



INDIAN STATISTICAL INSTITUTE

Theoretical Statistics and Mathematics Unit, Kolkata

SEMINAR

Date: September 03, 2024

Time: 04:30 PM

VENUE:

L- infinity

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

TITLE:

K-sample testing using classifiers and global testing procedures

SPEAKER:

Sayan Ranjan Bhowal

Stat-Math Unit, ISI Kolkata

ABSTRACT:

In this talk, we will discuss how we used global testing procedures such as FDR control and Bonferroni's methods to reduce the dependence of classifierbased tests on the random division of the complete data set into training and testing halves. We proved the consistency of these global tests and theoretically compared the power function of these methods with that of random split. We also compare the empirical power function of the global tests, random split, and various nonparametric tests using synthetic and real data sets. From this comparison, it can be seen that for a certain type of data, global testing techniques are beneficial over random split and non-parametric tests. Furthermore, we would propose how we can use chi-square test for homogeneity for K-sample testing problem and discuss its consistency.

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