

March 8th, 2021
Zoom Meeting
2:00 P.M. - 3:00 P.M.

Prof. Martin Larsson
(Carnegie Mellon University)

Finance and Statistics: Trading Analogies for Sequential Learning

Abstract: The goal of sequential learning is to draw inference from data that is gathered gradually through time. This is a typical situation in many applications, including finance. A sequential inference procedure is 'anytime-valid' if the decision to stop or continue an experiment can depend on anything that has been observed so far, without compromising statistical error guarantees. A recent approach to anytime-valid inference views a test statistic as a bet against the null hypothesis. These bets are constrained to be supermartingales - hence unprofitable - under the null, but designed to be profitable under the relevant alternative hypotheses. This perspective opens the door to tools from financial mathematics. In this talk I will discuss how notions such as supermartingale measures, log-optimality, and the optional decomposition theorem shed new light on anytime-valid sequential learning. (This talk is based on joint work with Wouter Koolen (CWI), Aaditya Ramdas (CMU) and Johannes Ruf (LSE).)

Zoom link:

Topic: Math Finance Colloquium
Time: Mar 8, 2021 02:00 PM Pacific Time (US and Canada)

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