

M-step details

$$\begin{aligned}\mathcal{L}(\theta, q) &= \sum_i \sum_c q(t_i = c) \log \frac{p(x_i, t_i = c \mid \theta)}{q(t_i = c)} \\ &= \sum_i \sum_c q(t_i = c) \log p(x_i, t_i = c \mid \theta) \\ &\quad - \sum_i \sum_c q(t_i = c) \log q(t_i = c)\end{aligned}$$

Const w.r.t. θ

