

Grounded Event-Based and Modal Representations for Objects, Relations, Beliefs, Etc.

Intelligent software agents (agents) adhering to the action selection paradigm have only one primary task that they need accomplish at any given time: to choose their next action. Consequently, modeling the current situation effectively is a critical task for any agent. With an accurate model of the current situation, actions can be better selected. We propose an event-based representational framework designed to provide grounded perceptual representations of events for agents. We describe how they are produced and detail their role in a comprehensive cognitive architecture designed to explain, integrate, and model human cognition. Event-based representations draw inspiration from research on thematic roles, and integrate research on event perception. Events are represented as parameterized actions, that is, nodes with thematic role links that can bind to Agent, Object, and other node types.