Segmentation Markovienne: Image segmentée $\hat{x} = \arg\max_x \left\{U(x,y)\right\}$

$$
\begin{aligned}
U(x,y) &= \sum_{s\in S}\left\{\left[\ln(\sqrt{2\pi}\sigma_{x_s}) + \frac{(y_s-\mu_{x_s})^2}{2\sigma_{x_s}^2}\right] + \beta_c \cdot \sum_{s\in\eta_s}\left[1-\delta(x_s,x_{\eta_s})\right]\right\} \\
&= \sum_{s\in S}\left\{\left[\ln(\sqrt{2\pi}\sigma_{x_s}) + \frac{(y_s-\mu_{x_s})^2}{2\sigma_{x_s}^2}\right]\right\} + \sum_{c\in C_{(s\in S)}}\beta_c\left[1-\delta(x_s,x_{\eta_s})\right]
\end{aligned}
$$

Débruitage: Image débruitée $\hat{x} = \arg\max_x \left\{U(x,y)\right\}$

$$
U(x,y) = \sum_{s\in S}\left\{\left[y_s - x_s\right]^2 + \beta \cdot \sum_{s\in\eta_S}\left|x_s - x_{\eta_s}\right|\right\} \tag{1}
$$