

NOTES ABOUT SPIKING NEURAL P SYSTEMS

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Spiking neural P systems (SN P systems, for short) are much investigated in the last years in membrane computing, but still many problems and research topics are still open in this area. Here, we first recall two such problems (both related to neural biology) from [15]. One of them asks to build an SN P system able to store a number, and to provide it to a reader without losing it, so that the number is available for a further reading. We build here such a memory module and we discuss its extension to model/implement more general operations, specific to (simple) databases. Then, we formulate another research issue, concerning pattern recognition in terms of SN P systems. In the context, we define a recent version of SN P systems, enlarged with rules able to request spikes from the environment; based on this version, so-called SN dP systems were recently introduced, extending to neural P systems the idea of a distributed dP automaton. Some details about such devices are also given, as a further invitation to the reader to this area of research.

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