

How to change beliefs about concepts?

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Abstract

With the advancement of technology, a major challenge has become the ability to handle a huge amount of information. Any agent that can be called “intelligent” needs a mechanism to decide what to do with new information received.

Belief revision theory [1,5] deals with the problem of how to accommodate new information received by an agent. The new piece of information may be inconsistent with what the agent previously believed, so in order to accept it, the agent may have to abandon some of its previous beliefs. The theory can be applied in different areas, such as diagnostics (something is not working as we believe it should be), databases, program specification repair, among others.

In this lecture, I intend to introduce the area of belief revision and show an application in the area of ontology maintenance [3, 4, 6–8]. Ontologies, in Artificial Intelligence, are formal descriptions of concepts and their relationships, facilitating communication between different agents. In particular, we apply belief revision techniques to ontologies described in Description Logics [2].

References

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