

Papers

The free energy principle
a unified brain theory

- * The brain always try to minimize the free energy by either acting or improving belief models
 - active inference
 - perceptual inference

Formulation

i think it is simply achievable by counting

$$F = \ln p(s, o) - E_q [\ln q(s)]$$

hidden state

obs

brain's belief distribution about hidden states

brain's current belief on what is happening in the world

brain belief distribution about hidden states

mathematical expectation

how sensorial data is generated from worlds ~~real~~ hidden states

Generative model

$$p(s, o) = p(s) p(o|s)$$

brain's previous beliefs about possible states of the world

probability of observing sensorial values o if the world is in s state

brain can minimize this by a choice between active inference and perceptual inference

↓
likelihood

Because the calculation is not possible brain uses $q(s)$

