

VORträge zum Operations Research

Kolloquium des Instituts für Operations Research

<i>Zeit:</i>	Donnerstag, 30. November 2023, 17:30 Uhr
<i>Ort:</i>	Raum 320, Gebäude 09.21
<i>Es spricht:</i>	Prof. Dr. Mathias Staudigl
<i>Zum Thema:</i>	Regularization and Variance Reduction in Stochastic Hierarchical Games

The theory of learning in games has so far focused mainly on games with simultaneous moves. Recently, researchers in machine learning have started investigating learning dynamics in games involving hierarchical decision-making. We consider an N -player hierarchical game in which the i -th player's objective comprises of an expectation-valued term, parametrized by rival decisions, and a hierarchical term. Such a framework allows for capturing a broad range of stochastic hierarchical optimization problems, Stackelberg equilibrium problems, and leader-follower games. We develop an iteratively regularized and smoothed variance-reduced modified extragradient framework for learning hierarchical equilibria in a stochastic setting. We equip our analysis with rate statements, complexity guarantees, and almost-sure convergence claims. We then extend these statements to settings where the lower-level problem is solved inexactly and provide the corresponding rate and complexity statements.

Die Vorträge zum Operations Research wenden sich an alle Interessierten!

Bei Rückfragen wenden Sie sich bitte an:
Prof. Dr. Oliver Stein, Institut für Operations Research