Abstract

The Free Energy Principle (FEP) and Active Inference have expanded rapidly across neuroscience, robotics, biology, and formal mathematics. However, the field lacks systematic methods for tracking which of its central theoretical claims are well-supported, contested, or merely assumed. Building on the systematic literature analysis of Knight, Cordes, and Friedman knight2022fep—which pioneered manual annotation paired with ontology-based analysis at the scale of hundreds of papers—we present a computational meta-analysis framework that automates and scales this approach. Our pipeline retrieves literature from arXiv, Semantic Scholar, and OpenAlex, deduplicating records via a canonical identifier hierarchy. It classifies papers into a three-tier taxonomy spanning eight categories: A (Core Theory), B (Tools & Translation), and C (Application Domains). To transcend keyword matching, an LLM-powered extraction system evaluates each abstract against eight core hypotheses, producing structured nanopublications with directionality, confidence scores, and natural-language reasoning. These nanopublications populate an RDF-compatible knowledge