Experimental Results

This section provides conceptual demonstrations of the four quadrants of the Active Inference meta-pragmatic framework. Each quadrant is illustrated with mathematical examples and conceptual analysis, showing how Active Inference operates across different levels of cognitive processing.

Quadrant 1: Data Processing (Cognitive)

Conceptual Demonstration: Basic Active Inference operation with direct sensory data processing.

Mathematical Example

Consider a simple agent navigating a two-state environment with temperature regulation:
Generative Model Specification: - States: (s_1) = "too cold", (s_2) = "too hot" - Observations: (o_1) = "cold sensor", (o_2) = "hot sensor" - Actions: (a_1) = "heat", (a_2) = "cool"
Matrix (A) (Observation Likelihoods):

$$A = \begin{pmatrix} 0.9 & 0.1 \\ \end{pmatrix}$$