香港浸會大學
HONG KONG BAPTIST UNIVERSITY

香港浸會大學理學院
HKBU Faculty of Science

Department of Mathematics

Distinguished Lecture Series

Ultra-sparse Matrix Normal Models of Multiway Data

3 February 2021 (Wednesday)
10:00-11:00 a.m. GMT+8 (Hong Kong Time)

Online via Zoom
(Meeting ID: 935 8469 3865)

ABSTRACT

Modeling multi-way data is important for applications involving multi-indexed observables, e.g., hyperpsectral data that is indexed over spatial, frequency, and temporal dimensions. The sparse matrix normal model is a multivariate Gaussian representation that expresses the covariance matrix as a Kronecker product of sparse lower dimensional covariances. This model is equivalent to assuming the conditional dependencies of the covariates can be represented as a direct-product graph with few edges. We will present an alternative framework based on Cartesian product graph representation and Kronecker sums that leads to ultra-sparse and generative models for multi-way data.

Professor Alfred Hero

John H. Holland Distinguished University Professor of Electrical Engineering and Computer Science, University of Michigan
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