Preface

These are the proceedings of the Fourth International Workshop on Cooperative Information Agents, held in Boston Massachusetts, USA, July 7-9, 2000.

Cooperative information agent research and development focused originally on accessing multiple, heterogeneous, and distributed information sources. Gaining access to these systems, through Internet search engines, application program interfaces, wrappers, and web-based screens has been an important focus of cooperative intelligent agents. Research has also focused on the integration of this information into a coherent model that combined data and knowledge from the multiple sources. Finally, this information is disseminated to a wide audience, giving rise to issues such as data quality, information pedigree, source reliability, information security, personal privacy, and information value. Research in cooperative information agents has expanded to include agent negotiation, agent communities, agent mobility, as well as agent collaboration for information discovery in constrained environments.

The interdisciplinary CIA workshop series encompasses a wide variety of topics dealing with cooperative information agents. All workshop proceedings have been published by Springer as Lecture Notes in Artificial Intelligence, Volumes 1202 (1997), 1435 (1998), and 1652 (1999), respectively. This year, the theme of the CIA workshop was "'The Future of Information Agents in Cyberspace", a very fitting topic as the use of agents for information gathering, negotiation, correlation, fusion, and dissemination becomes ever more prevalent. We noted a marked trend in CIA 2000 towards addressing issues related to *communities of agents* that: (1) *negotiate* for information resources, (2) *build robust ontologies* to enhance search capabilities, (3) *communicate* for planning and problem solving, (4) *learn and evolve* based on their experiences, and (5) assume increasing degrees of autonomy in the control of complex systems.

CIA 2000 features 8 invited and 15 contributed papers selected from 44 submissions.

Boston, July 2000   Matthias Klusch and Larry Kerschberg

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