

Commonsense reasoning as a key feature for dynamic knowledge invention and computational creativity

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Inventing novel knowledge to solve problems is a crucial, creative, mechanism employed by humans, to extend their range of action. In this talk, I will show how commonsense reasoning plays a crucial role in this respect. In particular, I will present a cognitively inspired reasoning framework for knowledge invention and creative problem solving exploiting TCL: a non-monotonic extension of a Description Logic (DL) of typicality able to combine prototypical (commonsense) descriptions of concepts in a human-like fashion [1, 2].

The proposed approach has been tested both in the task of goal-driven concept invention [3,4] and has additionally applied within the context of serendipity-based recommendation systems [5]. I will present the obtained results, the lessons learned and the road ahead of this research path.

References

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