

"Testing Agent Academy: a new methodology for training intelligent agents"

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Abstract

Agent Academy (AA) is a software platform under development, which enables the creation of multi-agent systems with learning capabilities. By Agent Academy we introduce the idea of training intelligent agents using data mining techniques on agent data. We specify agent data as the result of monitoring a large amount of agent activity logs, as well as domain-specific data with respect to a certain application. Our methodology is based on the application of data mining techniques on agent data, and the extraction of rules, which determine new behaviours on agents. In order to prove practical relevance and applicability of the results reached by the project, three different test cases have been devised, each one is developed by a specific company of the AA project-consortium and is targeted towards a unique goal in a special field of interest.

Specifically, the first test case, developed by ALTEC, addresses issues concerning Supply Chain Management (SCM). ALTEC of Greece possesses significant experience in this field, since it has already developed enterprise-oriented solutions, which include, among others, a major large-scale ERP system. The second test case is going to be developed by IDI EIKON of Spain and its purpose is to evaluate the use of AA trained agents in a real-time context.

In particular, IDI EIKON is going to perform the O3RTAA experiment, a Real-time Ozone Monitoring and Alarming application. Finally, the AMADEE test case scenario addresses web-based applications for distributed service management. AMADEE of Germany recognizes that a fast growing number of companies worldwide faces the need for establishing a DSM system for matching their customers' needs in the after sales phase.

A detailed description of the first case (Supply Chain Management) is concerned within the scope of this paper. Also a summarized description of the second test case is discussed.