



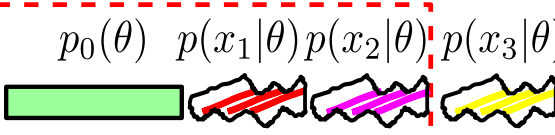
Goal: approximate the true posterior $q(\theta) \approx p(\theta|\mathcal{D})$


$p(\theta|\mathcal{D}) \propto$

 \approx

$q(\theta) \propto$


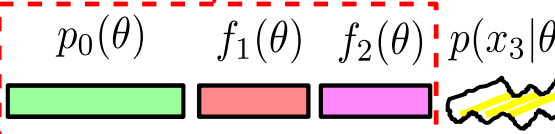
capture the **average effect**
of likelihood terms

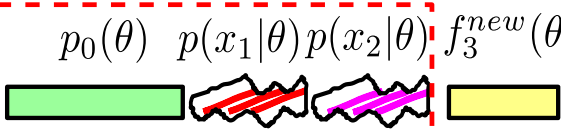
idealised

$p(\theta|\mathcal{D}) \propto$

 \approx

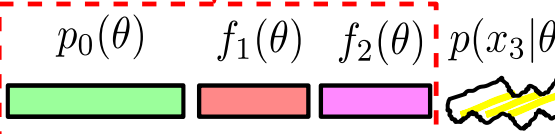



approximate

$\tilde{p}(\theta) \propto$

 \approx

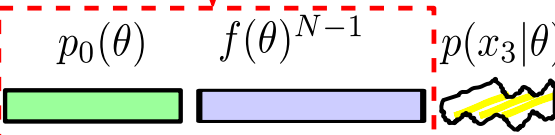
$q_{EP}^{new}(\theta) \propto$



intractable

$\tilde{p}(\theta) \propto$

 \approx



tie local factors

$\tilde{p}(\theta) \propto$

 \approx

$q_{SEP}^{new}(\theta) \propto$


memory $\mathcal{O}(D^2)$

memory $\mathcal{O}(ND^2)$