



$$\mu(\mathbf{x}_{1:t}, \mathbf{y}_{1:t}) = \mu(x_1)\mu(y_1|x_1)\mu(x_2|x_1)\mu(y_2|x_2) \dots \mu(x_t|x_{t-1})\mu(y_t|x_t)$$

$$\hat{\mathbf{x}} = \arg \max_{\mathcal{X}^t} \mu(\mathbf{x}_{1:t}, \mathbf{y}_{1:t} = \mathbf{y})$$

(Discrete case \rightarrow Viterbi Algorithm)