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THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON STATISTICS

Adaptive Transfer Clustering: A Unified Framework

By

Prof. Zhongyuan LYU

University of Sydney Business School

Abstract

We propose a general transfer-learning framework for clustering when a main dataset and an auxiliary dataset describe the same subjects but may exhibit related—yet distinct—latent group structures. Our Adaptive Transfer Clustering (ATC) method automatically leverages shared structure while accommodating unknown discrepancies by optimizing an estimated bias–variance trade-off. ATC applies broadly, including Gaussian mixture models, stochastic block models, and latent class models. We establish optimality guarantees for ATC under Gaussian mixtures and explicitly quantify the gains from transfer. Extensive simulations and real-data examples demonstrate strong and robust performance across a range of scenarios

Date : 25 September 2025 (Thursday)
Time : 4:00p.m. - 5:00p.m.
Venue : Room 1104 (Lift 19)