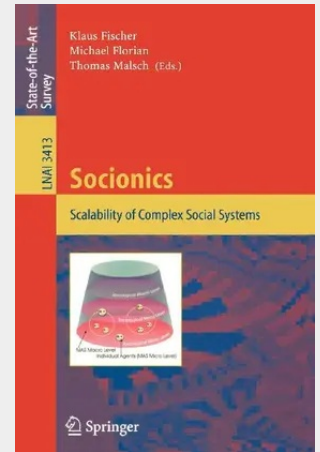


Socionics

Scalability of Complex Social Systems

This book is an outcome of the Socionics Research Framework. The roots of Socionics lie in the 1980s when computer scientists in search of new methods and techniques of distributed and coordinated problem-solving first began to take an engineering interest in sociological concepts and theories. Just as biological phenomena are conceived of as a source of inspiration for new technologies in the new research field of bionics, computer scientists working in Distributed Artificial Intelligence (DAI) became interested in exploiting phenomena from the social world in order to construct Multiagent Systems (MAS) and, generally, to build open agent societies or complex artificial social systems. Socionics is driven by the underlying assumption that there is an inherent parallel between the 'up-scaling' of MAS and the 'micro-macro link' in sociology. Accordingly, one of the fundamental challenges of Socionics is to build large-scale multiagent systems which are capable of managing 'societies of autonomous computational agents' in large open information environments' ([9, p. 112]). As more sophisticated interactions become common in open MAS, the demand to design reliable mechanisms coordinating large-scale networks of intelligent agents grows. Suitable design mechanisms may enhance the development of 'truly open and fully scalable multiagent systems, across domains, with agents capable of learning appropriate communications protocols upon entry to a system, and with protocols emerging and evolving through actual agent interactions' ([10, pp. 3]) which is considered as the ultimate goal in fulfilling the roadmap of agent technology.

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