Supplemental Analysis

This section provides extended theoretical analysis of meta-cognitive frameworks and their implications.

Meta-Cognitive Framework Analysis

Hierarchical Meta-Cognition

Level 1 Meta-Cognition: Monitoring basic inference processes
Level 2 Meta-Cognition: Monitoring meta-cognitive processes themselves **Level 3 Meta-Cognition:** Framework-level monitoring and adaptation

Self-Modeling Requirements

Active Inference requires systems to model themselves within the same formalism used to model the world, creating recursive self-reference.

Framework Coherence

Meta-cognitive frameworks must maintain internal consistency while adapting to changing circumstances.