

CALL FOR CHAPTER PROPOSALS
Proposal Submission Deadline: November 20, 2011
Computational Intelligence in Multi-Agent Systems: Theory and Practice

A book edited by
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Introduction

Every autonomous software component could be considered an *agent*. Researchers have actively studied agents for many years due to the advantages they offer to many research domains in computer science. Intelligent agents offer more, since they are able to be adapted to the users' needs and their environment. Nowadays, agents are the carrier of *computational intelligence* in every aspect of research. They are enhanced by intelligent techniques taken from various research domains such as Fuzzy Set Theory, Swarm Intelligence, Ontological and Approximate Reasoning, and Machine Learning. The combination of the autonomous and adaptive nature of agents with the intelligence that can be provided by the aforementioned techniques could lead to collaborative multi-agent systems that offer more efficient pervasive applications for users. Developers will have the appropriate tools for the creation of intelligent and adaptive pervasive applications utilizing state-of-the-art techniques. The main focus of this book will be on certain theories and the practical applications that use intelligent agents acting based on computational intelligence techniques found in other domains of Computer Science. This book will record recent developments in this field. Of special importance will be the adoption of Swarm Intelligence and Fuzzy Logic in multi-agent systems providing the means for knowledge representation, reasoning, inference and consensus decision making.

Objective of the Book

This book aims to provide an elaboration of theories and practices on Fuzzy Logic, Swarm Intelligence, Evolutionary Computation, and Ontological Engineering applied in multi-agent systems. The book will study issues concerning the adaptation of intelligent systems as well as the usage of modern intelligent techniques by agents. Hence, the interested readers will be able to find in this book all the modern approaches in the considered fields. We believe that this book will provide an overview of the recent developments in combination with practical applications giving the image of how intelligent techniques will assist users in finding and consuming the appropriate information and pervasive services.

Target Audience

The book will be useful for researchers, technicians and students in the following areas of Computer Science: Multi-agent systems, Fuzzy Logic, Swarm Intelligence, Knowledge Representation and Reasoning, Ontological Engineering and Semantic

Web, Machine Learning. Moreover, the book will provide relevant theoretical background and latest empirical results.

Recommended topics include, but are not limited to, the following:

- Agents in:
 - *Electronic Markets and Auctions*
 - *Intelligent Systems*
 - *Semantic Web*
 - *Multimedia Systems*
 - *Automated Planning Systems*
 - *Data Mining and Information Retrieval Systems*
 - *Pervasive Computing*
- Agents using:
 - *Ontologies for Knowledge Representation and Reasoning Techniques*
 - *Fuzzy Logic*
 - *Machine Learning Techniques*
 - *Swarm Intelligence*
 - *Game Theory*
- *Learning and Adaptation in Agent Systems*
- *Web Services and Intelligent Agents*
- *Trust and reputation in Agent Systems*
- *Practical Applications of Agent Systems*
- *Decision Making in Agent Systems*

Submission Procedure

Researchers and practitioners are invited to submit on or before **November 20, 2011**, a 2-3 page chapter proposal clearly explaining the mission and concerns of their proposed contributions. Authors of accepted proposals will be notified by **December 20, 2011** on the status of their proposals and provided with further guidelines. Full chapters are expected to be submitted by **March 4, 2012**. All submitted chapters will be reviewed on a double-blind review basis. Contributors may also be requested to serve as reviewers for this project.

Publisher

This book is scheduled to be published by IGI Global (formerly Idea Group Inc.), publisher of the “Information Science Reference” (formerly Idea Group Reference), “Medical Information Science Reference,” “Business Science Reference,” and “Engineering Science Reference” imprints. For additional information regarding the publisher, please visit www.igi-global.com. This publication is anticipated to be released in 2012.

Important Dates

November 20, 2011: Proposal Submission Deadline
December 20, 2011: Notification of Acceptance
March 4, 2012: Full Chapter Submission
May 20, 2012: Review Results Returned
June 20, 2012: Final Chapter Submission
July 25, 2012: Final Deadline

*Inquiries and submissions can be forwarded **electronically** (Word or Latex document) or by **mail** to:*

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