

EINLADUNG

Zeit: Mittwoch, 27. Januar 2010, 15.00 Uhr

Ort: Seminarraum 5052, Ahornstr. 55

Referent: Dipl.-Inform. Michael Ummels

Thema: Stochastic Multiplayer Games
Theory and Algorithms

Stochastic games provide a versatile model for the modelling of systems that consist of several components and are under the influence of random events. So far, their analysis has concentrated on the case of only two players who play against each other. In this work, we advance the algorithmic theory of stochastic games to incorporate more than two players whose objectives may not necessarily be conflicting.

Several solution concepts have been proposed for games with multiple players. We concentrate on Nash equilibria and their refinements, provide a rigorous analysis of their complexity in stochastic games, and construct efficient algorithm for special cases. In particular, we establish that, while finding *any* equilibrium is computationally manageable, it is harder to find one which fulfils certain constraints on the payoff, such as requiring that the “good” players who represent the system win almost surely. The exact complexity depends on the type of strategies that is allowed and ranges from polynomial time to undecidability.

Es laden ein: Die Dozenten der Informatik