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ONE WORLD OPTIMIZATION SEMINAR

November 2nd 2020 @ 15:30 CET (Central European Time)

UDAY V. SHANBHAG

(Pennsylvania State University)

Inexact and Distributed Best-Response Schemes for Stochastic Nash Equilibrium Problems

Abstract. We consider the class of Nash equilibrium problems where players solve convex optimization problems with expectation-valued objectives. In the first part of the presentation, we discuss a class of inexact best-response schemes in which an inexact best-response step is computed via stochastic approximation. We consider synchronous, asynchronous, and randomized schemes and provide rate and complexity guarantees in each instance. In the second part of the presentation, we consider distributed best-response schemes for aggregative games. In such settings, an (inexact) best-response step is overlaid with a consensus step. In addition to the oracle and iteration complexity, we examine the communication complexity of such schemes for computing suitably defined ϵ -stochastic Nash equilibria.

This first part of this is joint work with Jinlong Lei, Jong-Shi Pang and Suvrajeet Sen while the second part of this work is joint with Jinlong Lei.

The link of the zoom-room of the meeting and the corresponding password will be announced the day before the talk on the mailing list of the seminar, to which one can subscribe on <https://owos.univie.ac.at>.