Modeling Human Behavior in Strategic Settings

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Core A (Room 301)

Abstract

In order to do a good job of interacting with people, a system must have an adequate model of how people will react to its actions. This is particularly true in "strategic settings": settings that contain multiple agents, each with their own goals and priorities, in which each agent’s ability to accomplish their goals depends partly on the actions of the other agents. Standard models of strategic behavior assume that the participants are perfectly rational. However, a wealth of experimental evidence shows that not only do human agents fail to behave “rationally” according to these models, but that they frequently deviate from these models’ predictions in a predictable, systematic way.

In this talk, I will survey my work on modeling human behavior in unrepeated, simultaneous-move games. These games can be used to analyze a surprising number of application domains, such as the advertising auctions that fund the major search engines, or the algorithms that are used to optimize the allocation of security personnel in ports and airports.

Bio

James Wright is a Ph.D. candidate in Computer Science at the University of British Columbia, advised by Kevin Leyton-Brown. He studies problems at the intersection of behavioral game theory and computer science, with a focus on applying both machine learning techniques and models derived from experimental and behavioral economics to the prediction of human behavior in strategic settings. He also studies the implications of behavioral game theoretic models on multiagent systems and mechanisms.

Faculty Host: Vladimir Pavlovic