Dynamic conceptual reframing represents a crucial mechanism employed by humans, and partially by other animal species, to generate novel knowledge used to solve complex goals. In this talk, I will present a 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]. The proposed approach has been tested both in the task of goal-driven concept invention [2,3] and has additionally applied within the context of serendipity-based recommendation systems [4]. I will present the obtained results, the lessons learned and the road ahead of this research path.

References


