November 2nd, 2020

Zoom Meeting

2:00 P.M. - 3:00 P.M.

Prof. Song Yao

(University of Pittsburgh)

Optimal Stopping with Expectation Constraint

Abstract: We study an optimal stopping problem with expectation constraint in a general non-Markovian framework. We show that the optimal stopping problem with expectation constraint in a concrete probability setting is equivalent to the constrained problem in weak formulation (optimization over joint laws of stopping rules with Brownian motion and state dynamics on an enlarged canonical space). Thus the value of the optimal stopping problem with expectation constraint is independent of the specific probabilistic setting. Using a martingale-problem formulation, we make an equivalent characterization of the probability class in the weak formulation, which implies that the value function of the constrained optimal stopping problem is upper semi-analytic. Then we exploit a measurable selection argument to establish a dynamic programming principle (DPP) in the weak formulation for the value of the optimal stopping problem with expectation constraint, in which the conditional expected cost acts as an additional state.

Zoom link:

Join Zoom Meeting
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Meeting ID: 281 330 4778
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