Abstract

The Logic of Hybrid Action Models is presented in this thesis along with a sound and complete Hilbert style calculus. It is an original multimodal epistemic logic that tries to give the agents (i) a strong method of communication and (ii) a rich vocabulary to communicate about by combining action models with hybrid logics. The language of the resulting logic is rather complex and includes common knowledge, deterministic action updates and all three commonly used hybrid operators @, $\downarrow$ and E. An overview of both action models and hybrid logics is included. The Hybrid Logic with Partial Denoting Nominals is briefly described and used as a stepping stone. The semantics and the Completeness Theorem of the Logic of Hybrid Action Models form the backbone of this work.

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