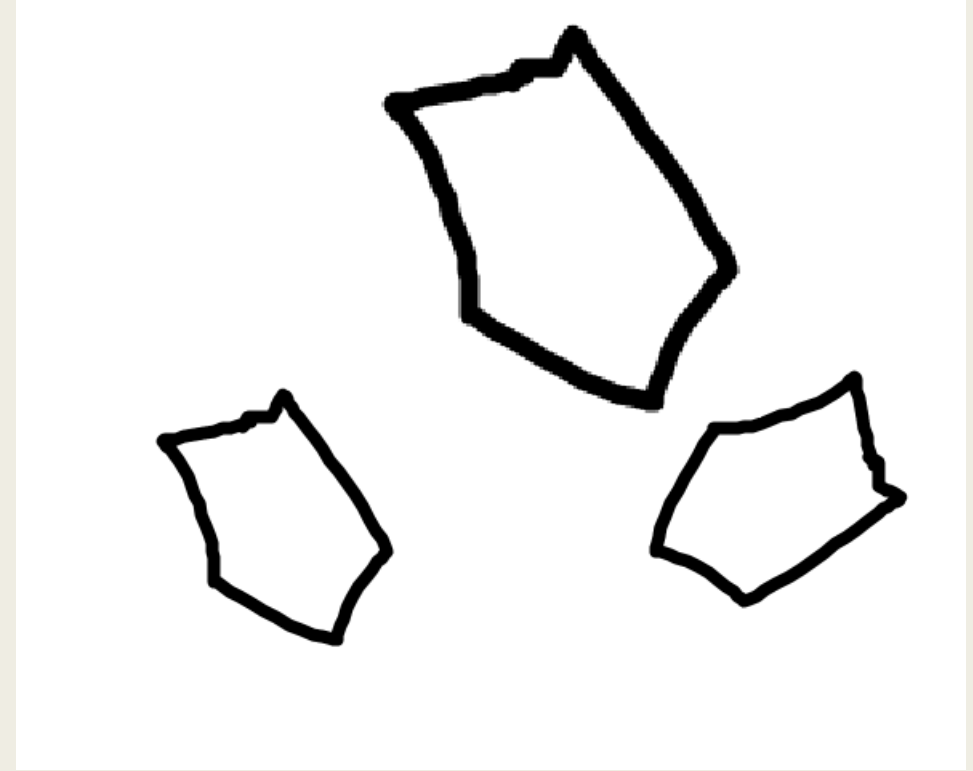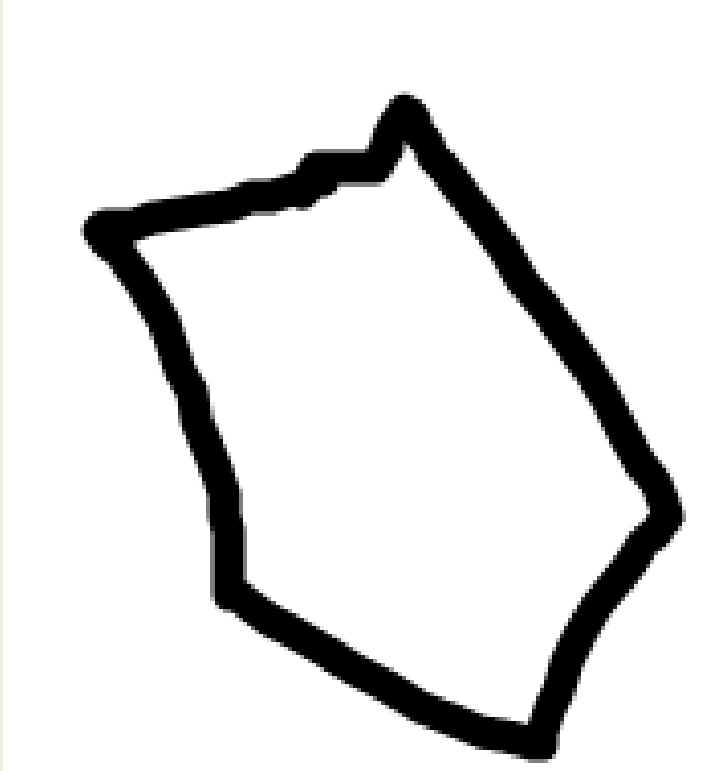
(b)
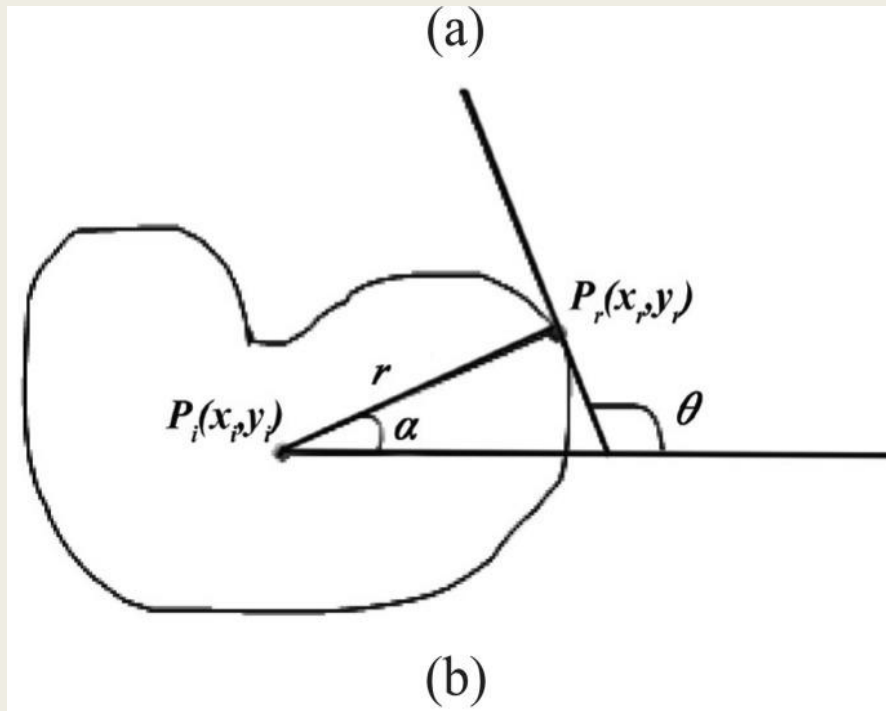
θ_i	(r, α)
$\Delta\theta$	$(r_1, \alpha_1), (r_2, \alpha_2)$
$2\Delta\theta$	(r_3, α_3)
$3\Delta\theta$	$(r_4, \alpha_4), (r_5, \alpha_5), (r_6, \alpha_6)$
…	…

