Model of visual and tactile character recognition
(Loomis, 1990)

Stimulus representation
\[ A(x,y), B(x,y), C(x,y)…Z(x,y) \]

Spatial filtering
\[ A'(x,y) = \sum_i \sum_j A(i,j) \exp(-\pi((x-i)s_x c)^2+(y-j)s_y c)^2) \]

Nonlinear compression of image
\[ A''(x,y) = A'(x,y)^{0.5} \]

Ignore intensity
\[ A'''(x,y) = A''(x,y) / \sum_x \sum_y A''(x,y) \]

Dissimilarity of A and B
\[ D(A,B) = \min_{\Delta_x \Delta_y} \left( \sum_x \sum_y (A''''(x,y) - B''''(x+\Delta_x, y+\Delta_y))^2 \right)^{0.5} \]

Similarity of A and B
\[ S(A,B) = \exp(-\tau D(A,B)) \]

Probability of B given A
\[ P(B|A) = S(A,B) / \sum_K S(K,A) \]