Cognitive Neurorobotics Study Using Predictive Coding Framework

Submission ID 3000101

Submission Type Poster

Topic Cognitive Science

Status Submitted

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SUBMISSION DETAILS

Presentation Type Oral Presentation

Presentation Abstract Summary The current paper proposes that the mind is comprised of emergent phenomena, appearing via intricate and often conflictive interactions between top-down intentions for acting on the external world and the bottom-up recognition of the resultant perceptual reality. It is presumed that the neural structure necessary for autonomously generating complex actions as well as for recognizing such intentions in others naturally develops through interactions entangling these two processes. This hypothesis is evaluated by reviewing a set of neurorobotics experiments performed by the author's group which use predictive coding as the principle guiding embodied cognition.

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Keywords

Keywords
predictive coding
Embodiment
recurrent neural networks
compositionality