THEORY BEHIND GENERALIZED HOUGH TRANSFORM

Algorithm

Load Images → Edge detection → Find middle point in reference image → Convert reference and target image into gradient image → Create R-table → Create Houg space and assign values → Detect maximal values in Hough space → Display results
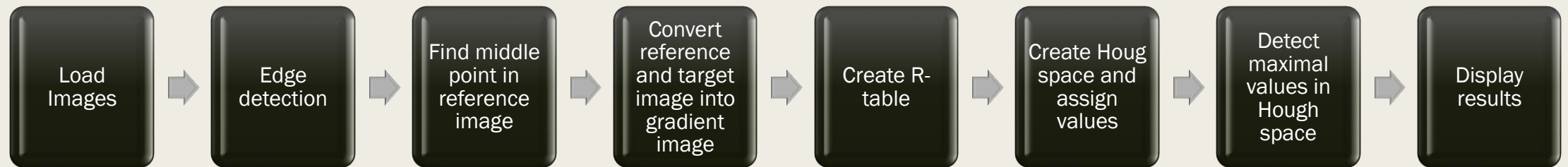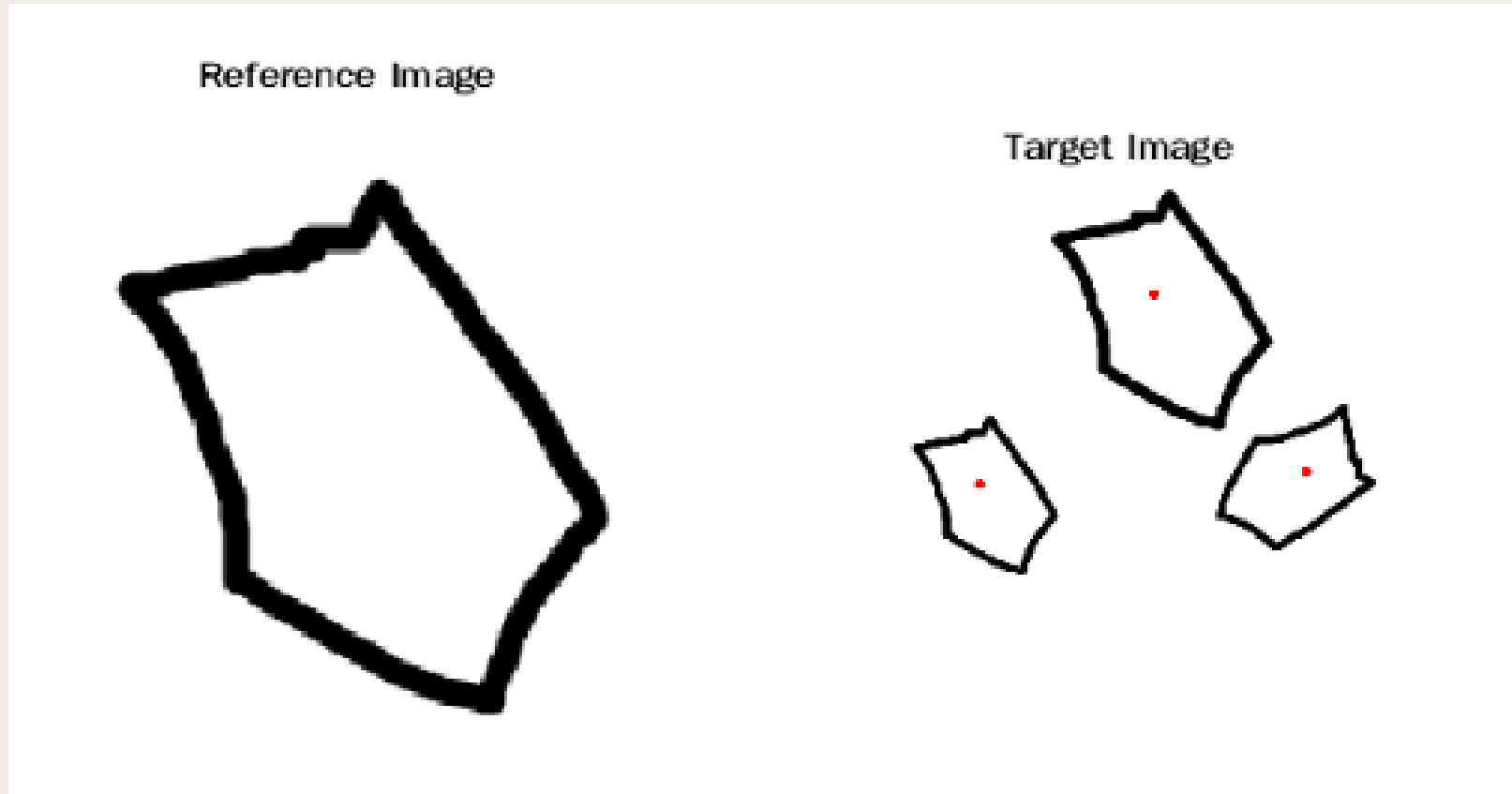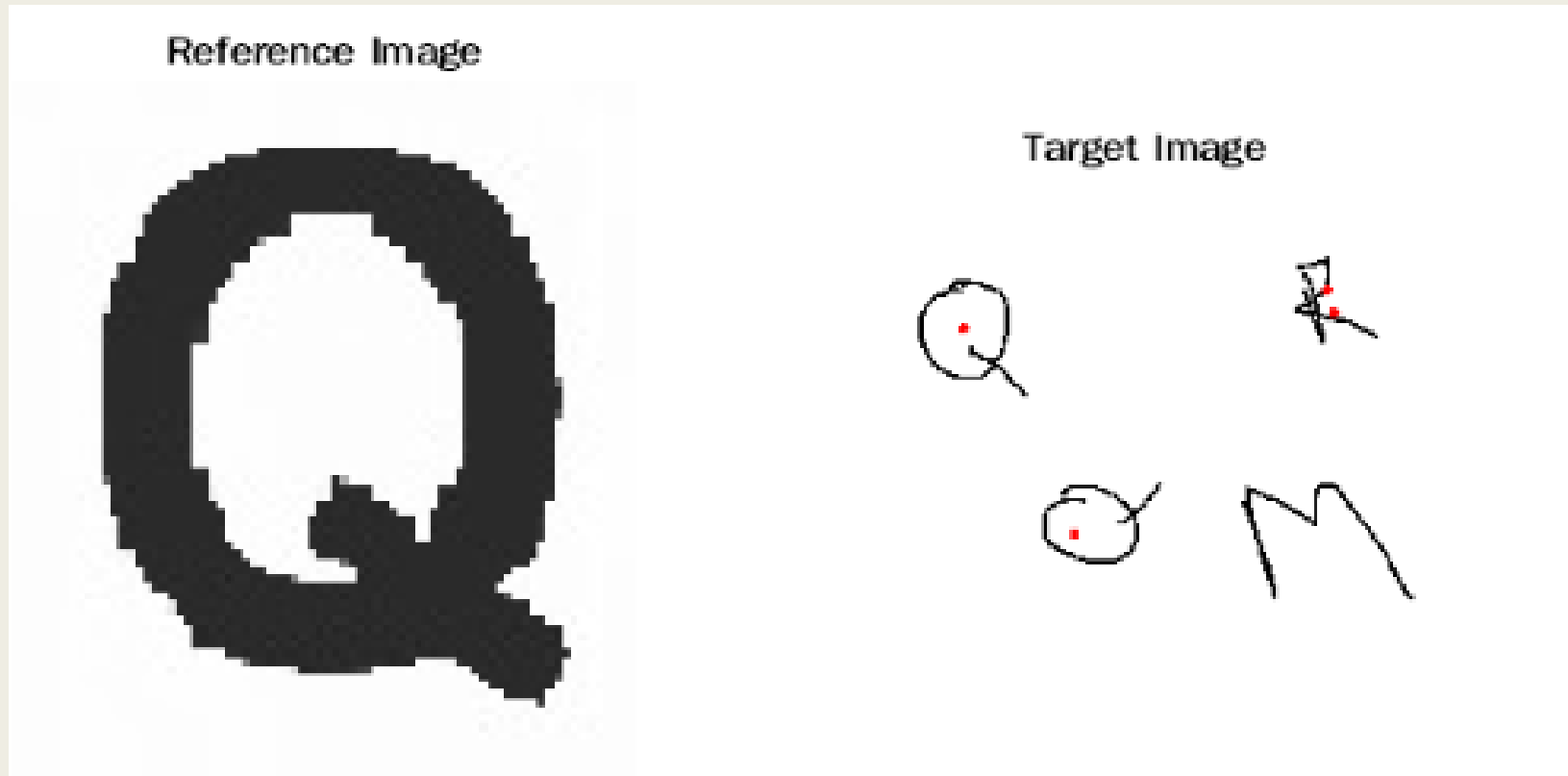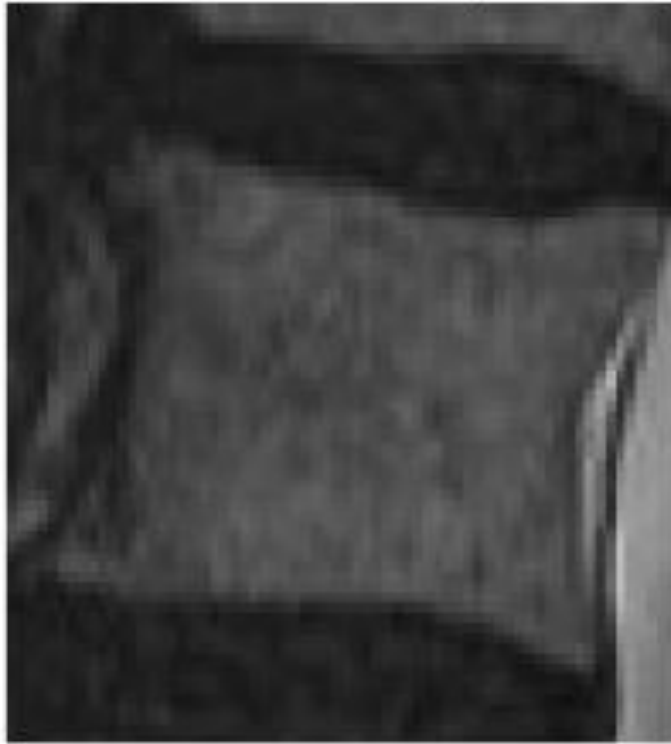
Example of the reference and target image

Results with reference points

Results– detecting letter Q

Results – biomedical images

THANK YOU FOR YOUR ATTENTIOIN

Any questions?

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