For Favour of Posting

THE CHINESE UNIVERSITY OF HONG KONG

Department of Statistics

will present a seminar entitled

BOOTSTRAP AGGREGATION FOR CROSS-VALIDATION AND INFERENCE UNDER CONSTRAINTS

by

Professor Peter Hall
University of Melbourne, Australia and
University of California, Davis, USA.

on

Thursday, 20 December 2007
2:00pm – 3:00pm

in

Lady Shaw Building C1
The Chinese University of Hong Kong

Abstract:

A major asset of the cross-validation approach to smoothing-parameter choice is its utilitarian character. However, the bandwidths produced by cross-validation are relatively noisy, and this difficulty impedes good performance. The stochastic variability of cross-validation can be reduced significantly by using bootstrap aggregation, or bagging, a method proposed by Breiman (1996). The technique is very simple to use, and enjoys the utilitarian character of cross-validation. For instance, it can be applied in practically all of the many settings where cross-validation is employed for bandwidth choice with the aim of optimizing an L_2 measure of performance. Arbitrarily large reductions in bandwidth variability are theoretically possible, although in practice bagging would likely be used relatively modestly. In particular, half-sample bagging can reduce bandwidth variability by approximately 50%.

We shall also discuss a bagging-based approach to constrained inference, for example to parameter estimation when it is known that the true value of the parameter satisfies an inequality constraint.

All are Welcome