THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

PHD STUDENT SEMINAR

Online Inference on Extreme Parameter in High Dimensional Linear Model

By

Mr. Tiankai HU

Abstract

Online inference of extreme parameters in high-dimensional spaces is essential for the timely detection and response to rare but significant events in complex, data-rich environments. However, existing approaches for inference of extreme parameters in high dimensions heavily rely on resampling techniques, which are challenging to implement in online settings. In this work, we propose an online framework for inference on extreme parameters in high dimensions. Specifically, the estimated candidate set of extreme parameters is adaptively updated at each stage, significantly reducing computational cost and improving accuracy by leveraging real-time data. The confidence interval is derived solely from the summary statistics and the estimated candidate set. Both theoretical and numerical results are provided to support the validity and enhanced accuracy of our proposed method.

Date : **29 May 2024 (Wednesday)**

Time : **4:00pm**

Venue : **Room 3598 (Lifts 27/28)**

All are Welcome!