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Refereed Article

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An Approach to Perception in Theory of Actions: Part I

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Abstract: *We present a preliminary approach to the coordination and control of sensing for action oriented perception in the Situation Calculus. We essentially consider visual perception, although the approach can be generalized to other forms of perception. We show that perception is an inference process that uses different levels of refinement, namely, direct perception, selective sense perception and, finally, meaningful perception. We take a cautious poiunt of view to perception which means that we see it as a reasoning process that can be ambiguous and mistaken. Agents can be committed to be attentive so as to make no mistakes. Wehn the theory does not entail that a mistake occurred then perception is considered veridic. Ambiguity is resolved via hypothetical reasoning; we call this non monotonic reasoning process that combines sensing, logical inference and hypotheses, meaningful perception.*

0.1 Publication and review history

1. First version *published* by Linköping University Electronic Press on 22.12.1999 and permanently available at
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3. Publicly *available for discussion* in the ETAI area of Reasoning about Actions and Change during January-July, 2000. The discussion protocol is available and will be retained in the Article Interaction Page at
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Besides the publication and review history, it contains links for contacting the author(s), as well as to amendments and other related information for the article. It is intended to keep these links up-to-date in the future.

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