

Functional and Structural Models of Commonsense Reasoning in Cognitive Architectures

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Abstract

In this talk, I will present two different applications - namely: Dual PECCS ([Lieto *et al.*, 2015], [Lieto *et al.*, 2016], [Lieto *et al.*, 2017] [Lieto, 2019]) and the TCL reasoning framework ([Lieto and Pozzato, 2020], [Lieto *et al.*, 2019b] [Chiodino *et al.*, 2020a] [Lieto *et al.*, 2021]) - addressing some crucial aspects of commonsense reasoning: dealing with typicality effects and with the problem of commonsense compositionality, in a way that is integrated or compliant with different cognitive architectures [Lieto *et al.*, 2017] [Lieto *et al.*, 2019a], [Chiodino *et al.*, 2020b].

In doing so I will show how such aspects are better dealt with at different levels of representation and will discuss the adopted solution to integrate such representational layers. In addition, by using the Minimal Cognitive Grid introduced in [Lieto, 2021], I will show how such systems can be assigned and ranked in the functional vs structural continuum of artificial systems in both a quantitative and qualitative way.

References

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