Theoretical Statistics and Mathematics Unit, Kolkata
INDIAN STATISTICAL INSTITUTE

SEMINAR

Date: July 14, 2025
Time: 04:15 PM

VENUE:

L- Infinity
(5th Floor, A.N. Kolmogorov Bhavan), ISI Kolkata

TITLE:

On high-dimensional behaviour of some change-point detection methods based on average pairwise distances

SPEAKER:

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ABSTRACT:

In change-point analysis, one aims to find the locations of abrupt distributional changes (if any) in a sequence of multivariate observations. In this talk, we will introduce some nonparametric methods based on averages of pairwise distances for this purpose. These distance-based methods can be conveniently used for high-dimensional data even when the dimension is much larger than the sample size (i.e., the length of the sequence). Under appropriate regularity conditions, we carry out some theoretical investigations to study the behavior of the proposed methods not only when the dimension of the data remains fixed and the sample size grows to infinity, but also in situations where the dimension diverges to infinity while the sample size may or may not grow with the dimension. Several simulated and real-life datasets are analyzed to compare the empirical performance of these proposed methods against some state-of-the-art methods.

ALL ARE CORDIALLY INVITED