



ICTS-OT/ML/PDE Seminar (Online)

Title : Are classical information-theoretic model selection criteria any good in high-dimensional statistics?

Speaker : Soumendu Sundar Mukherjee (Indian Statistical Institute, Kolkata)

Date : Tuesday, 25th April 2023

Time : 10:00 am – 11:00 am (IST)

Abstract : Information-theoretic criteria such as the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC) are widely employed for model selection in statistical problems. It is well known that in fixed-dimensional problems, BIC is consistent whereas AIC is not. In high-dimensional settings, the table is turned---AIC is often consistent under much less stringent signal requirements than BIC. However, AIC may still be sub-optimal in terms of the signal required for consistent model selection. In this talk, we will illustrate these points by looking at a couple of canonical high-dimensional models, namely the spiked Wigner and the spiked covariance models. We will see that the aforementioned sub-optimalities in the classical criteria may be removed by suitably modifying them using insights from random matrix theory.

Venue : **Online:** Please click the below link to join the seminar.

<https://us02web.zoom.us/j/81379290349>

Meeting ID: 813 7929 0349