Analysis Seminar

A topology for policies in stochastic teams and existence of optimal policies

By

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Abstract: Decentralized stochastic control theory studies decisions of agents that are acting collectively based on their local information to optimize a common cost function under stochastic uncertainty. It will be a prominent avenue of research for many years to come as modern control systems are increasingly decentralized and interconnected. In this talk, we establish the existence of optimal policies for decentralized stochastic optimal control problems. We first consider the static case and show the existence of optimal policies under certain regularity conditions on the observation channels by introducing a topology on the set of policies.
Then we consider sequential dynamic teams and establish the existence of an optimal policy via the static reduction method of Witsenhausen. We apply our findings to the well-known counterexample of Witsenhausen.

Date: Wednesday, September 29, 2021
Time: 18:00-19:00, GMT+3.
Place: ZOOM
To request the event link, please send a message to goncha@fen.bilkent.edu.tr