SEMINAR

DEPARTMENT OF STATISTICS
THE CHINESE UNIVERSITY OF HONG KONG

Statistical Optimality and Computational Tractability of ICA

INVITED SPEAKER

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Department of Statistics
Columbia University

TIME

January 12, 2024 (Fri) · 2:30 pm - 3:30 pm

VENUE

LSB LT2 · Lady Shaw Building LT2 · CUHK

ABSTRACT

Independent component analysis (ICA) is a powerful and general data analysis tool. Yet there is an increasing amount of empirical evidence that the classical methods for ICA are not well suited for modern applications, both computationally and statistically, where the effect of dimensionality is not negligible. We will investigate the optimal sample complexity and statistical performance for ICA, and how considerations of computational tractability may affect them. We will also introduce estimating procedures for ICA that are both statistically efficient and computationally tractable. Our development exploits the close connection between ICA and moment estimation and reveals a number of new insights for both problems.