

# Lecture Notes in Artificial Intelligence 3394

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# Adaptive Agents and Multi-Agent Systems II

Adaptation and Multi-Agent Learning



Springer

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# Preface

Predictions are a delicate matter. The I-told-you-this-was-going-to-happen ones are reliable, but not very helpful, as they only achieve credibility *post factum*. Similarly uninteresting are those of the shrowded-in-mystery, match-it-all type. Finally, when a respected person has both a vision and courage to state it, the future could prove him right, yet realize his dream with an unexpected twist. A solitary multimillionaire's round trip to an ageing orbital station is far from the crowds of space tourists predicted by A.C. Clark. However, when he said there would be hotels in space by 2001, he was spot on, despite the modest beginning.

We also met the year 2001 magical milestone to the future without being surrounded by either Arthur C. Clark's intelligent computers or their moody cousins of Douglas Adams's cut. However, one of the many small steps in this direction was made when the 1st Symposium on Adaptive Agents and Multi-agent Systems (AAMAS) was organized in that year. In front of you is a collection of selected papers from the 3rd and 4th AAMAS symposia, which persisted in the goals set in 2001, namely, to increase awareness and interest in adaptive agent research, encourage collaboration between machine learning and agent system experts, and give a representative overview of current research in the area of adaptive agents.

Recent years have seen an increasing interest, and the beginning of consolidation of the European research community in the field. Still, there are many major challenges left to tackle. While our understanding of learning agents and multi-agent systems has advanced significantly, most applications are still on simple scaled-down domains, and, in fact, most methods do not scale up to the real world. This, amongst others, is a major obstacle to bring learning agent technologies to commercial applications. Stay tuned for new developments in the – hopefully near – future.

The first book on the subject (Springer LNAI, vol. 2636), largely based on contributions to AAMAS and AAMAS-2, was published in 2002. It is with delight that we present another volume of articles in this emerging multidisciplinary area encompassing computer science, software engineering, biology, as well as the cognitive and social sciences.

Our thanks go to the symposium keynote speakers, Jürgen Schmidhuber and Sorin Solomon, for writing invited papers for this volume, the members of the symposium Program Committee for fast and thorough reviews, AgentLink II & III Networks of Excellence for co-sponsoring the symposium, the Society for the Study of Artificial Intelligence and the Simulation of Behaviour (SSAISB) for providing outstanding help in the organization of this event, and, of course, special thanks to the authors without whose high-quality contributions there would not be a book to begin with.

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