

# Abstract

Active Inference provides a unified formalism for understanding agents that minimize variational free energy through perception and action. Beyond a theory of surprise minimization, Active Inference operates at the *meta-level*: it is *meta-pragmatic* and *meta-epistemic*, allowing modelers to specify the frameworks within which cognition occurs.

A  $2 \times 2$  matrix (Data/Meta-Data  $\times$  Cognitive/Meta-Cognitive) organizes Active Inference's contributions across four quadrants. This structure reveals how Active Inference transcends reinforcement learning by enabling specification of both epistemic structures (what can be known: matrices  $A$ ,  $B$ ,  $D$ ) and pragmatic landscapes (what matters: matrix  $C$ ).

The Expected Free Energy (EFE) formulation operates at a meta-level where modeler choices define the boundaries of both epistemic and pragmatic domains. Unlike fixed reward functions, Active Inference makes framework specification itself a research question.