October 10th, 2020
Zoom Meeting
2:00 P.M. - 3:00 P.M.

Prof. Asaf Cohen

(University of Michigan)

Analysis of a Finite State Many Player Game Using its Master Equation

Abstract: We consider an n-player symmetric stochastic game with weak interaction between the players. Time is continuous and the horizon and the number of states are finite. We show that the value function of each of the players can be approximated by the solution of a partial differential equation called the master equation. Moreover, we analyze the fluctuations of the empirical measure of the states of the players in the game and show that it is governed by a solution to a stochastic differential equation. Finally, we prove the regularity of the master equation, which is required for the above results. (This is a joint work with Erhan Bayraktar).

Zoom link:

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