

Book Review: "*Multiagent Systems: A Modern Approach to Distributed Artificial Intelligence*", Edited by Gerhard Weiss, MIT Press, 1999.

Multiagent Systems is the title of a collection of papers dedicated to surveying specific themes of Multiagent Systems (*MAS*) and Distributed Artificial Intelligence (*DAI*). All of them authored by leading researchers of this dynamic multidisciplinary field.

MAS and *DAI* researchers and practitioners, both industrial and commercial, have produced results that are changing the way we think about solving computational problems. The extraordinary number of conferences, workshops, and meetings held every year all over the world shows the relative importance of the area of *MAS* and *DAI*. The term *Agent* is pervading almost all of Computer Science.

The subject of the book is evolving at a rapid pace. At the time of its writing, and of this review, there is still a lack of consensus on many relevant issues. Practice drives theory and the academia produces new proposals in an ever-expanding manner.

The editor has made an effort to address the problem of the large scope and variety of the area. At the same time, attention has been directed to the theoretical issues as well as to the practical ones, even though only Chapter 9, *Industrial and Practical Applications of DAI*, is directed to the area of applications. The book is organized in two parts: *Basic Themes*, covering the core themes in *MAS* and *DAI*, and *Related Themes*, devoted to closely related areas within Computer Science. Including the latter results is an important feature of this book. The recognition of the related topics in neighboring areas is important as a sign of the evolution of the field.

The book could be used as a textbook for a graduate course in Computer Science. Nevertheless, some additional material could be useful to complement each of the chapters. The collection of works provides enough material to organize a very complete *Readings in MAS and DAI* graduate course. The editor claims in the preface that it can be read without specific prior knowledge and that a background in Computer Science and Mathematics/Logic would be helpful to use all parts of the book efficiently. I would disagree. Almost all of the chapters require solid knowledge of Computer Science and Mathematics and at least one of them, Chapter 8 *Formal Methods in DAI*, requires more than superficial knowledge of Logic.

Exercises are a very interesting addition to the book. This addition transforms the collection of works into a textbook. Each chapter provides a suit of exercises classified in four levels according to their difficulty. The first two levels are solvable with the material in the book. The next level contains topics under research. The last one includes hard problems that are currently open research questions.

Finally, the book contains a *Glossary*. This is a very useful device for providing a common thread throughout the book making it coherent. This effort by the authors also gives an opportunity for establishing *accepted* definitions and to put some order in the diversity of the field.

In conclusion, *Multiagent Systems* is an excellent book. I recommend it as a textbook for a Computer Science graduate course, perhaps to be used alongside other material to broaden coverage.

Dr Guillermo Simari