

Extending the Knowledge Representation Model Based on Flexible Inference Engine

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Abstract

The basic knowledge representation models such as logic, rules, frames and semantic networks, has their specific inference mechanisms, each one suitable for simulating one of the intelligent characteristics of human. In this project, a uniform structure for keeping all above KR models has been selected and extended to be capable of encoding/representing the inference mechanism too. Storing the inference mechanism beside the knowledge itself, has the benefit of dominating the issues of (1) uncertainty, (2) learning, (3) self evaluation and (4) self modification to the area of inference procedures. Putting knowledge and inference procedures all together will not eliminate the need for an inference engine. The inference engine should grab the procedures from the KB as knowledge itself. The intelligent part of a soccer softbot has been implemented based on the flexible inference engine model. The effect of the use of engine on self-localization methods has been shown.