Machines with human-like commonsense

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Abstract
In this talk, I will review the main problems concerning commonsense reasoning in machines and I will present resent two different applications - namely: the Dual PECCS linguistic categorization system ([Lieto et al., 2015], [Lieto et al., 2016], [Lieto et al., 2017b] [Lieto, 2019] [Lieto, 2014] [Lieto et al., 2017a]) and the TCL reasoning framework ([Lieto and Pozzato, 2020], [Lieto and Pozzato, 2018] [Lieto et al., 2019b] [Chiodino et al., 2020a] [Lieto et al., 2021]) that have been developed to address, respectively, the problem of typicality effects and the one of commonsense compositionality, in a way that is integrated or compliant with different cognitive architectures [Lieto et al., 2017b] [Lieto et al., 2019a], [Chiodino et al., 2020b] thus extending their knowledge processing capabilities [Lieto et al., 2018b] [Lieto et al., 2018a].

In doing so I will show how such aspects are better dealt with at different levels of representation and will discuss how the adoption of a cognitively-inspired approach [Lieto, 2021] can be useful in the design and implementation of the next generation AI systems mastering commonsense.

References


