



AN INTELLIGENT DISCRETE EVENT APPROACH TO MODELING, SIMULATION AND CONTROL OF AUTONOMOUS AGENTS

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ABSTRACT—In this paper we investigate an intelligent discrete event method suitable for modeling, simulation and control of hybrid systems. More in detail, a Fuzzy logic approach based on Discrete Event System Specification (DEVS), which is a main part of Intelligent-DEVS (I-DEVS), is emphasized in the present work. We show that the resulting Discrete Event Fuzzy Logic (DEFuL) is faster than conventional implementations. A case study is set up, which involves some robots that cooperate to complete a common task, illustrating how the above concepts can be fruitfully applied.

Key Words: DEVS, I-DEVS, V-Lab®, Hybrid Systems, Fuzzy Logic, Modeling, Simulation, Discrete Event

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