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THE HONG KONG UNIVERSITY OF SCIENCE & TECHNOLOGY

Department of Mathematics

SEMINAR ON STATISTICS

Nonparametric undirected graphical model selection using diffusion models

By

Prof. Minwoo CHAE

Pohang University of Science and Technology

Abstract

An undirected graph represents the unconditional independence structure among random variables. Although estimating undirected graphs is important in many applications, most existing methods are restricted to parametric settings such as Gaussian graphical models and Ising models. In this talk, we introduce a nonparametric approach to undirected graph estimation based on diffusion models. Recent work has shown that density estimators based on diffusion models can adapt to the unknown undirected graph structure of the data; however, diffusion models themselves do not provide an explicit estimator of the graph. To address this limitation, we propose a novel method for undirected graph estimation that does not rely on parametric assumptions. Furthermore, we demonstrate that the proposed method can consistently estimate the true underlying graph.

Date : 12 June 2026 (Friday)
Time : 2:00p.m.-3:00p.m.
Venue : Room 4504 (near Lift 25/26)

All are welcome!