

Updated μ, ζ, σ .

Level 3 σ :

$$p(\mathcal{H}_\sigma | \mathcal{D}) = \frac{p(\mathcal{D} | \mathcal{H}_\sigma)}{p(\mathcal{D})} p(\mathcal{H}_\sigma)$$

Level 2 μ, ζ :

$$p(\mu, \zeta | \mathcal{D}, \mathcal{H}_\sigma) = \frac{p(\mathcal{D} | \mu, \zeta, \mathcal{H}_\sigma)}{p(\mathcal{D} | \mathcal{H}_\sigma)} p(\mu, \zeta | \mathcal{H}_\sigma)$$

Level 1 w, b :

$$p(\mathbf{w}, b | \mathcal{D}, \mu, \zeta, \mathcal{H}_\sigma) = \frac{p(\mathcal{D} | \mathbf{w}, b, \mu, \zeta, \mathcal{H}_\sigma)}{p(\mathcal{D} | \mu, \zeta, \mathcal{H}_\sigma)} p(\mathbf{w}, b | \mu, \zeta, \mathcal{H}_\sigma)$$

Initial μ, ζ, σ , given \mathcal{D} .