

Cognitive Modeling with Multiagent Systems

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ABSTRACT. The computational modeling of cognition highly benefits from the use of computer models of the learning of behavioral and cognitive capabilities in simulated agents, such as for language development and evolution, or for the development of sensorimotor skills. Through the simulation of the dynamics and interactions in groups of agents it is possible to investigate the role of social and group-based processes contributing to the development of cognition. In addition, multiagent systems can be used to investigate phylogenetic processes affecting the evolution of cognitive capabilities. Examples of multiagent systems methodologies used for the study of cognition are artificial life models and evolutionary robotics. The main areas of investigation in this field are language learning and sensorimotor strategy development.