

Call for Papers

Simulation: Transactions of the Society for Modeling and Simulation International

Special Issue: Agent-Directed Simulation

Introduction

The advance of the agent paradigm in the Distributed Artificial Intelligence (DAI) field has been a key facilitator for agent-based computing. Following this trend, agent-based modeling and simulation received increased attention during the last few years from a wide variety of engineering and scientific communities. The purpose of this special issue is to facilitate dissemination of most recent advancements in the theory and methodology of agent-directed simulation. Developments in theory and methodology are expected to boost opportunities for previously unforeseen application domains. As the envelope of theory, methodology and infrastructures increases, so does the perimeter of ambitious agent-based projects. To this end, this special issue is devoted to emergent agent theories, methodologies, and environments that can facilitate analysis, design, and implementation of agent-directed simulations. Agent-directed simulation consists of three distinct, yet related areas that can be grouped under two categories as follows:

- (1) Simulation for Agents: simulation of agent systems in engineering applications, human and social dynamics, ecosystem modeling, and military applications.
- (2) Agents for Simulation: *agent-supported simulation* deals with the use of agents as a support facility to enable computer assistance in problem solving or enhancing cognitive capabilities; *agent-based simulation* focuses on the use of agents for the generation of model behavior in a simulation study.

We invite submissions for a special issue on Agent-Directed Simulation. Topics for contributions include, but are not limited to:

- Theories and methodologies for agent-based model specification and implementation.
- Tools, toolkits, and environments for agent-directed simulation.
- Theory and methodology for new types of intentional agents such holons and holarchies.
- Agent methodologies that enable modeling adaptive self-organizing systems and organizations.
- Tools and techniques for the verification and validation of agent-based models.

Of particular interest in topics are (1) innovative theories on agent-directed simulation methods, architectures, agent interaction protocols and mechanisms, knowledge representation for agents, and new forms of reactive and intentional agents, (2) emergent methodologies for modeling agents to advance the state of the art in specification, implementation, and verification of agent societies, and (3) tools, toolkits, and environments for agent society simulators. Paper submissions must be original and contain high-quality contributions to advance various facets of agent-directed modeling and simulation.

Instructions for manuscript preparation

Manuscripts must not have been previously published or be submitted for publication elsewhere. Each submitted manuscript must include title, names, authors' affiliations, postal and e-mail addresses, an abstract (200 words or less), and a list of keywords. For multiple author submission, please identify the corresponding author.

Deadlines

Intent of submitting an article: as soon as possible

Submission of full manuscripts: July 10, 2004

Referee reports and decision: November 10, 2004

Submission of revised articles: January 10, 2005

Publication: May 2005

Submissions for full paper review

Manuscripts should be prepared and sent via email to Tuncer Ören. Submissions must be in PDF format.

Final paper submissions

Each final submission must be prepared based on the Simulation journal requirements (see the Author Guidelines for SIMULATION page at <http://www.scs.org/pubs/simguidelines.html>).

For questions contact either of the editors at:

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