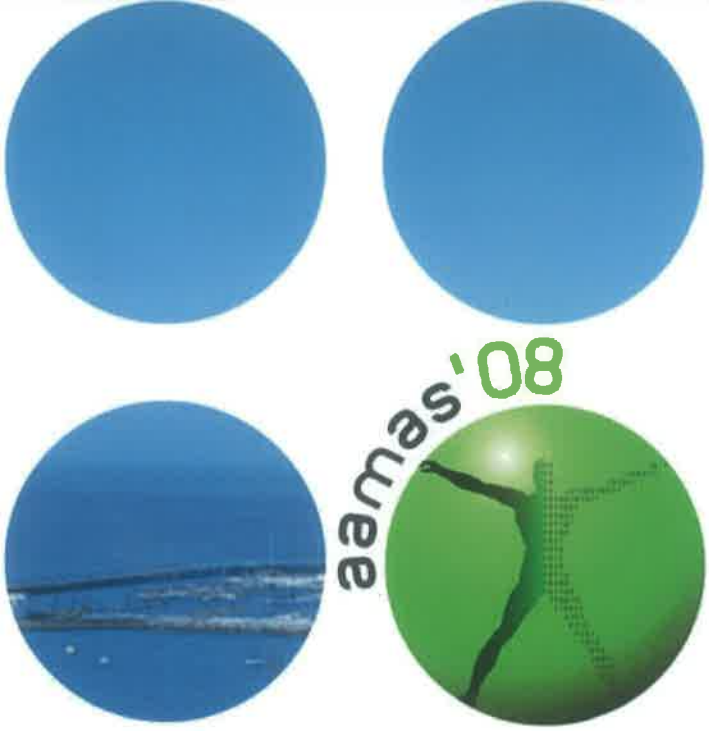

The Seventh International Conference on Autonomous Agents and Multiagent Systems

Estoril, Portugal
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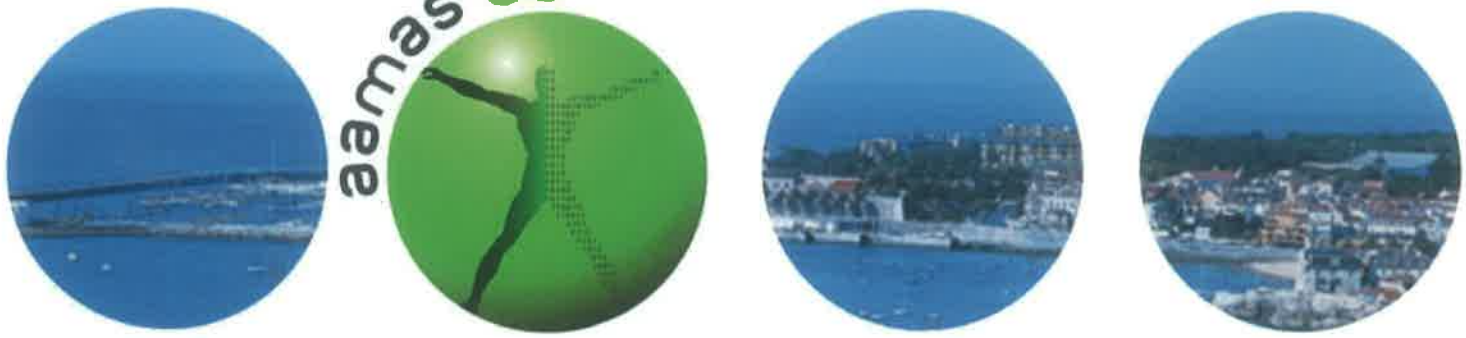

Workshop 4: Programming Multi-Agent Systems

Koen Hindriks
Alexander Pokahr
Sebastian Sardina
(Editors)

Planning for Interactions among Autonomous Agents

Invited Talk

Dana S. Nau

University of Maryland, College Park, MD, USA

Abstract. This talk will focus on ways to plan an autonomous agent's interactions with other autonomous agents.
Sometimes it is feasible to model the other agents' possible actions as nondeterministic outcomes of our agent's own actions. For this case, we can plan how to achieve a desired goal using symbolic model checking, HTN planning, or a combination of the two.
Sometimes it may not be feasible to generate a plan or policy that goes all the way to a goal, either because the search space is too large or the goal is ambiguously defined. For such cases, it can work well to interleave planning and execution if we have a good predictive model of how the other agents are likely to behave.
Professor Nau will present theoretical foundations and algorithms for the above situations, and experimental results on the Hunter-and-Prey domain, the Iterated Prisoner's Dilemma with Noise, and other multi-agent planning domains.

Biography

Dana Nau is a Professor of both Computer Science and Systems Research at the University of Maryland, and is co-director of the university's Laboratory for Computational Cultural Dynamics. He has more than 300 refereed technical publications on automated planning, search algorithms, game theory, and other topics. He has received an NSF PYI award, several best-paper awards, and several prizes for the performance of software systems. He is a Fellow of the Association for the Advancement of Artificial Intelligence (AAAI).