Multi-Agent Decision Making System based on Membrane Computing

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Abstract

This paper presents certain results obtained in the domain of applying Membrane Computing models in the modeling and designing of Multi-Agent systems for decision making. The presented results highlight the method of presenting the topology of Multi-Agent systems and the mode of its formal description in order to allow their automatic implementation in Software products or Hardware architectures. The JSON format, which allows the structuring of code according to the topology of Membrane Computing model, is used for the formal description of Membrane Computing models. The functioning model of living cells is at the basis of Membrane Computing. A cell is associated with a computing system that contains input/output ports, the knowledge base consisting of the set of Data and Methods of processing them, and a processor.

Keywords: membrane computing, decision making systems, biocomputing, multi-agent systems

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