Introduction

Active Inference represents a paradigm shift in our understanding of cognition, perception, and action. Originating from the Free Energy Principle [@friston2010free], Active Inference provides a unified mathematical framework for understanding biological agents as systems that minimize variational free energy through perception and action. While the framework has been successfully applied to diverse domains including neuroscience [@friston2012prediction], psychiatry [@friston2014active], and artificial intelligence [@tani2016exploring], its fundamental nature as a meta-theoretical methodology has remained underexplored.

The Traditional View: Active Inference as Free Energy Minimization

Conventionally, Active Inference is understood as a process where agents act to fulfill prior preferences while gathering information about their environment. The Expected Free Energy (EFE) formulation combines epistemic and pragmatic terms:

$$[\mathrm{F}( ) = \mathrm{E}\{q(s)\}[\log q(s\_\tau) - \log p(s\_\tau|\pi)] +$$
$$\mathbb{E}\{q(o\tau)\}[\log p(o\_\tau|s\_\tau) + \log p(s\_\tau) - \log q(s\_\tau)]]$$