

set of c variables
connected to f

projected
message

$$m_{f \rightarrow V_i}(v_i) = \frac{\text{proj} \left[\int f(\mathcal{V}) \prod_{j=1}^c m_{V_j \rightarrow f}(v_j) d\mathcal{V} \setminus \{v_i\} \right]}{m_{V_i \rightarrow f}(v_i)} := \frac{q_{f \rightarrow V_i}(v_i)}{m_{V_i \rightarrow f}(v_i)}$$

$\text{proj}[r_{f \rightarrow V_i}] := \arg \min_{q \in \text{ExpFam}} \text{KL} [r_{f \rightarrow V_i} \parallel q]$
(projection onto exponential family)

incoming
message
from V_j