

Active-Inference-Sensory-Attenuation-illusion - Gradients

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Gradients

$$\begin{aligned}
 -\frac{\partial F}{\partial \begin{bmatrix} \mu_{x_i} \\ \mu_{x_e} \end{bmatrix}} &= \begin{bmatrix} -\frac{-\mu_{\nu_i}h + \mu_{x_i}h^2 + d\mu_{x_i}h}{\sigma_x} - \frac{\mu_{x_e} + 2\mu_{x_i} - s_p - s_s}{\sigma_s} \\ -\frac{-\mu_{\nu_e}h + \mu_{x_e}h^2 + d\mu_{x_e}h}{\sigma_x} - \frac{\mu_{x_e} + \mu_{x_i} - s_s}{\sigma_s} \end{bmatrix} \\
 -\frac{\partial F}{\partial \begin{bmatrix} d\mu_{x_i} \\ d\mu_{x_e} \end{bmatrix}} &= \begin{bmatrix} -\frac{(-\mu_{\nu_i} + \mu_{x_i}h + d\mu_{x_i})}{\sigma_x} \\ -\frac{(-\mu_{\nu_e} + \mu_{x_e}h + d\mu_{x_e})}{\sigma_x} \end{bmatrix} \\
 -\frac{\partial F}{\partial a} &= -\frac{-\mu_{x_e} \frac{\partial s_s(a)}{\partial a} - \mu_{x_i} \frac{\partial s_p(a)}{\partial a} - \mu_{x_i} \frac{\partial s_s(a)}{\partial a} + s_p(a) \frac{\partial s_p(a)}{\partial a} + s_s(a) \frac{\partial s_s(a)}{\partial a}}{\sigma_s}
 \end{aligned}$$