

Active-Inference-Sensory-Attenuation-illusion - Gradients

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Gradients

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