

Multiagent Systems

Multiagent systems combine multiple autonomous entities, each having diverging interests or different information. This comprehensive overview of the field offers a computer science perspective but also draws on ideas from game theory, economics, operations research, logic, philosophy, and linguistics. It will serve as a reference for researchers in each of these fields and be used as a text for advanced undergraduate or graduate courses.

The authors emphasize foundations to create a broad and rigorous treatment of their subject, with thorough presentations of distributed problem solving, non-cooperative game theory, multiagent communication and learning, social choice, mechanism design, auctions, cooperative game theory, and modal logics of knowledge and belief. For each topic, basic concepts are introduced, examples are given, proofs of key results are offered, and algorithmic considerations are examined. An appendix covers background material in probability theory, classical logic, Markov decision processes, and mathematical programming.

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Multiagent Systems

Algorithmic, Game-Theoretic, and Logical Foundations

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To my wife, Noa, and my daughters, Maia, Talia, and Ella
—YS

To Jude
—KLB

