

For favour of posting

DEPARTMENT OF STATISTICS AND ACTUARIAL SCIENCE
THE UNIVERSITY OF HONG KONG

Departmental Seminar

Professor Howell TONG

Electronic Science and Technology of China,
Chengdu, China

and

Department of Statistics, London School of Economics,
London, United Kingdom

will give a talk
entitled

JACKKNIFE APPROACH TO THE ESTIMATION OF MUTUAL INFORMATION

Abstract

Quantifying the dependence between two random variables is a fundamental issue in data analysis, and thus many measures have been proposed. Recent studies have focused on the renowned mutual information (MI) [Reshef DN, et al. (2011) *Science* 334:1518–1524]. However, “Unfortunately, reliably estimating mutual information from finite continuous data remains a significant and unresolved problem” [Kinney JB, Atwal GS (2014) *Proc Natl Acad Sci USA* 111:3354–3359]. In this paper, we examine the kernel estimation of MI and show that the bandwidths involved should be equalized. We consider a jackknife version of the kernel estimate with equalized bandwidth and allow the bandwidth to vary over an interval. We estimate the MI by the largest value among these kernel estimates and establish the associated theoretical underpinnings. The talk is based on recent joint work with Yingcun Xia and Xianli Zeng.

on

Wednesday, November 28, 2018

(Refreshments will be served from 2:15 p.m. outside Room 301 Run Run Shaw Building)

2:30 p.m. – 3:30 p.m.

at

Room 301, Run Run Shaw Building

Visitors Please Note that the University has limited parking space. If you are driving please call the Department at 3917 2466 for parking arrangement.

All interested are welcome