

Social Influence: Logical, Cognitive and Legal Aspects

PhD project proposal

Research group: LILaC, at Université Toulouse 1 Capitole

Supervisors: Emiliano Lorini

Context

The aim of this PhD project is to provide a comprehensive formal account, based on *logic* and *game theory*, of the concept of social influence focusing on its cognitive and legal aspects. The models of social influence developed in the context of the PhD project are intended to be both explanatory and implementable in a computer program. Moreover, they are intended to be exploitable in practice in the legal domain for automatic verification of responsibility. The main underlying assumption of the PhD project is that agents are, by definition, cognitive agents, that is to say, they are endowed with mental states (e.g., beliefs and preferences) and their behaviors are mainly influenced by these mental states (i.e., agents make decisions on the basis of their beliefs and preferences). This distinguishes this PhD project from many previous and current approaches to social influence in the literature. Agents in the societies can be either human agents or artificial agents. The focus of the PhD project is both on: (i) the present society in which human agents interact with the support of ICT through social networks and media, and (ii) future society with mixed interactions between human agents and artificial systems such as autonomous agents and robots. Indeed, new technologies will come for future society in which such artificial systems will play a major role, so that humans will necessarily interact with them in their daily lives. This includes autonomous cars and other vehicles, robotic assistants for rehabilitation and for the elderly, robotic companions for learning support

Supervision and Research Environment

The PHD thesis is going to be supervised by Emiliano Lorini from the LILaC group at IRIT, located at the Université Paul Sabatier, Toulouse. The LILaC group has a longstanding expertise in formal models for multiagent systems (logics for multi-agent system, reasoning about change) and game theory. Starting point for the investigations of the PhD candidate will be the recently published papers by the PhD supervisor:

E. Lorini and G. Sartor. A STIT logic analysis of social influence. In Proceedings of the 13th International Joint Conference on Autonomous Agents and Multi-Agent Systems (AAMAS 2014), ACM Press, 2014.

E. Lorini and G. Sartor. A STIT logic for reasoning about social influence. Studia Logica, 104(4), 773-812, 2016.