The AISB 2010 Symposium on Social Networks and Multiagent Systems

One of the most interesting research topics in the field of multiagent systems is the definition of models with the aim of representing social structures such as organizations and coalitions, to control the emergent behavior of open systems. Organizations and coalitions are composed by individuals, related to each other by different possible kinds of relations such as dependencies on goals, conflicts on resources, similar beliefs and so on. One important issue is how to represent these relations. Moreover, like human organizations, these social structures are characterized also by an high degree of dynamism.

In dealing with societal issues, the multiagent systems field took inspiration mostly from organizational theory in economics and legal theory, while less attention is devoted to the research area describing the relations among the individuals inside human organizations and their dynamics: social network analysis. Social network analysis has emerged as a key technique in modern sociology, anthropology, social psychology, communication studies, information science, organizational studies, economics as well as a popular topic of study. Social network analysis views social relationships in terms of nodes and ties. Nodes are the individual actors within the networks, and ties are the relationships between the actors. Research in a number of academic fields has shown that social networks play a critical role in determining the way problems are solved, organizations are run, and the degree to which individuals succeed in achieving their goals.

Despite the common object of study, multiagent systems and social network analysis use concepts like agents, relationships, dependencies, and so on which often have only superficial similarities. The aim of this symposium is to underline the differences and the similarity points between social network analysis and multiagent systems in the representation of the social structures and their dynamics, and to promote the interchange of knowledge and methodologies among the two research fields.

The first edition of the Symposium was in 2009 at the AISB Convention with the theme "Adaptive and Emergent Behaviour and Complex Systems". Both social networks analysis and multiagent systems deal with the behavior of complex systems composed by many agents and have among their research topics adaptivity and emergence, since it is not realistic to consider only top-down rigidly designed social systems. This first edition highlighted that the two disciplines of multiagent systems and social network analysis need each other in order to define models with the aim of representing social structures such as organizations and control the emergent behavior of open systems, as underlined also by the Agentlink RoadMap (www.agentlink.org).

The interest in the papers of this second edition of the Symposium goes from social network analysis concerning the social network Facebook showing how social interactions among users come out from the grouping of common interests to the application of finite state machines and fuzzy set methods to the simulatation of the behaviour of multiagent systems modeled on the notion of power. A relevant issue in this edition consists in the presence of papers about norms in multiagent systems and social network analysis. This could be an almost unexplored and fashinating proposal of bridging the two areas.

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