Statistics Seminar

Department of Mathematics and Statistics

DATE:	Thursday, April 17, 2025
TIME:	1:15pm – 2:40pm
LOCATION:	WH 100E
SPEAKER:	Zhongyuan Zhao, Binghamton University
TITLE:	On Optimality of the Shiryaev-Roberts Change-Point Detection Method in the Exponential Case

Abstract

We consider the classical minimax change-point detection problem where the data are exponentially distributed, and the objective is to react promptly to a possible uptick in the rate, from 1 initially to $1+\theta$, for $\theta>0$. Our ultimate goal is to show that the randomized version of the Shiryaev-Roberts change-point detection method is nearly optimal, in the sense that its detection delay is the shortest asymptotically, as the false alarm risk vanishes. We present the results we obtained to date.